Texas Children's Hospital

Affiliated with Baylor College of Medicine

PATIENT SAFETY AT TEXAS CHILDREN'S

Joan E. Shook, MD, MBA

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TEXAS CHILDREN'S HOSPITAL PATIENT SAFETY

WHERE WE HAVE BEEN,
WHERE WE ARE TODAY,
AND A GLIMPSE OF THE FUTURE!

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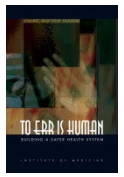
1999
To Err is Human



2003
Safety Walk Rounds

2004
Patient Safety Proclamation

2005
First AHRQ survey

2006
Quality and Safety 10 year strategic plan developed and approved
- Key strategies: Transparency, Accountability, Data

2007
Rapid Response Teams Implemented

2008
Quality Resolution by TCH Board
- Advanced Quality Improvement (AQI) begins

2009

2010
Vision 2010:
Epic
Feigin Center expansion
- Neurological Research Center
- West Campus
- PFW

2011
Electronic data warehouse

2012
Joined SPS (Wave 1)

2013
Situational Awareness

2014
Watcher Program
Tandem support team
- Error Prevention Training:

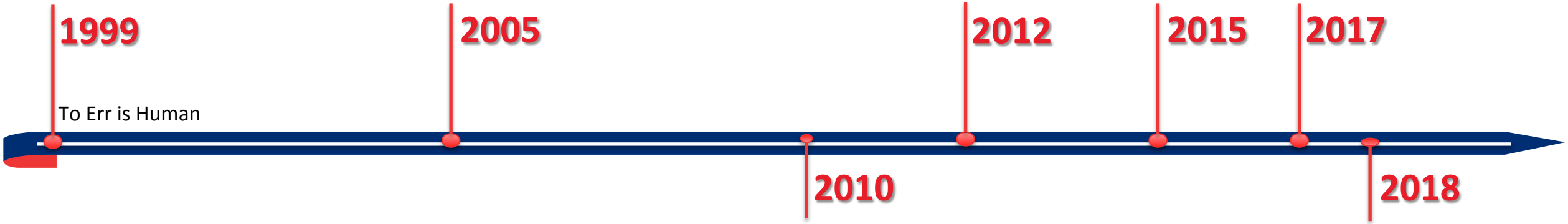
2015
Safety Coach Program
- DOB 3.0

2016
End of the Strategic Plan
- Balanced accountability algorithm
- Physician communication training: Breakthrough communication

2017
Woodlands campus

2018
Care First

expansion

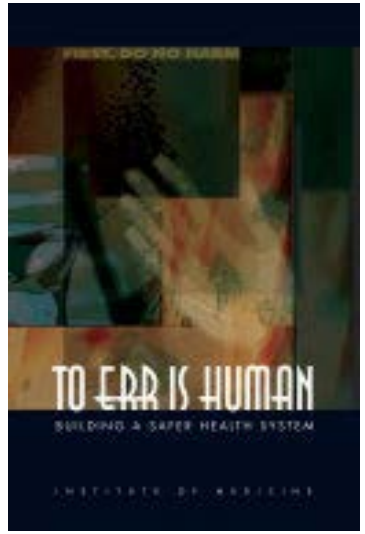


1999

- TCH safety program anchored in regulatory compliance

- <u>To Err is Human</u> published

  98,000 deaths/year occur as a result of medical errors: 11 deaths/hour



KEY FINDINGS OF *TO ERR IS HUMAN*

- Most errors and adverse events arise from the fallibility of humans working within poorly designed systems of care
- Preventing injuries means designing safer *systems* of care
- *Organizations*, not individual physicians and nurses, control those systems of care

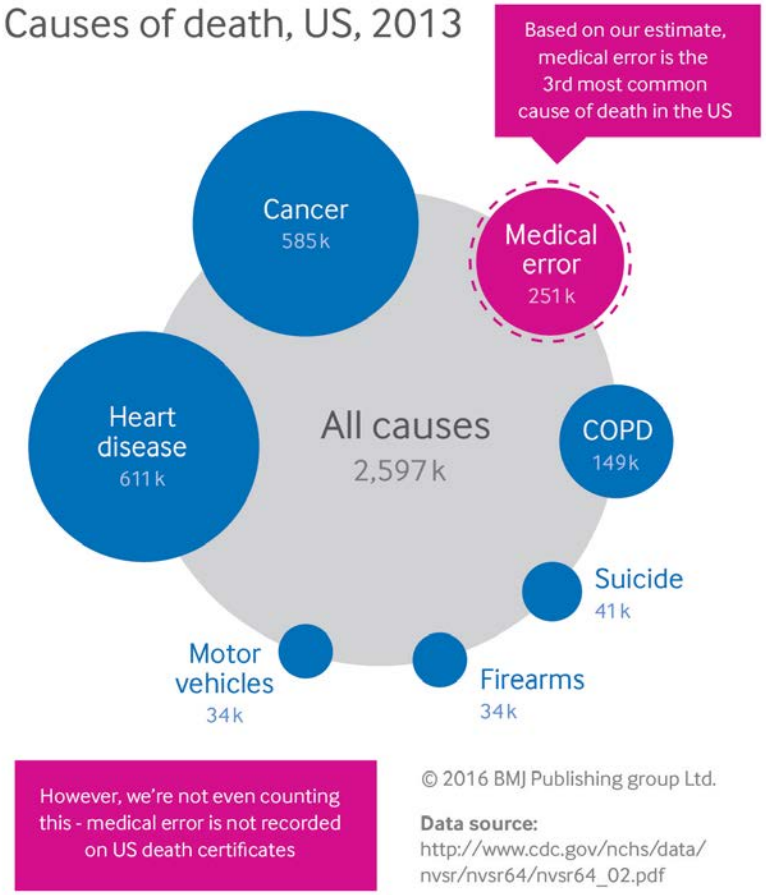
SYSTEMS AND HEALTHCARE

- Health care is composed of a large set of interacting systems
  - Paramedic, emergency, ambulatory, inpatient care, home health, testing and imaging, pharmacies
  - Systems are connected but loosely coupled each with intricate networks of individuals, teams, procedures, regulations, communications that function in a diffuse and uncertain environment

SYSTEMS AND COMPLEXITY

- Systems that are more complex and tightly coupled are more prone to accidents and have to be made more reliable
  - Activities of a typical ED, OR or ICU exemplify complex and tightly coupled systems
- Tightly coupled systems can reduce the risk of accidents by simplifying and standardizing processes, building in redundancies and developing backup systems

UPDATE: MEDICAL ERROR THIRD LEADING CAUSE OF DEATH IN THE US



Makary, MA and M Daniel BMJ 2016

HIGH FREQUENCY SOURCES OF INJURY

1. Adverse drug events (ADEs)
2. Iatrogenic infections
    - Post operative wound infections
    - Urinary tract infections
    - Bacteremias
3. Pressure ulcers
4. Mechanical device failures
5. Complications of central and peripheral venous lines
6. Deep venous thrombosis, pulmonary embolus
7. Patient transitions

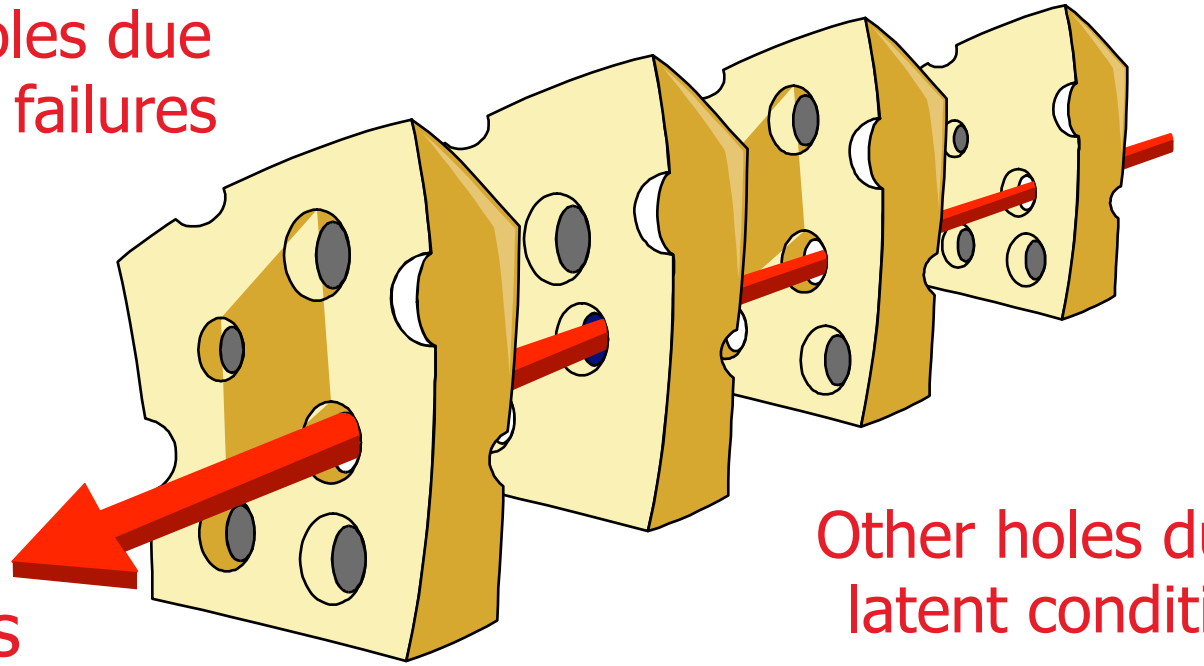
Brent James , Personal communication

PATIENT SAFETY: ASSUMPTIONS

- Complex systems are basically not safe
- Human errors are symptoms of deeper troubles
- Each problem is an opportunity to learn
- The “true” problem must be understood before an action is taken
- People have to create safety while negotiating multiple goals

