The presentation will begin shortly.

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Children’s Colorado and its AHA/McKesson prize playbook

Daniel Hyman, MD, MMM
Chief Quality/Patient Safety Officer;
Children’s Hospital Colorado
The speaker has no financial conflicts to disclose.

(and any pictures of Colorado are not meant as a recruitment strategy)
Objectives

- Who are we?
- Key enabling strategies for CHCO in our quality journey
- Leadership
- Safety: Target Zero
- Patient/Family Centeredness- “Board to bedside”
- Innovations in Data use
- Areas of “opportunity” - equity, effectiveness
- Discussion/Questions
Leadership

Our “board is on board”
Role of Senior management
How we got them to be “All in”
Leadership

Our “board is on board”
Role of Senior management
How we got them to be “All in”
SAFETY
Solutions for Patient Safety

Our Mission:
Working together to eliminate serious harm across all children’s hospitals
**Develop Ohio Network**

Initial HAC improvement work
SSE reduction; efforts to address organizational culture
Creation of pediatric patient harm index

**Create National Children’s Network**

Expand network to include 25 leading children’s hospitals outside Ohio (Phase I)
Active improvement work on 10 HACs
Efforts to address organizational culture
“All Teach, All Learn”
Develop mentor hospitals
Begin to publicly disseminate change efforts

**Spread**

Add 50 hospitals (Phase II) to data sharing and network learning opportunities (2013); expand to 82+ hospitals nationwide (2014)
Share network best practices with all (2012->)
Disseminate at national meetings (2012->)
Develop strategies with national organizations (2012->)
Establish other regional collaboratives (2013)

**Scale**

(2008-2011)

(2012->)

(2013->)

2014
82+
Working Together

Leadership Matters
Our mission motivates all that we do
Network hospitals will NOT compete on safety
All Teach/All Learn
Network hospitals must commit to building a “culture of safety”
Reduce the readmit rate by 10% across the SPS National Children’s Network by 12/31/16

Reduce HACs by 40% across the SPS National Children’s Network by 12/31/16
What is Target Zero?

Target Zero is a multi-year effort to progressively eliminate preventable harm at Children’s Hospital Colorado.
How the Pieces Fit Together

Best-practice clinical care

supported by

Behaviors designed to prevent error

reinforced by

Leaders who model, support, recognize and redirect

informed by

Ongoing measurement/analysis to show what’s happening, and ongoing learning about what needs to happen next on the journey

will achieve

70+% decrease in preventable harm in 4 years

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Information about Bundles

- Development:
  - best-available evidence
  - cross-functional groups of subject matter experts
- Available on Target Zero site on Planet
- All bundles follow standard format:
  - Bundle trigger
  - Bundle elements
  - Process Steps
Target Zero: Safety Practices and Tools

**Personal Commitment**
Introductions
Pause to Care
ARCC: Ask, Request, CUS, Chain of Command

**Clear, Complete Respectful Communication**
SBAR, Read-backs (Repeat backs)

**Questioning Attitude**
ART, Stop and Resolve
Target Zero Leadership Practices

Practices which leaders use to ensure a reliably safe environment:

1. **JUST CULTURE**: Respond to errors and deviations in practice in ways that promote learning and are perceived to be fair and just

2. **ROUNDING TO INFLUENCE**: Actively observe and speak with staff about safety practices

3. **EFFECTIVE FEEDBACK**: Give positive feedback when safety practices are demonstrated, corrective feedback when not
Cause Analysis

Ongoing measurement and analysis to identify root cause and apparent cause of errors and deviations in practice

Explores both individual and systemic causes

Identifies specific opportunities for ongoing learning about becoming safer
Patient Family Engagement
Adoption of Change

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AHRQ 2012 report

Contract Final Report

Guide to Patient and Family Engagement: Environmental Scan Report

Prepared for:

Agency for Healthcare Research and Quality
Rockville, MD

Contract HHSA 290-200-600019
## Parent Partnership, Children’s Colorado

<table>
<thead>
<tr>
<th>Family Advisory Council</th>
<th>Focus Areas 2012-15: Family Advocacy Policy/Procedure: from Input to Development Marketing of FAC/partnership opportunities Target Zero Care Coordination</th>
</tr>
</thead>
</table>
| Governance/Quality Councils | - Quality/Safety Committee of the Board  
- Quality safety and Performance Improvement Council  
- Patient Safety Committee |
| Service Lines, Projects/Initiatives, etc. | “Target Zero”; Heart Institute and other service lines; “Speak Up”; Hand hygiene; Patient ID; DNAR policy; teamwork/communication/consult coordination; CF, etc. |
| “HACs” | (ADE, CA-UTI, Falls, Pressure Ulcers... |
Partnership for Patient Safety

Your child’s health care is a team effort and you are an important member of the team. Always remember that your opinion counts. By working together, we can achieve the goal of providing safe health care for your child.

Share Important Information:

- **Tell** your child’s caregiver about the current medications your child takes at home.
- **Tell** your child’s caregiver about any allergies or reactions to medicines, foods or other things.
- **Tell** your child’s caregiver any other information you think is important in the care of your child.
- **Tell** your health care team if there is something you don’t understand.
- **Expect** your health care team to check your child’s ID band before any care is provided.
- **Expect** all staff to have an ID badge and to introduce themselves.

Act On Your Gut Feeling

We recognize that you know your child best! If you are concerned or worried about a change or sudden decline in your child’s condition, please tell us!

- Please notify your child’s nurse or physician. Tell them what concerns you!
- **If you feel your child’s condition is getting worse, and you are not getting the response you need, you can call for a Rapid Response Team (RRT) Evaluation by dialing 75555 on any in-house phone.**
- If you do not feel comfortable calling the RRT, please ask a caregiver to call for you.

Our Rapid Response Team consists of specially trained physicians and nurses from the intensive care unit. They will come to your child’s bedside to address your concerns. They will work with your child’s health care team to develop a plan of care to address your concerns.

If you have questions about our Rapid Response Team, please ask your nurse or any team member.

Speak Up:

- **If** you have questions about your child’s medications.
- **If** something does not seem right.
- **If** your child’s health care providers did not wash their hands.
- **If** you need a medical interpreter.
- **If** something doesn’t make sense.
- **If** you feel the caregiver has confused your child with another patient.
- **If** you think your child is getting worse and you are not getting the response you need.

The Children’s Hospital
PATIENT SAFETY
WHAT PATIENTS AND FAMILIES NEED TO KNOW!

HAND WASHING
This is the most important way to prevent the spread of infections in the hospital and at home.

What can you do?
→ Expect everyone to wash their hands or use hand sanitizer when entering and leaving your room.
→ If you are unsure, please ask.
→ Wash your hands:
  - When entering and leaving your child’s room
  - Before and after preparing food, eating, or feeding your child
  - After using the bathroom or changing a diaper

“Excuse me, I didn’t see you wash your hands. I’d like to be sure everyone’s hands are clean. Please wash them before caring for my child.”

RAPID RESPONSE TEAM (RRT)
This is a team of healthcare providers from our intensive care areas. They can be contacted anytime you are concerned that your child’s medical condition is worsening and you are worried that the situation is not being addressed by the patient’s primary team.

What can you do?
→ Recognize when you have a gut feeling that something just doesn’t seem right with your child’s medical condition.
→ CALL AN RRT by dialing 7-5555 FROM THE NEAREST PHONE and tell the operator that you are asking for an RRT for your child. Give the child’s full name and room number.

“I am concerned that my child’s medical condition is worsening. I am calling an RRT and dialing 7-5555.”

PATIENT IDENTIFICATION (PATIENT I.D.)
This is our way to confirm that we are providing the correct care to your child. We require two forms of identification, like name and date of birth, to be used with each test, treatment, or medication.

What can you do?
→ Make sure your child is wearing their patien i.d. armband at all times, and that the name and date of birth are correct. The armband should be on your child and not in the crib or bed.
→ Ask to see your child’s photo in the medical record.
→ Participate in our patient I.D. process:
  - Expect staff to confirm name and date of birth.
  - Stop us if you don’t see us check your child’s armband when we are about to give a test, treatment or medication.
  - Ask questions if a caregiver wants to do something that you are not expecting (test, treatment, medication or transport, etc.).

“Excuse me, I did not see you check or ask for my child’s two forms of identification. Please double-check.”