REASON'S "SWISS CHEESE" MODEL OF ACCIDENT CAUSATION

Some holes due to active failures



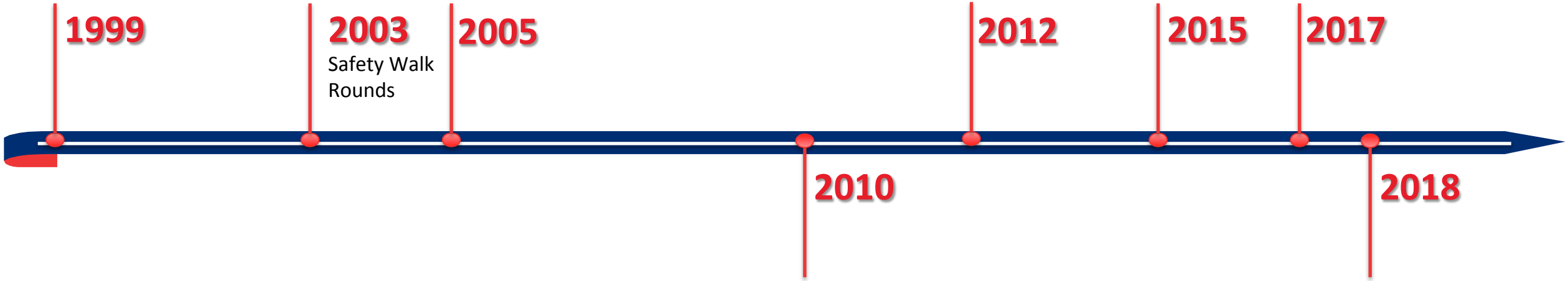
Hazards

Other holes due to latent conditions

Losses

Successive layers of defences, barriers and safeguards

System defences

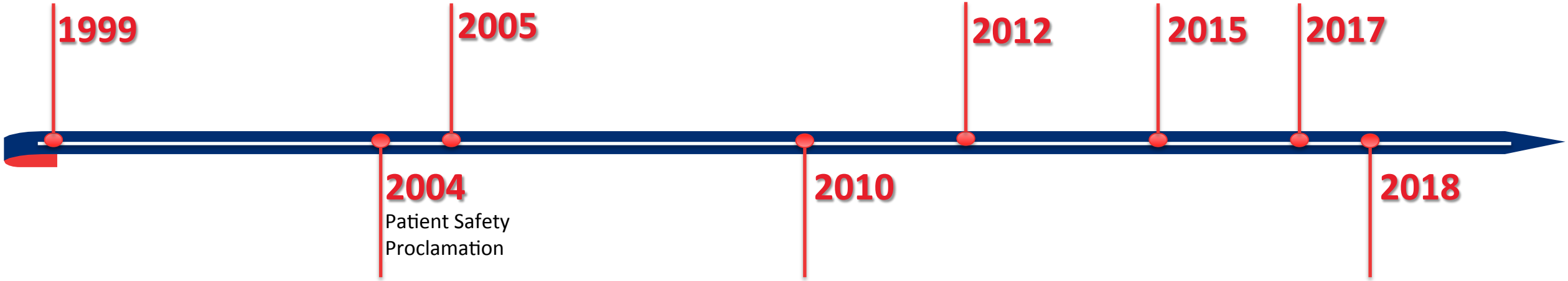


2003

- TCH Safety Program developed independence from Quality structure
- New methodology for RCAs adopted
- Patient safety walk rounds begin

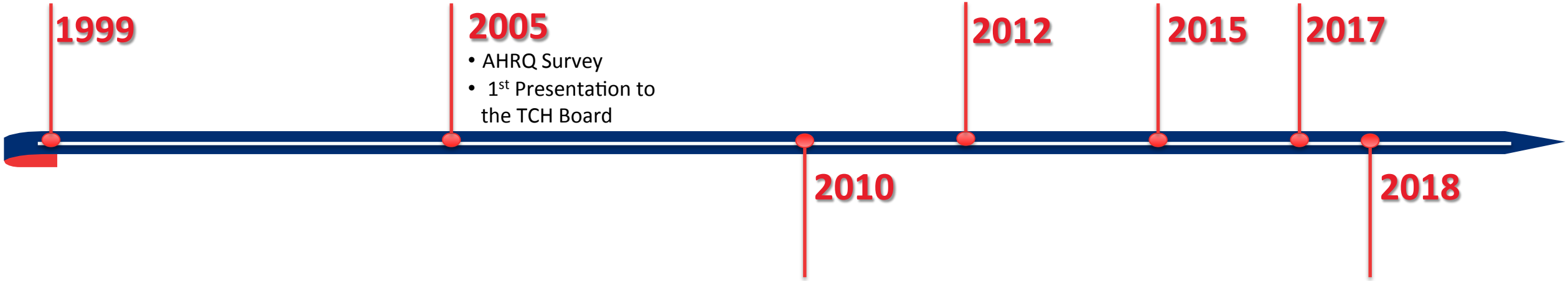
PATIENT SAFETY WALK ROUNDS

- Patient safety team round in clinical and nonclinical areas with Executive leadership to discuss safety risks and hazards
  - Goal is a conduit for open discussion
  - And issue resolution
- Board members occasionally present
- Have now incorporated Safety Coaches



2004: TCH Board Patient Safety Proclamation

"…the Board of Trustees of Texas Children's Hospital is committed to implementing and sustaining a comprehensive Patient Safety Program to include proactive and continuous improvement processes…and be based on the values of trust integrity and open communication…"



2005

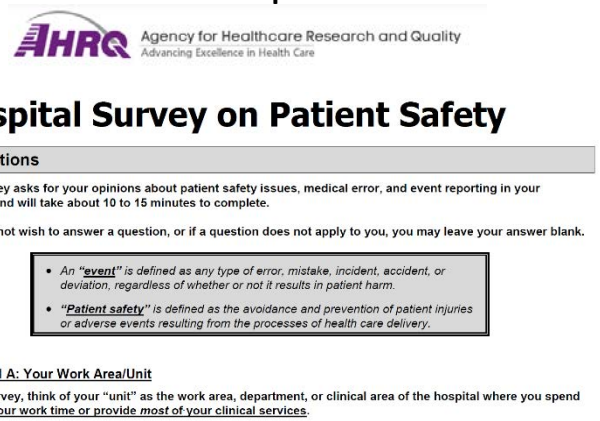
- AHRQ Culture of Safety Survey administered
- Serious safety event presented to the TCH Board for the first time

CULTURE OF SAFETY BASICS

- Important: Frontline Assessment of Care Delivery Context; linked to outcomes
- Reliably measurable using published methods
- Culture is local and variable among units
- Allows leaders to triage units in need
- Responsive to interventions

AHRQ HOSPITAL SURVEY

- Valid and reliable survey tool for measuring a hospital's patient safety culture
- Survey measures:
  - 12 safety dimensions (42 items on a 5-point Likert scale)
  - Individuals' work area/unit's overall patient safety grade
  - Number of reported events in past 12 months
  - Includes background and work area questions



AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

Hospital Survey on Patient Safety

Instructions

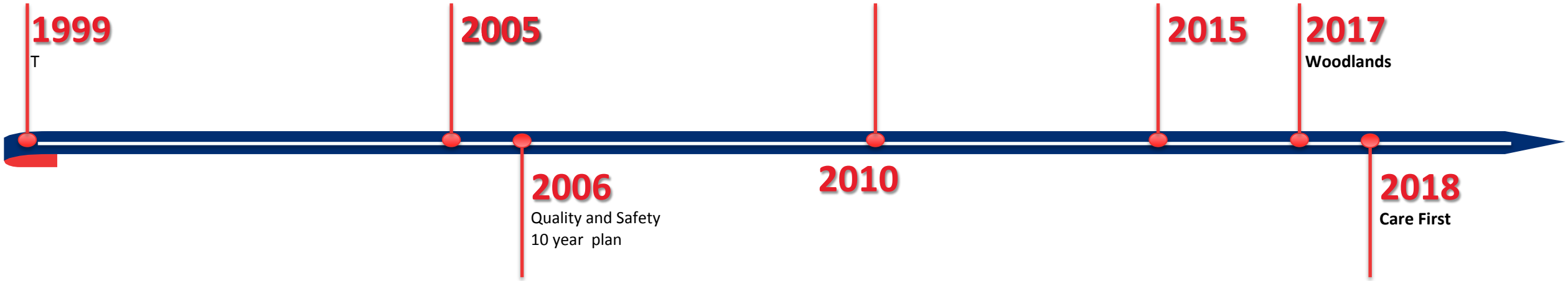
This survey asks for your opinions about patient safety issues, medical error, and event reporting in your hospital and will take about 10 to 15 minutes to complete.