FALLS
These are common causes of injuries in hospitals and most can be prevented. All children are at risk for falls.

Your child is at higher risk for falling if he/she:
→ Is 5 years old or younger
→ Is connected to any type of wires or tubing such as IV’s, feeding tubes, monitors, or drain tubes
→ Is receiving medication that makes them sleepy or dizzy
→ Has a condition that affects their balance and ability to walk safely on their own

What can you do?
→ Call for help when you move your child from one place to another.
→ Keep side rails up at all times.
→ Make sure your child is assisted while using the bathroom.

“I am concerned that my child might fall. Please tell me what I can do.”

PRESSURE ULCERS (BED SORES)
These are caused by pressure from sitting or lying in one position too long. They can also be caused by a cord or device that puts pressure on the skin. They are most likely to happen on skin over bony areas.

What can you do?
→ Help your child change positions regularly to help avoid pressure ulcers. Call your nurse if you need help moving your child.
→ Call a nurse to help change the position of any devices that put pressure on your child’s skin.
→ Keep your child’s skin clean and moisturized.
→ Change your child’s diaper often.
→ Pay close attention to your child’s body, especially in areas where they have no feeling.

“I am concerned about my child’s skin. Please look at it with me.”

QUESTIONS?
Be an active member in your child’s healthcare team and SPEAK UP if you have any questions or concerns.

Approved by the Patient Family Education Committee ©2013 Children’s Hospital Colorado, Aurora, CO
Sept. 2012

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### Best Practice/Lessons Learned: Quality and Safety Committee, Board of Directors

<table>
<thead>
<tr>
<th>Hospital:</th>
<th>Parent/Family:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What might the parent be thinking?</td>
<td>Keep the focus of the meeting on why we are all here (our children)</td>
</tr>
<tr>
<td>Ask what they are thinking!</td>
<td></td>
</tr>
<tr>
<td>Managing Jargon, sitting together, recruit in pairs</td>
<td>Provide unique perspective on high-level strategy and decisions</td>
</tr>
<tr>
<td>Debriefing especially early on</td>
<td>Give board members a reality check</td>
</tr>
<tr>
<td>Encourage parents to challenge us</td>
<td>Provide first hand experience on discussed issues</td>
</tr>
<tr>
<td>Seriousness of purpose and acceleration of impact</td>
<td>Make a “welcoming” environment for Parents. Board meetings can be intimidating.</td>
</tr>
</tbody>
</table>
Bedside:

- White board – Family Section
- Target Zero
- Speak Up! Campaign
- Family journal
- Provider diagrams
- RRT
- Rounding – Care team/hourly/leadership
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<table>
<thead>
<tr>
<th>Target Zero</th>
<th>Right care, tests, and treatments</th>
<th>Infections</th>
<th>Room/Bed Safety</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnering with Families for Safety</td>
<td>Right patient</td>
<td>CLABSI</td>
<td>Pressure Ulcers (sores)</td>
<td>Clots (VTE)</td>
</tr>
<tr>
<td></td>
<td>Right drug, dose</td>
<td>CA-UTI</td>
<td>Falls</td>
<td>PIV</td>
</tr>
<tr>
<td></td>
<td>Right plan of care</td>
<td>Other infections</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hand hygiene</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results: Innovative and transparent use of Data
Children's Hospital Colorado - System
2012-2015 Pillar Goal HAC Rate by Month
Rate per 10,000 APD
U Chart

Mean 13.5
Mean 10.1

This chart does not include Memorial days from 6/4/2014-12/31/2014 and after 6/4/2015.

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# 20 Preventable Harm Events, August 2015

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUTI</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td>CLABSI</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
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<td></td>
<td>Patient name (Unit)</td>
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<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td>CODES</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td>Falls</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td>Patient ID</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td>Pressure Ulcer</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td>VTE</td>
<td>Patient name (Unit)</td>
</tr>
<tr>
<td></td>
<td>Patient name (Unit)</td>
</tr>
</tbody>
</table>
Making performance visible
- unit outcomes

<table>
<thead>
<tr>
<th>Focus on Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>One day at a Time</td>
</tr>
<tr>
<td>Number of days since our last:</td>
</tr>
<tr>
<td>CA-BSI</td>
</tr>
<tr>
<td>unplanned extubations</td>
</tr>
<tr>
<td>Patient ID errors</td>
</tr>
<tr>
<td>Pressure ulcers</td>
</tr>
</tbody>
</table>

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Colorado Data in Action

Children’s Hospital Colorado uses its data to create an internal Dynamic Dashboard. Features:
- Accessible to all
- Timely bundle compliance data – refreshed hourly
- Drill down capability
- Filters
- Dynamic filtering
- Related Links

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Welcome to the Unit Level Multi-HAC Bundle Compliance Dashboard which provides an at-a-glance status of all Target Zero HAC’s. Use the Select Unit and Select Date Range filters to display HAC statuses for specific units and time ranges such as for month-to-date, last month, or year-to-date. Blank or missing graphics mean there is no data available for the time period and unit selected.
Audits to Dynamic Dashboards

- Paper audits with manual entry
- Documentation reports from EMR
- Audits entered into RedCap
- Data stored in EDW
- Data displayed in Tableau dashboard

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Risk Profile in the Patient’s Chart

Select Font Size

Target Zero Risk Profile

- Moderate Risk for VTE (Meets VTE Moderate Risk BPA criteria) - VTE Bundle, VTE CCG
- Moderate Risk for Pressure Ulcer (BradenQ Score >=17 and < 23) - Pressure Ulcer Bundle
- High Risk for Fall (Fall Risk Score of >1 or high risk dept or < 24 months of age) - Falls Bundle

Vitals and Flowsheet Data
Overview Rounding Report (NEW)
Comprehensive Vitals/Data
Rounding Report
Vitals Graph
Cardiac Vitals Graph

Weight Graphs
Weight Graph - Newborn (0-10 kg)
Weight Graph - Child (5-50 kg)
Weight Graph - Adolescent (30-150 kg)

Orders
Order Review
Orders Needing Cosign
Nursing Kardex (active orders)

Additional Reports
UPI - IP My Charges
Facesheet
Snapshot
Consult Orders Report

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Pressure Ulcer Outcome Dashboard
Focused Rounding Reports by Unit
Opportunities/What’s next

Equity
Effectiveness
High Reliability Organization in practice
Conclusions for us

• Leadership at a board and senior team level is necessary to launch a full scale program to advance patient safety organization wide

• Integrating training of staff and leaders in culture and improvement methods is necessary and enhanced with a strong cause analysis program

• Collaboration is a huge plus- externally and internally

• Family and patient engagement is a huge plus

• After training >7500 staff members over 3 years, we are safer, but not safe enough.... The **Target** is **ZERO**

• The AHA/McKesson prize is a springboard for ongoing improvement
QUESTIONS?

Daniel Hyman, MD, MMM
daniel.hyman@childrenscolorado.org
720-777-8019
Nationwide Children’s Quality and Safety Journey: Evolution of a program

Richard J. Brilli, M.D., F.A.A.P., M.C.C.M.
Chief Medical Officer - Nationwide Children’s Hospital
Professor, Pediatrics - Division of Pediatric Critical Care Medicine
The Ohio State University College of Medicine
Nationwide Children’s Hospital
Nationwide Children’s Hospital

- 468 beds + 140 off-site beds
- 17,200 inpatient discharges
- 26,200 surgical procedures at 3 sites
- 1.1M total patient visits
- 10,000 employees
- Top 5 freestanding pediatric research programs
- 3 research buildings
- $2.0B Gross patient revenue
Organizational Quality and Safety Strategic Approaches
Institute of Medicine
Quality / Safety Organizational Approach

Safe  Effective  Patient Centered
Timely  Efficient  Equitable
Access  Care Coordination
Patient/Family Centered Quality Strategic Plan (approved by NCH Hospital Board in 2009)

- Keep Us Well
- Navigate Our Care
- Do Not Harm Me
- Heal Me Cure Me
- Treat Us with Respect

Brilli et al. Revisiting the Quality Chasm. *Pediatrics* 2014. v133:p763
Patient/Family Centered Quality Strategic Plan