If you do not wish to answer a question, or if a question does not apply to you, you may leave your answer blank.

- An "***event***" *is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.*
- "***Patient safety***" *is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.*

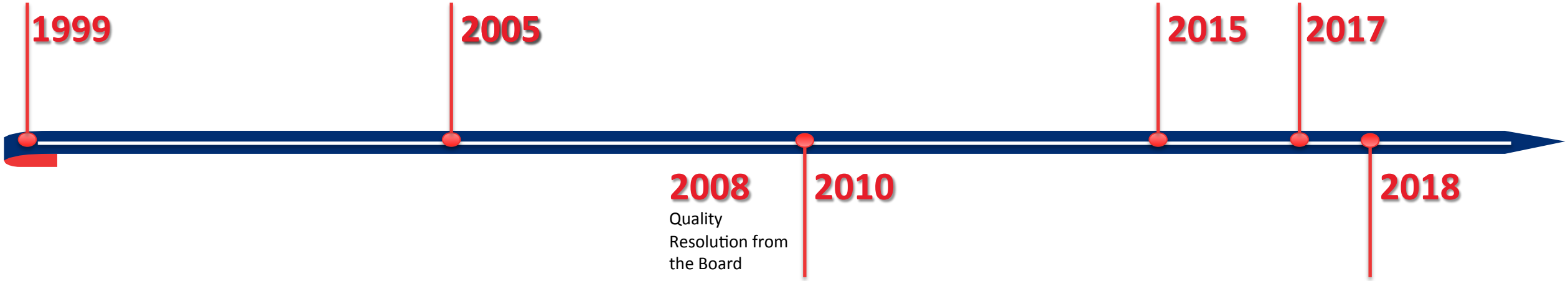
SECTION A: Your Work Area/Unit

In this survey, think of your "unit" as the work area, department, or clinical area of the hospital where you spend *most* of your work time or provide *most* of your clinical services.



2006: Quality and Safety 10 year Program Plan, *Moving from Excellence to Eminence,* developed and approved

- Transparency, accountability, and data emphasized



2008: Board of Trustees Resolution

"…(we are) committed to the highest standards of quality and patient safety…(and to) the implementation of systems to support the development of meaningful measures of quality of care and clinical outcomes…"

Advanced Quality Improvement (AQI) begins

First class graduates

Rapid Response teams fully implemented

ADVANCED QUALITY IMPROVEMENT: AQI

- Course developed with Brent James and Intermountain Healthcare based on their *Heath Care Delivery Improvement*
  - Provides fundamentals of quality improvement and safety
  - Team-based improvement project aligned to organizational goals is required
- Over 600 people trained in course
- Abbreviated course offered here in the fall

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1999

2005

2010
- Vision 2010:
- Epic
- Feigin Center expansion
- Neurological Research Center
- West Campus
- PFW

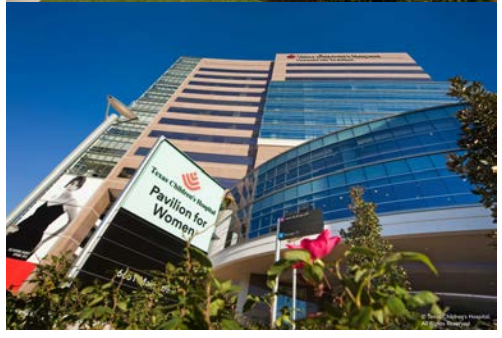
2012

2015

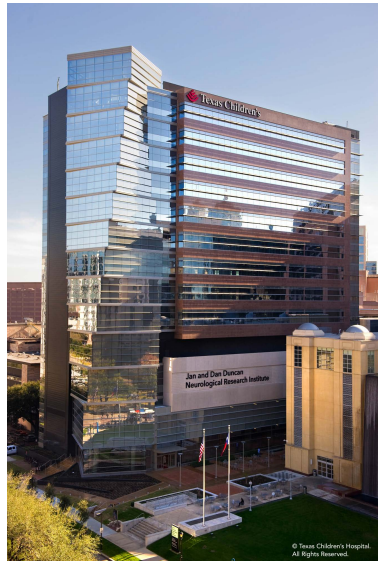
2017

2018

Epic



- **Vision 2010: Excellence to Eminence**
  - Epic installation
  - Expansion of the Feigin Center
  - Neurological Research Institute (NRI)
  - West Campus (pediatric hospital)
  - Pavilion for Women (PFW)



VISION 2010: SIMULATION CENTER

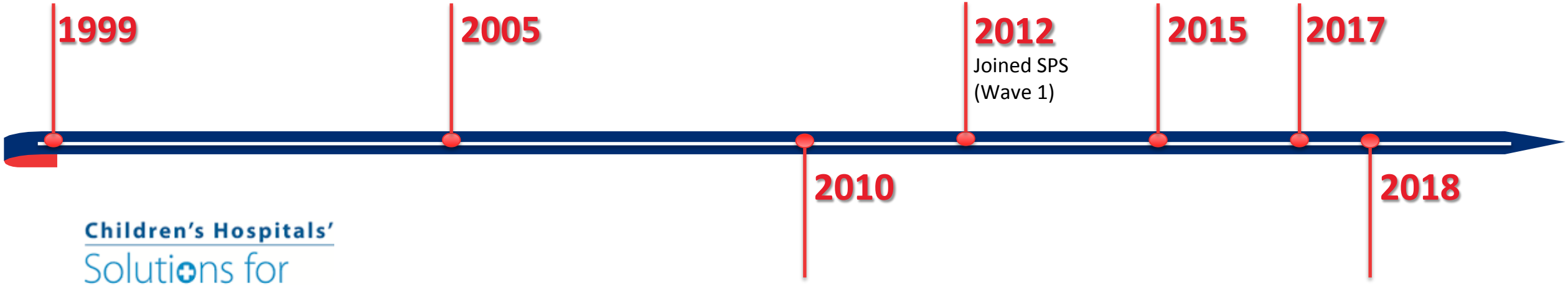
- To use simulation education to save lives and improve patient care and safety
  - High fidelity simulation
  - Other modalities employed as appropriate
- Simulation training provided in the Center and *in situ*
  - Emergency Center, Cardiology floor (15 WT), PFW, West Campus, Woodlands
  - Also used when opening new patient care space

VISION 2010: PAVILION FOR WOMEN

- Provides full scope of services to women, mothers, and infants
  - High risk obstetrics, MFM
  - Normal newborn care, NICU on site: links to Level IV in West Tower
- Sophisticated quality and safety program
  - Massive transfusion protocol
- Superb outcomes

VISION 2010: WEST CAMPUS

- Leapfrog Honor Roll hospital 2014, 2015
- Very active safety program
  - Leadership rounds
  - Pilot for HAC-related decision support in EPIC
  - Multidisciplinary M&M/quality rounds
  - Leading the discussion in alarm safety



Children's Hospitals' Solutions for Patient Safety
Every patient. Every day.

2012

- Electronic data warehouse (EDW)
  - Care process teams: clinical decision support
- Joined OCHSPS--SPS (wave 1)

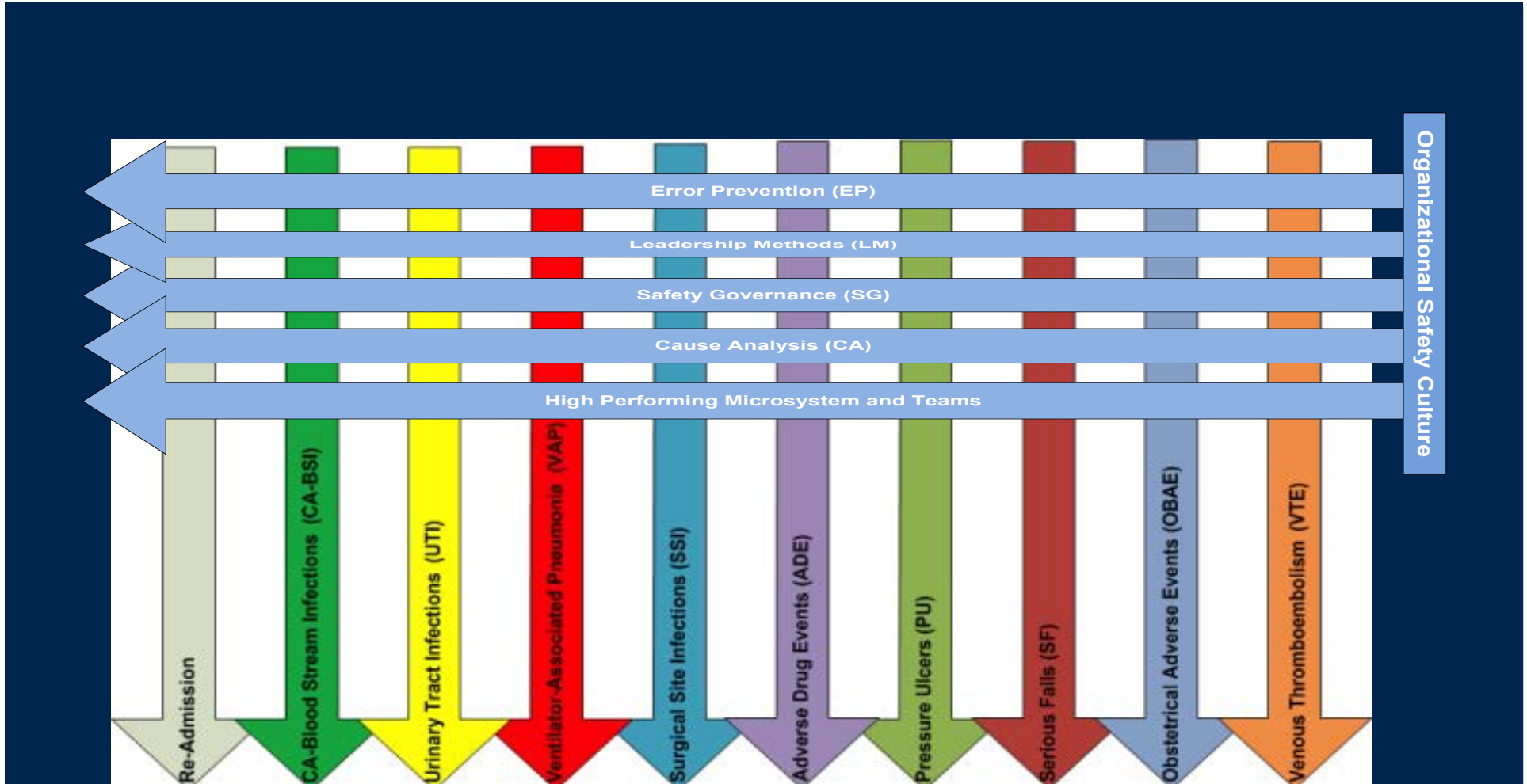
Solutions for Patient Safety (SPS) :

"THE OHIO COLLABORATIVE"

WHAT JOINING SPS HAS DONE FOR US

- Vision: Working together to eliminate serious harm across all children's hospitals in the United States
- Structure:
  - Culture: DOB, safety governance, training
  - Hospital acquired conditions
- People

STRUCTURE OF THE COLLABORATIVE



WHY DO WE CARE ABOUT HACS?

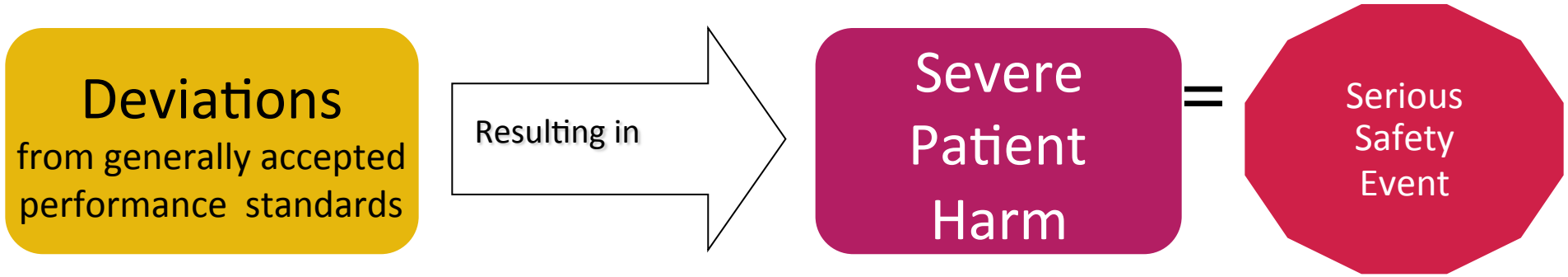
- Hospital acquired conditions cause harm to patients
- Every category of HAC can be reduced

HARM DASHBOARD FY17

Hospital Acquired Conditions	FY 2016														
	Q1			Q2			Q3			Q4			Q1		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Surgical Site Infections (SSI)	0	3	2	1	1	2	2	2	0	1	0	1	1	2	1
C-section Surgical Site Infections	1	0	3	0	0	1	3	0	0	1	1	1	0	3	3
Ventilator Associated Pneumonia (VAP)	1	2	0	3	0	1	0	1	0	0	0	0	1	0	1
Central Line Associated-Blood Stream Infections (CLA-BSI)*	17	12	7	8	6	6	5	7	4	10	9	7	7	6	11
Catheter Associated-Urinary Tract Infections (CA-UTI)	0	0	0	0	1	0	0	1	0	0	2	1	0	0	0
Adverse Drug Events (ADE)	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Pressure Injuries (PI)*	1	1	0	2	0	2	0	1	0	3	1	2	0	1	1
Falls	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0
Total	21	18	14	14	8	12	10	13	5	16	13	12	9	12	17
Year over Year Change													-12	-6	3
Year over Year Cumulative Change													-12	-18	-15

HOW SAFE ARE OUR PATIENTS?

WHAT ARE SERIOUS SAFETY EVENTS?



- Serious Safety events include errors that result in death, permanent loss of function or injury such as
  - Transfusion reaction or medication event
  - Wrong site/side surgery
  - Misdiagnosis
  - Treatment error
  - Delay in treatment

QUALITY STRATEGY: DATA MANAGEMENT

- Build a **comprehensive, integrated and evidence-based** quality and safety program resulting in measurable improvements in processes and quality care.

- Collection and use of **meaningful data,** which provides information about clinical outcomes and operational processes.

- An **enterprise-wide data management infrastructure** which will leverage the clinical systems; starting with Epic and financial information in order to provide easy-to-access, meaningful and relevant data to assist in accelerating improvements in clinical and operational processes.

ELECTRONIC DATA WAREHOUSE (EDW)