- **Keep Us Well**
  - Equitable
  - Access
  - Care Coordinated

- **Navigate My Care**
  - Timely
  - Efficient
  - Care Coordinated

- **Do Not Harm Me**
  - Safety

- **Heal Me Cure Me**
  - Effective

- **Treat Me w Respect**
  - Patient Centered
  - Equitable

Brilli et al. Revisiting the Quality Chasm. *Pediatrics* 2014;v133:p763
Patient/Family Centered Quality Strategic Plan (approved by Hospital Board in 2009)

First Things First

Keep Us Well

Navigate Our Care

Do Not Harm Me

Heal Me Cure Me

Treat Us with Respect

First Things First
2008-2009 – Safety Program Launched

• Goal: *Eliminate* preventable harm
  
  ▪ Not an easy sell to the Board
  ▪ Is it really possible? Set up for failure?
  ▪ Aspirational; the only legitimate goal

  ▪ NCH first children’s hospital to publically aspire to eliminate preventable harm
NCH Burning Platform

- Dramatic action required
- Inaction not an option

514 Children harmed in 2007

Luke Skywalker and Star Wars
NCH Burning Platform

- Dramatic action required
- Inaction not an option

Luke Skywalker and Star Wars

Serious Safety Event every 11 days
Importance of branding

Zero Preventable Harm by 2013
We are One Team
It will take an Heroic Effort
Zero Hero Training, coming soon to a unit near you
Ask your manager about Zero Hero Training

Zero Hero
Create a Safe Day. Every Day.
NATIONWIDE CHILDREN'S HOSPITAL

Zero Hero
Create a safe day. Every day.
NATIONWIDE CHILDREN'S HOSPITAL
Zero Hero Quality-Safety Program

Senior Executives and Board of Directors MUST support the work.

Will fail without their complete buy-in
Zero Hero Quality-Safety Program

Two Prong Approach

System Culture
Implement High Reliability Principals (HRO)

Project Work Teams
Standardized Improvement methodology: IHI Model for Improvement
Zero Hero Safety Program

Two Prong Approach

- System Culture
  - Implement High Reliability Principals (HRO)

- All employees trained
- Error prevention for all
- Reinforcement techniques for management
- 40,000 person hours in training
- HRO principals taught/emphasized
Zero Hero Safety Program

Two Prong Approach

- Project Work Teams
- Standardized Improvement methodology: IHI Model for Improvement
Zero Hero Safety Program

Two Prong Approach

- ↑QI infrastructure
  - 8 FTE -> 37 FTE
  - $0.7M -> $4M
- Multidisciplinary unit based teams
- 140 active projects
- Physician MOC

Project Work Teams
Standardized Improvement methodology: IHI Model for Improvement
Zero Hero Quality-Safety Program

• Unit Safety Coaches reinforce use of tools
  ▪ Peer to peer, mostly front line coaches
  ▪ 300 active coaches
  ▪ All units, all shifts
Zero Hero Quality-Safety Program

- Unit Safety Coaches reinforce use of tools
  - Peer to peer, mostly front line coaches
  - 300 active coaches
  - All units, all shifts

- Rigorous Root Cause Analysis process
  - Includes all stakeholders – 3 meetings for each event
  - Identifies Individual and System Failures
  - Individuals accountable for solutions w timeline are identified
Inspirational in its simplicity - easily understood

<table>
<thead>
<tr>
<th>Preventable Harm Index℠</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hospital Acquired Infections</td>
<td>n</td>
</tr>
<tr>
<td>Total Adverse Drug Events (4-9)</td>
<td>n</td>
</tr>
<tr>
<td>ACT Preventable Codes</td>
<td>n</td>
</tr>
<tr>
<td>Preventable Surgical Complications</td>
<td>n</td>
</tr>
<tr>
<td>Total Serious Falls</td>
<td>n</td>
</tr>
<tr>
<td>Hospital Acquired Pressure Ulcers</td>
<td>n</td>
</tr>
<tr>
<td>Miscellaneous Harm</td>
<td>n</td>
</tr>
<tr>
<td>Total Serious Safety Events</td>
<td>n</td>
</tr>
<tr>
<td><strong>Sum of Harm Events</strong></td>
<td><strong>Sum of n’s</strong></td>
</tr>
</tbody>
</table>

**Sum of n’s**
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.\(^1\)\(^2\) Although initially debated, it is now generally accepted that preventable medical errors are common and preventable deaths occur.\(^3\)\(^4\)

personnel. 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, understandable, and motivational.