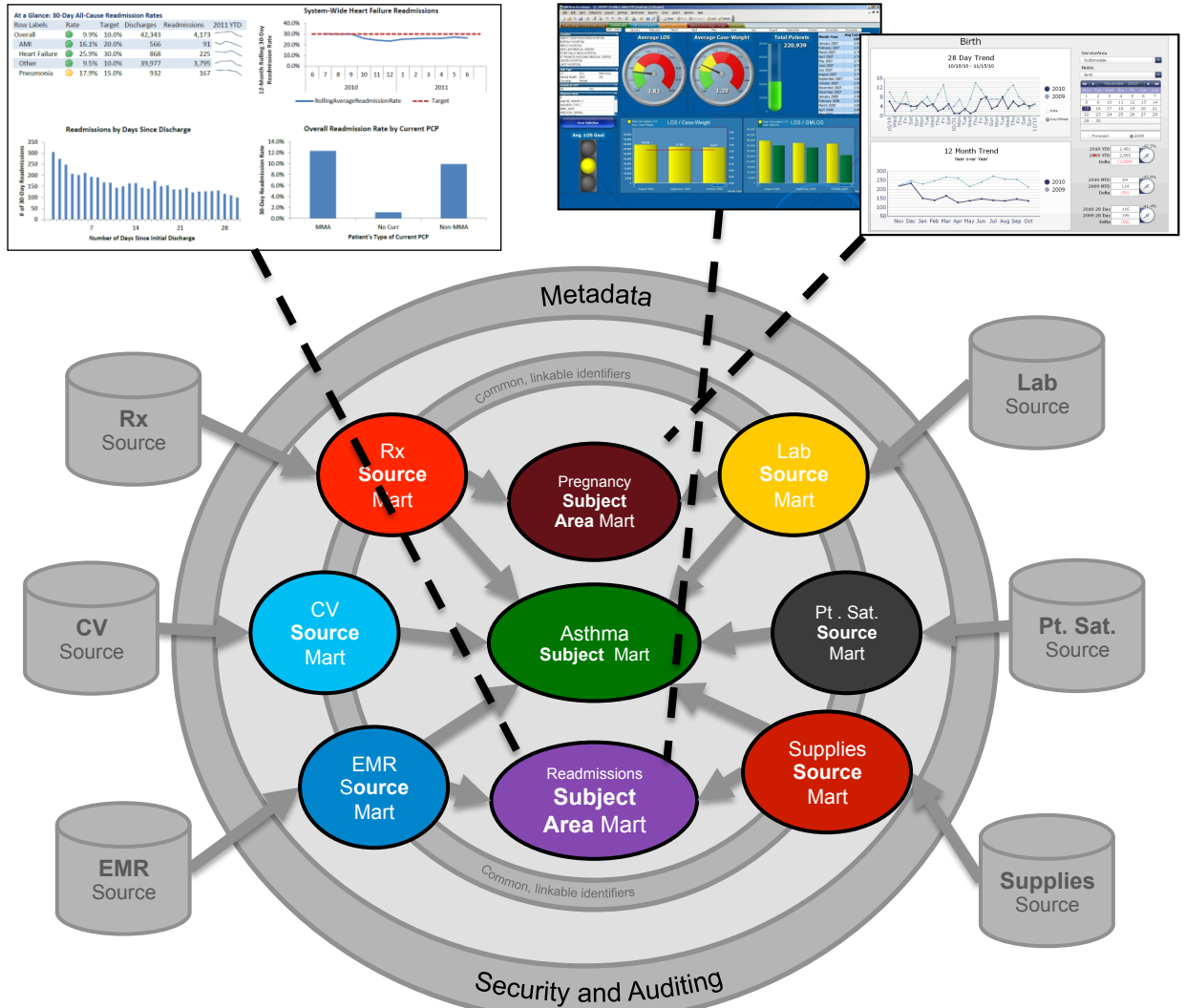
- Allows for the examination of care nearly real time
  - Used for the development and monitoring of care processes
  - Facilitates the development of order sets and decision support
  - Active areas of use include asthma, diabetes, appendicitis, tracheostomy patients, high-risk OB
  - Very helpful in understanding population health related issues

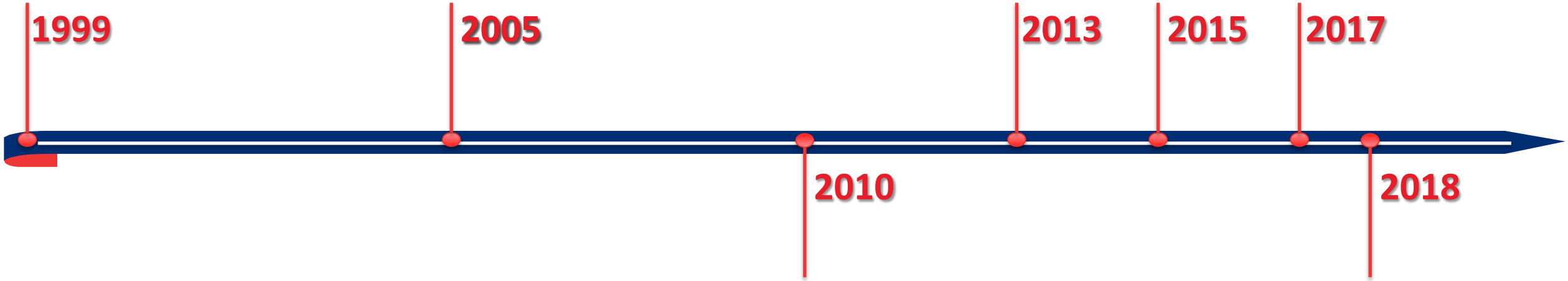
EDW OVERVIEW

- Enterprise Data Warehouse
  - Home of Source data, Subject Area Marts (SAMs)
    - Sources:
      - Clarity/Epic
      - Peoplesoft
      - API Timeclock
      - EPSi Cost
      - Press Ganey
      - Sunquest (small chunk)
    - SAMs
      - Asthma, Appendectomy, Delivery, Radiology, Labor Productivity, etc

TURNING DATA INTO INFORMATION

- **Principles**
  - Clinically driven
  - Actionable metrics
  - Centralized repository of metrics
  - Logical transparency
- **Advantages**
  - Consistent process and structure
  - Centralized EDW
  - "Panoramic" view





2013:

- Leapfrog participation started
- 2 SSEs highlighted need to improve situational awareness: The Watcher Program is born

WHAT IS LEAPFROG?

The Leapfrog Group is a voluntary program which seeks to mobilize employer purchasing power to alert America's health industry that big leaps in health care safety, quality and customer value will be recognized and rewarded. Among other initiatives, Leapfrog works with its employer members to encourage transparency and easy access to health care information as well as rewards for hospitals that have a proven record of high quality care

THE LEAPFROG GROUP
Informing Choices. Rewarding Excellence.
Getting Health Care Right.

WHAT ARE THE GOALS OF LEAPFROG?

THE LEAPFROG GROUP
Informing Choices. Rewarding Excellence.
Getting Health Care Right.

Mission: To trigger giant leaps forward in the safety, quality and affordability of health care by:

- Supporting informed healthcare decisions by those who use and pay for health care; and,

- Promoting high-value health care through incentives and rewards.