Ascension used a “priorities for action” tool consisting of 8
Data Transparency: Internal (INTRAAnet)

<table>
<thead>
<tr>
<th>SHARE OUR NEW LOCAL COMMERCIAL</th>
<th>zero hero</th>
<th>DAYS SINCE LAST SERIOUS SAFETY EVENT: 070</th>
</tr>
</thead>
</table>

**Anchor**

**Access Nationwide Children's Hospital Online Resources**

**Standing in Front of a Building**

**Share Our New Local Commercial**
Our latest TV commercial is now airing in Central Ohio and will run through the end of the year. The narrative features authentic voices of our patients encouraging local giving to support lifesaving care and research. Share on Facebook and Twitter using #Give2NCH.

**Celebrate Our Veterans**
With respect, honor and gratitude, thank you veterans. Join us to celebrate our employees that serve our country by coming to our Veterans Day Celebration on Tuesday, November 10 from noon to 1 p.m. We will also be hosting a Veterans Day job fair on Thursday, November 12 from noon to 3 p.m.

**Benefit Open Enrollment is Here**
Open Enrollment has begun and will continue through November 25. Click here to view the 2016 benefits details and guide.

**6 Things You Need to Know About Code Blue**
Code Blue gets used regularly for a variety of reasons, including some reasons you may not expect. Take three minutes to review this list to ensure you are making the best use of calling a Code Blue.

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**Nationwide Children's**

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

**Zero Hero**

Create a safe day. Every day.
Transparency: Internal (INTRAanet)
Run/Control Charts by unit (e.g. Hand Hygiene compliance)
Transparency: Internal (INTRAnet)

Run/Control Charts by unit (e.g. Hand Hygiene compliance)

- All outcome metrics in aggregate and by unit available on intranet
- Process measure bundle compliance data available as well
Transparency: External (INTERnet)
Current metrics including Serious Safety Event Rate

Quality & Safety
Do Not Harm Me

Adverse Drug Events
Surgical Site Infections
CA-BSI
Ventilator-Associated Pneumonia
Hand Hygiene Compliance (Cleaning Hands)
Serious Safety Event Rate (SSER)

Short-Term Causing Adverse Drug Events
Clinical Severity 4-6

Chart Type: u-Chart

ADEs, Baseline Mean(s), Baseline Periods, Control Limits

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Current metrics including Serious Safety Event Rate

Quality & Safety

Do Not Harm Me

- Adverse Drug Events
- Surgical Site Infections
- CA-BSI
- Ventilator-Associated Pneumonia
- Hand Hygiene Compliance (Cleaning Hands)
- **Serious Safety Event Rate (SSER)**

Serious Safety Event Rate
Nationwide Children’s Hospital
Rolling 12-month Serious Safety Events expressed per 10,000 adjusted patient days

NCH experiences a **Serious Safety Event** once every 122 days
Evolution of Quality/Safety at NCH

Zero Hero Quality Safety Program . . .

• Employee Safety added in 2012
  ▪ Outcome metrics
    ▪ Employee serious safety event rate (eSSER)
    ▪ Employee Preventable Harm Index (ePHI)
    ▪ OSHA metrics tracked and reported but not emphasized
Evolution of Quality/Safety at NCH

Zero Hero Quality Safety Program . . .

• Employee Safety added in 2012
  ▪ Same outcome metrics
    ▪ Employee serious safety event rate (eSSER)
    ▪ Employee Preventable Harm Index (ePHI)
    ▪ OSHA metrics tracked and reported but not emphasized
  ▪ Same HRO behaviors and tools employed to achieve results
## Evolution of Quality/Safety at NCH

Expansion to other strategic plan pillars

<table>
<thead>
<tr>
<th>Keep Us Well</th>
<th>Navigate My Care</th>
<th>Do Not Harm Me</th>
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<tr>
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<td>Anesthesia OR timeout</td>
<td>↓ CLABSIs</td>
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<td>↓ 1º Care needle sticks</td>
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<td>↑ Acute care clinic vs. ED visits or admits</td>
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<td>ID- antimicrobial stewardship</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
### Evolution of Quality/Safety at NCH