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PATIENT SAFETY RATINGS

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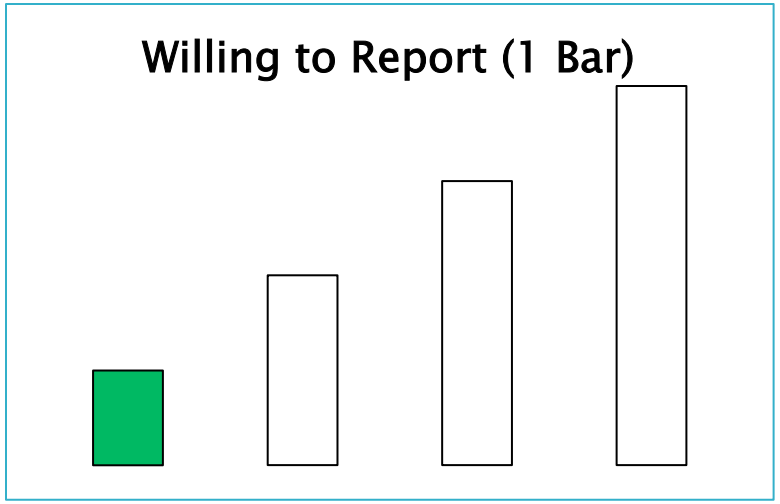
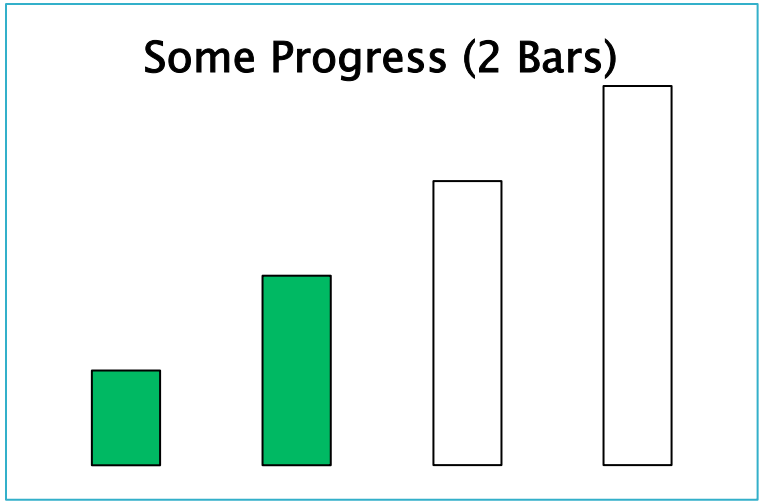
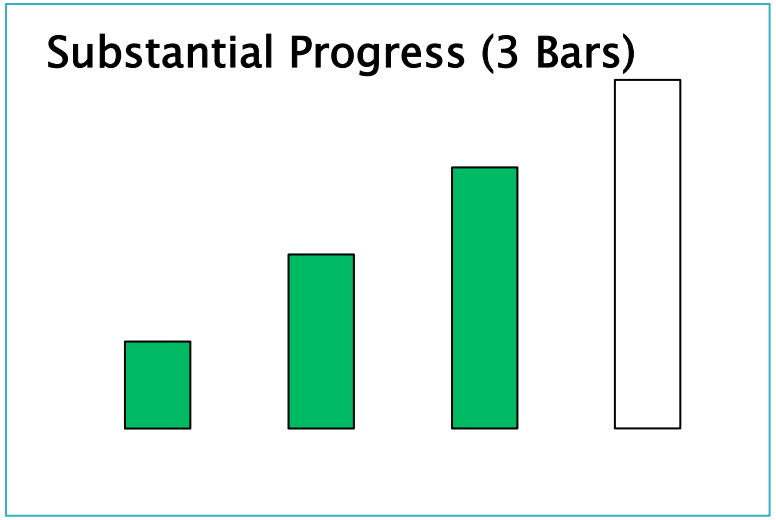
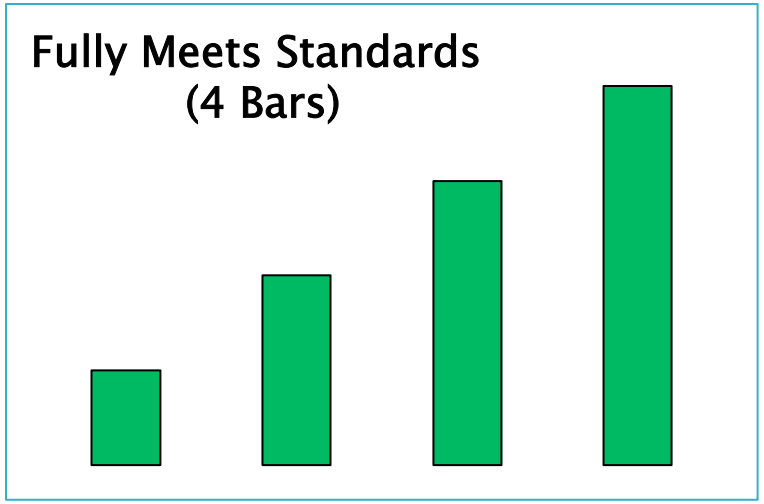
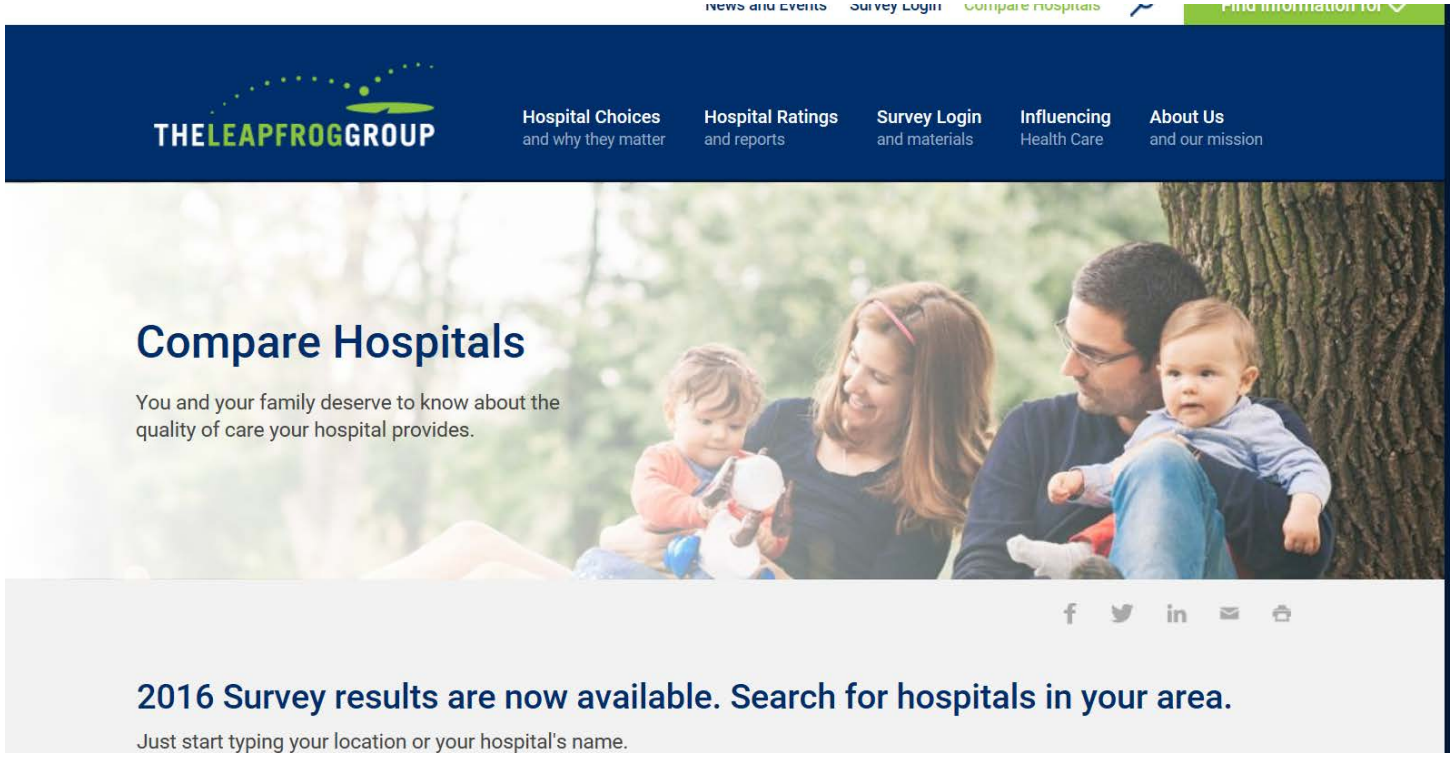








LEAPFROGGROUP.ORG



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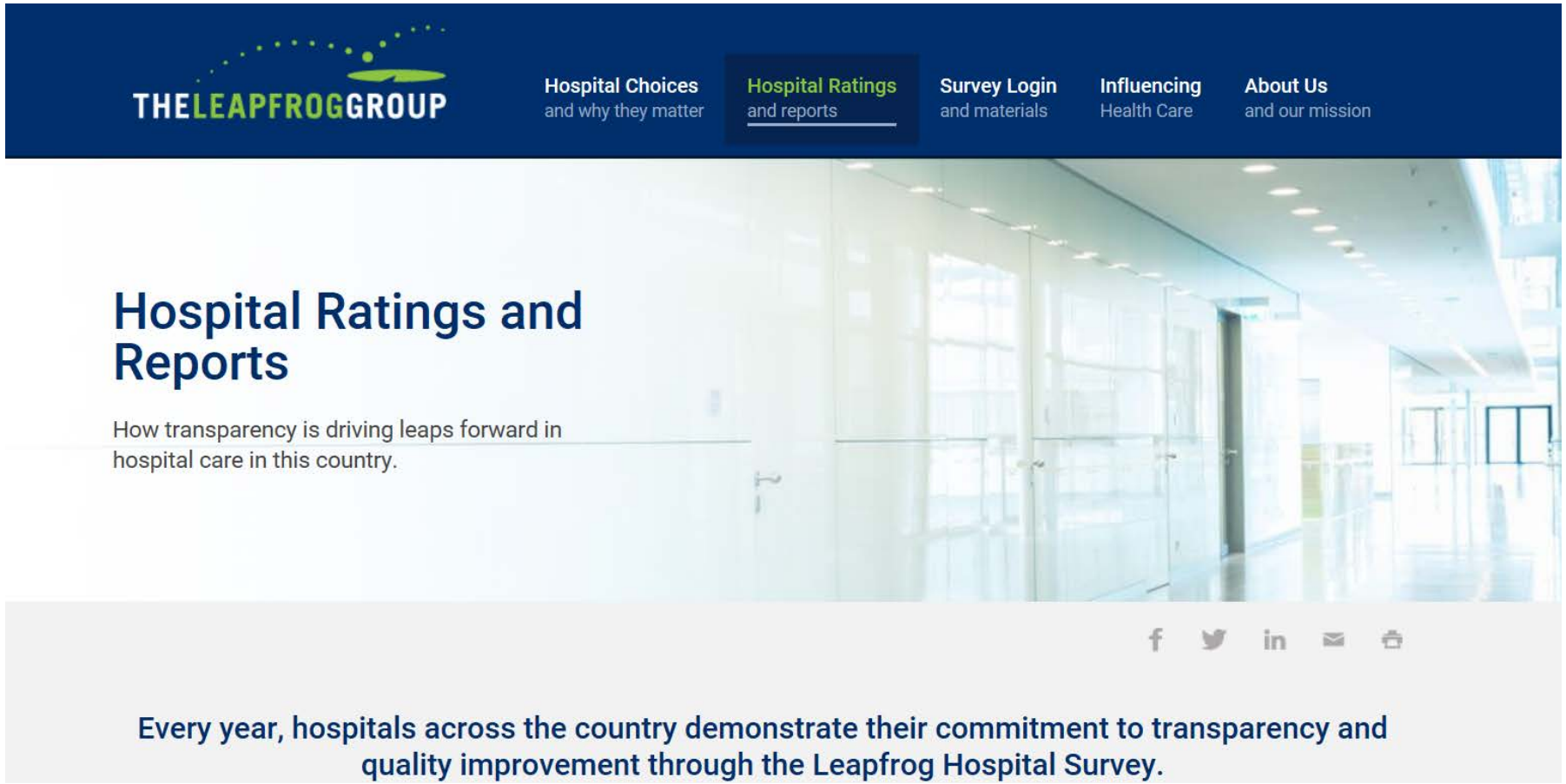

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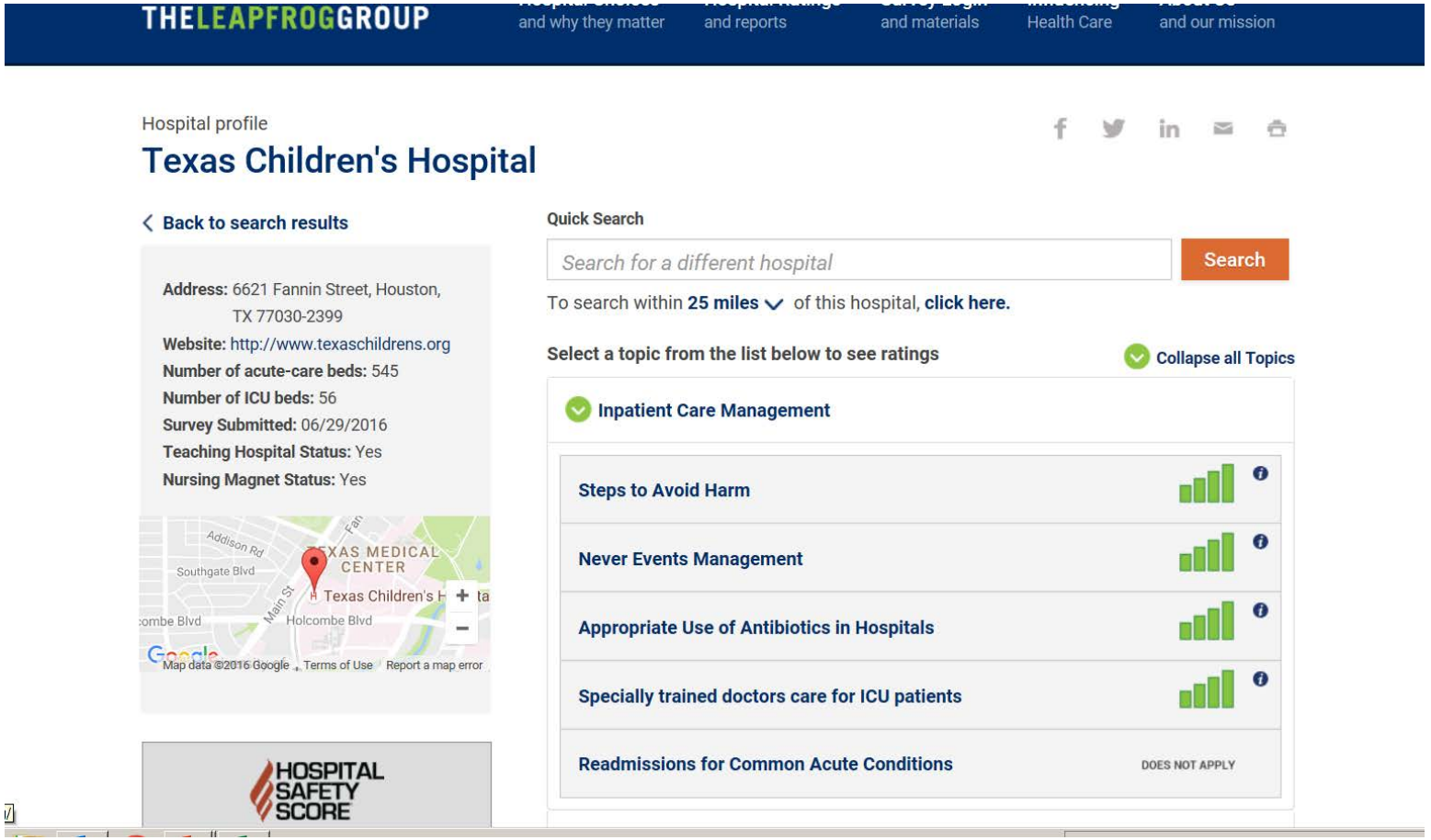

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LEAPFROG.ORG

Inpatient Care Management | Medication Safety | Maternity Care | High-Risk Surgeries | Infections and Injuries | How to Use This Information

To provide the safest, highest-quality care, hospitals must staff their units with appropriate expertise and have effective policies in place to manage and reduce errors. The biggest impact on patient outcomes comes from a deliberate and hospital-wide commitment to these practices.

Legend

Select up to 3 hospitals to compare: Remove Comparison	Steps to Avoid Harm	Never Events Management	Appropriate Use of Antibiotics in Hospitals	Specially trained doctors care for ICU patients	Readmissions for Common Acute Conditions
Sort	Sort	Sort	Sort	Sort	Sort
Texas Children's Hospital Houston, Texas MORE DETAILS					DOES NOT APPLY
Texas Children's Hospital Pavilion for Women Houston, Texas MORE DETAILS				DOES NOT APPLY	DOES NOT APPLY
Texas Children's Hospital West Campus Houston, Texas MORE DETAILS					DOES NOT APPLY

2012: SAFETY STORY #1

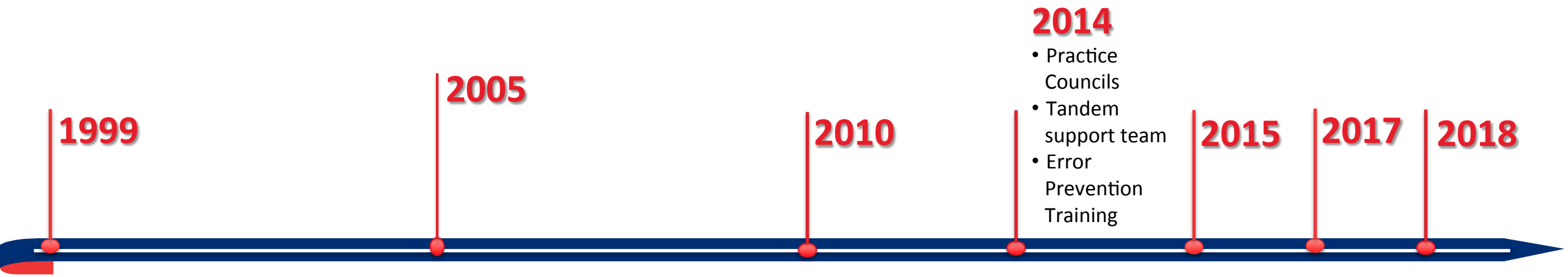
- **Raven**:
  - 15 yo girl with history of Crohn's disease s/p colectomy presented with severe abdominal pain near the ostomy site
  - Was admitted to 12WT for abdominal pain and possible UTI
  - Continued to complain of pain
  - Developed hypotension and tachycardia
  - Seen by multiple providers
  - RRT called 16 hours after arriving on 12WT and transferred to the PICU where intubated, started on pressors
  - Went to the OR where found to have 1000 cc of purulent fluid and required revision of the ileostomy

2012: SAFETY STORY #2

- Liam:
  - 20 mo boy with complicated history including CHD, recent G-tube placement and mitochondrial disorder was admitted to West Campus for possible aspiration pneumonia
  - Transferred to Main Campus for higher level of care
  - Limited communication (both written and verbal) among providers
  - Arrived 15 WT at 11PM: BP=89/56 pulse ox=100%
  - Parents reluctant to have baby disturbed during the night
  - 8 hours after arrival, Liam was unarousable and cool to the touch. RRT was called.
  - BP=43/26. Transferred to PICU in septic shock

WATCHER PROGRAM

- Developed to improve situational awareness in acute care areas
- Care teams develop criteria to place a patient on watcher status, required interventions, and what it takes to be removed from list
- Implemented in all acute care units and on all campuses



2014

- A serious safety event forced us to take a new look at our diagnostic areas
  - Detailed evaluation of our outpatient environment undertaken
  - Tandem Support Team is born
- Error Prevention Training: 12,000 people trained

2014: SAFETY STORY

- Baby C

  8 month old girl with complex medical history was being evaluated for disordered breathing. Shortly after the study began, her blood oxygen level declined and her carbon dioxide level increased. Other signs of distress were present. Her deterioration was initially unrecognized. She became unresponsive. She was resuscitated but had suffered significant brain damage. She was removed from life support.