#### Active projects in all domains

**Keep Us Well**

1. PACU pain resolution
2. MRI AED administration
3. Asthma ↓ ER visits
4. Childhood obesity
5. ↑ 1º care immun rates
6. Improve ADHD Dx/Rx
7. ↑ Adol Med MyChart %
8. Diabetic sick and well day management
9. ↑ new onset diabetes
10. Improving quality of AVS

**Navigate My Care**

1. Anesthesia- ↓ DOS cancellations and delays
2. ↓ wait time for specialty clinic appts
3. ↓ teen pregnancies
4. ↑ Menactra vaccinations
5. ↓ Endo Clinic LOS
6. Endo – establish young adult transition clinics
7. Inpatient d/c order time – Nephrology
8. ↑ pulmonary clinical access
9. Anesthesia protocol for lap appy cases
10. Improve surgical d/c order and d/c times
11. ↑ simple appendicitis same day discharges
12. ↓ over-triage for level II traumas
13. ↑ radiology d/c from ED for intussusception
14. ↓ no-show rate in fluoro
15. ↓ ED LOS for acute 4-5 patients
16. ↓ turnaround time in Holter monitor clinic
17. ↑ ACHD xtion education

**Do Not Harm Me**

1. OR MRI safety compliance
2. Anesthesia OR timeout
3. ↓ CLABsIs
4. ↓ CAUTI
5. ↓ VAP
6. ↓ ADEs
7. Post-Op ACTs
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20. ↓ OR skin injuries
21. ↓ CTs for appendicitis
22. ↑ ENT contact no-shows
23. ↑ airway cx on intubated pts.

**Heal Me Cure Me**

1. ↑ MATA program retention
2. Accurate insulin dosing
3. ↑ appropriate Endo consults
4. ↓ Cancer Care Index
5. Develop ChemoRx maps
6. O² protocol for pneumonia
7. ↓ Chronic Kidney Disease Care Index
8. Develop and ↓ perioperative care index
9. ↓ PICC lines in complex appendicitis
10. ↑ complex appy protocol compliance
11. ↓ total disability days for appendicitis
12. ↓ # of post appy absesses
13. ↑ EtOH and drug screens in adolescent trauma
14. Develop and ↓ Tracheostomy Care Index
15. ↓ CT scans for abdominal pain
16. ↓ time to Abx for sickle cell pts with fever

**Treat Me with Respect**

1. ↑ 1º Care patient satisfaction
2. Direct dial line for interpreter - endo
3. ↑ family centered rounds – multiple svcs
4. New pts seen <14 days- heme onc
5. ↑ nursing presence at rounds – multiple svcs
6. ↑ periop homegoing instruction responses
7. ↑ Press Ganey pain scores on H05
8. Improve ENT phone triage times
9. ↑ Press Ganey scores of 5 for ED visits
10. Streamline d/c process on H11b
11. Improve perception of nurses and doctors – H11b
12. ↑ Advance directives for Heart Center patients
13. ↑ use of teach back in cardiac clinic
Improvement Science Training - Essential

“Quality Improvement Essentials” Course

• Build a critical mass of individuals trained in QI Science (Model for Improvement)
• Multi-professional (MD/DO, RN, RT, Administrators)
Improvement Science Training - Essential

“Quality Improvement Essentials” Course

• Build a critical mass of individuals trained in QI Science (Model for Improvement)
• Multi-professional (MD/DO, RN, RT, Administrators)
• Increase amount and quality of QI activity
• Increase contributions to the medical literature as well
Evolution of Quality/Safety at NCH

“Quality Improvement Essentials” Course

• 4 month long course
  ▪ 36 hours of didactics
  ▪ Student must initiate and lead a QI project
  ▪ Each student gets 2 mentors and a “QI Tools Coach”
Evolution of Quality/Safety at NCH

“Quality Improvement Essentials” Course

• 4 month long course
  ▪ 36 hours of didactics
  ▪ Student must initiate and lead a QI project
  ▪ Each students gets 2 mentors and a “QI Tools Coach”

• 170 graduates over 9 cycles

• Students coming from other institutions
Quality Improvement Essentials

Participants

- Nurses: 38
- Others: 27
- Doctors: 94

Administration
Pharmacy
Research
QIS
RT, OT, Etc
Evolution of Quality/Safety at NCH

Some QI Course Outcomes

• Significant improvement in self-assessed competency in multiple QI domains
Evolution of Quality/Safety at NCH

Some QI Course Outcomes

• Significant improvement in self-assessed competency in multiple QI domains

• Increased
  ▪ Presentations outside NCH
  ▪ Publications of their QI work
  ▪ Teaching of QI – internally/externally
Results: NCH peer reviewed QI publications

Number of QI publications

- 2011: 6
- 2012: 3
- 2013: 8
- 2014: 35
- ytd 2015: 26
Evolution of Quality/Safety at NCH
Expansion of the Clinical Care Index Concept

• Overall evaluation of quality of a program (e.g. oncology care) for all patients
Evolution of Quality/Safety at NCH

Expansion of the Care Index Concept

- Overall evaluation of quality of a program (e.g. oncology care) for all patients

- Measures total number of unwanted events during a time frame
Clinical Care Index:

• Compilation of missed opportunities for “optimal care”
Clinical Care Index:

• Compilation of missed opportunities for “optimal care”
  ▪ events that SHOULD have happened (e.g. a test or consult) but did not
  ▪ events that SHOULD NOT have happened (e.g. a hospital acquired infection) but did

• Ultimate goal of “0” missed opportunities
Clinical Care Index:
An approach to:

• Decrease variation (define “optimal care”)
• Increase reliability (measure adherence with “optimal care”)

... for an entire program including the full spectrum of different diseases within the program
Clinical Care Index:

An approach to:

- Decrease variation (define “optimal care”)
- Increase reliability (measure adherence with “optimal care”)

... for an entire program including the full spectrum of different diseases within the program
The Cancer Care Index (CCI)
CCI: 15 Domains in 3 areas

• Optimal Diagnosis and treatment (6 domains)
  ▪ e.g. Accurate measure of height and weight
  ▪ e.g. Fertility discussion when appropriate

• Freedom from harm (5 domains)
  ▪ e.g. No hospital acquired infections

• Psychosocial Support (4 domains)
  ▪ e.g. Referrals to Psychology and social work
CCI: key elements

• Lower number = better care
• Baseline year – 2012
  ▪ Harm events 60
  ▪ Missed opportunities 218
  ▪ Total CCI 278

• We were not as good as we thought we were!
Cancer Care Index 2012 – 2014

69% reduction over 3 years

Manuscript accepted pending revisions; J Pat Safety
Other indices under development

- Perioperative Care Index
- Chronic Kidney Disease Index
- Tracheostomy Care Index
- Transplant Care Index
- Bone Marrow Transplant Index
“In God we trust, all others bring data.”

W. Edwards Deming
Safety Attitudes Questionnaire ‘09–’15

Safety Climate

Teamwork Climate

*p<0.05 compared to ‘09 and ‘11

*NATIONWIDE CHILDREN’S
When your child needs a hospital, everything matters.

Zero Hero™
Create a safe day. Every day.
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, § †||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†||†|
Serious Harm by Quarter

65% decrease from peak; p<0.001

Removes the minor medication errors and pressure ulcers
Lowest SSER since inception of ZH Program
Results: Overall Hospital Mortality

Mortality Rate
2000-2008 (1%) v 2009-2014 (0.77%); p<0.001

Deaths per 100 Discharges (mortality rate)

Results: Overall Hospital Mortality

Mortality Rate
2000-2008 (1%) v 2009-2014 (0.77%); p<0.001

259 Fewer deaths
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).
What’s next?

• Fellowship in Pediatric Quality and Safety
  ▪ Includes Masters in Business Operational Excellence (OSU)
  ▪ Commences July 2016
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• Journal of Pediatric Quality and Safety (PQS)
  ▪ First pediatric specific journal focusing on Quality and Safety
  ▪ 54 editors and associate editors
  ▪ Volume 1, Issue 1 Q1 2016
Please click the link below to take our webinar evaluation. The evaluation will open in a new tab in your default browser.

https://www.surveymonkey.com/r/hpoe-webinar-11-23-15
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- Managing variation in care
- Implementing electronic health records
- Improving quality and efficiency
- Bundled payment and ACOs
- Others

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