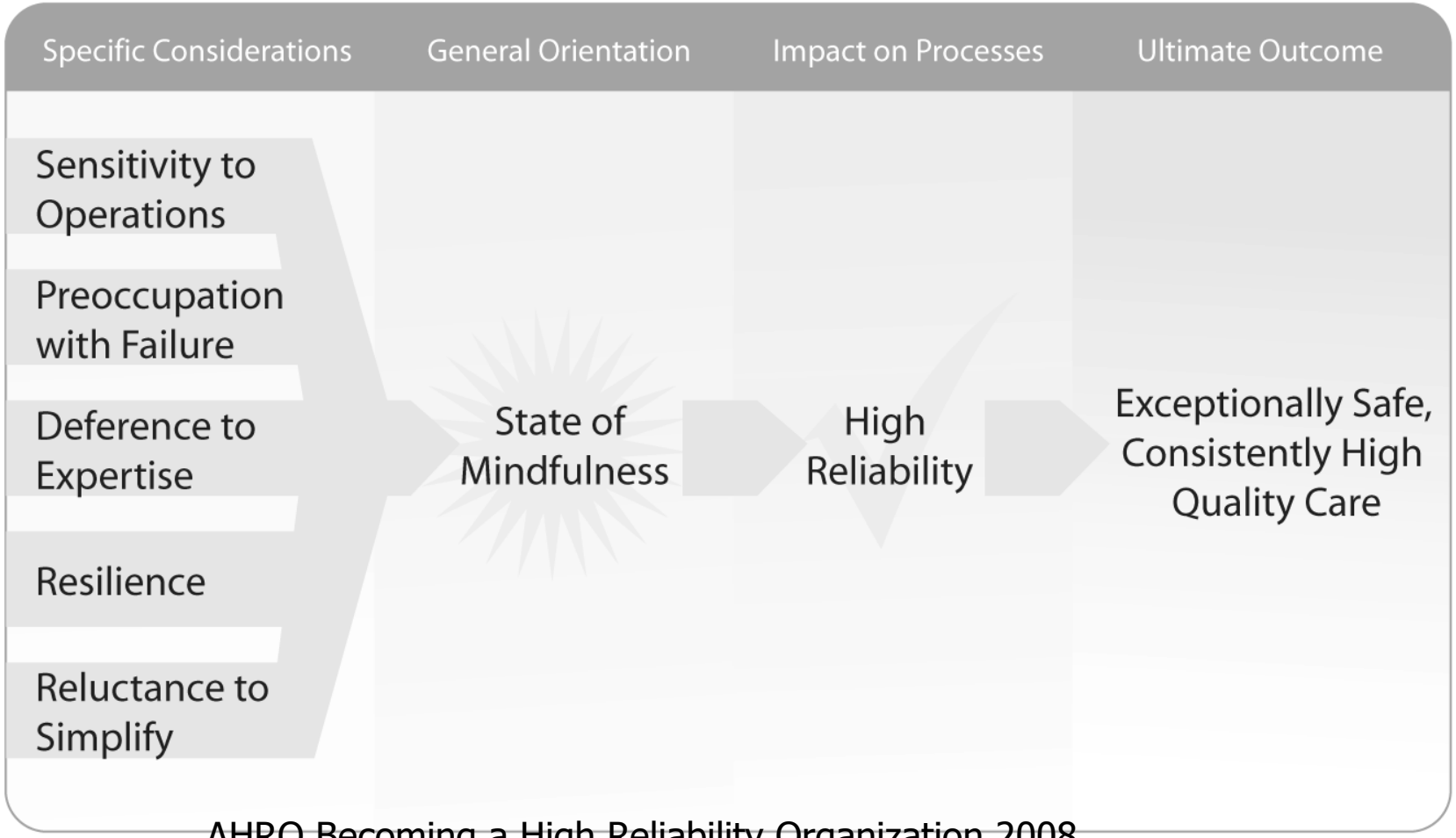
PRACTICE COUNCILS

- Multi-disciplinary teams work to identify risks and develop a platform for continuous improvement
  - Address immediate risks to patient safety
  - Ensure system-wide alignment
- Use principles (and tools) of high reliability

GOAL: HIGH RELIABILITY ORGANIZATION

- Characterized by five key concepts
  - Preoccupation with failure
    - Encourage reporting of errors and near misses
    - Articulate mistakes they don't want to make
  - Reluctance to simplify interpretations
    - Analyze carefully and take nothing for granted
  - Sensitivity to operations
    - Attention to the front line
  - Commitment to resilience
    - Intelligent reaction and improvisation
  - Deference to expertise

KEY CONCEPTS: CREATE STATE OF MINDFULNESS



AHRQ Becoming a High Reliability Organization 2008

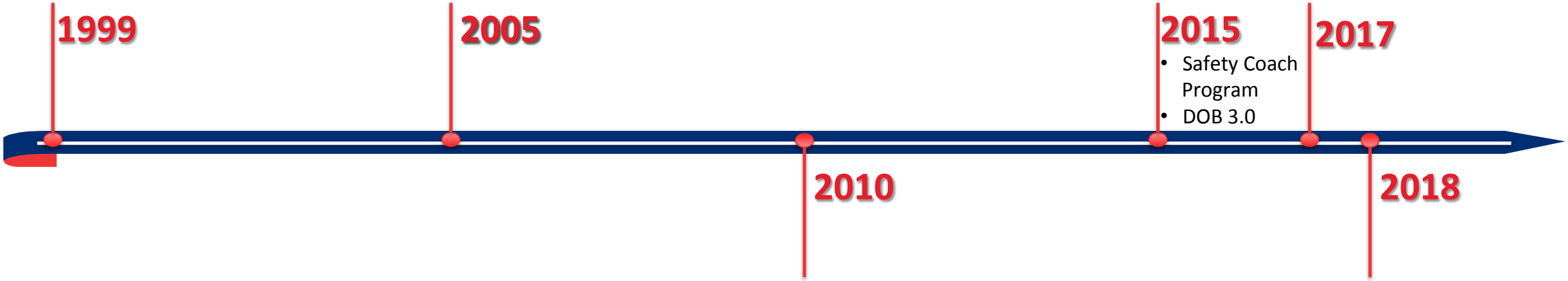
MINDFULNESS: SITUATIONAL AWARENESS

- **DEFINITION:** Situational Awareness is the ability to identify, process, and comprehend the critical elements of information about what is happening to the team with regards to the mission.
- More simply, it's *knowing what is going on around you.*

TANDEM SUPPORT TEAM

Systematic approach to supporting the "second victims" of a safety event or other significant occurrence

- Two day training grounded in the work of Albert Wu
  - Immediate assessment and support: additional resources may be mobilized
  - Training now in-house
- 90 active members attended to 62 events last year

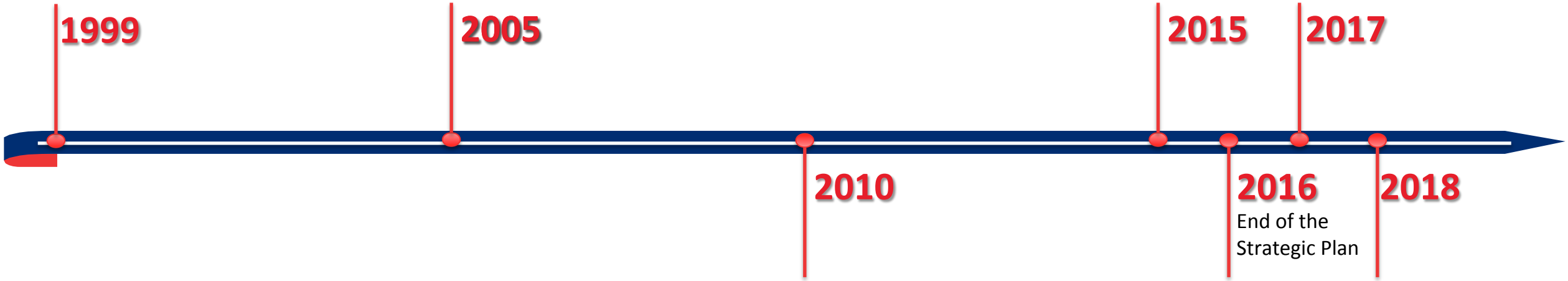


2015

- Safety Coach Program
- DOB 3.0

SAFETY COACH PROGRAM

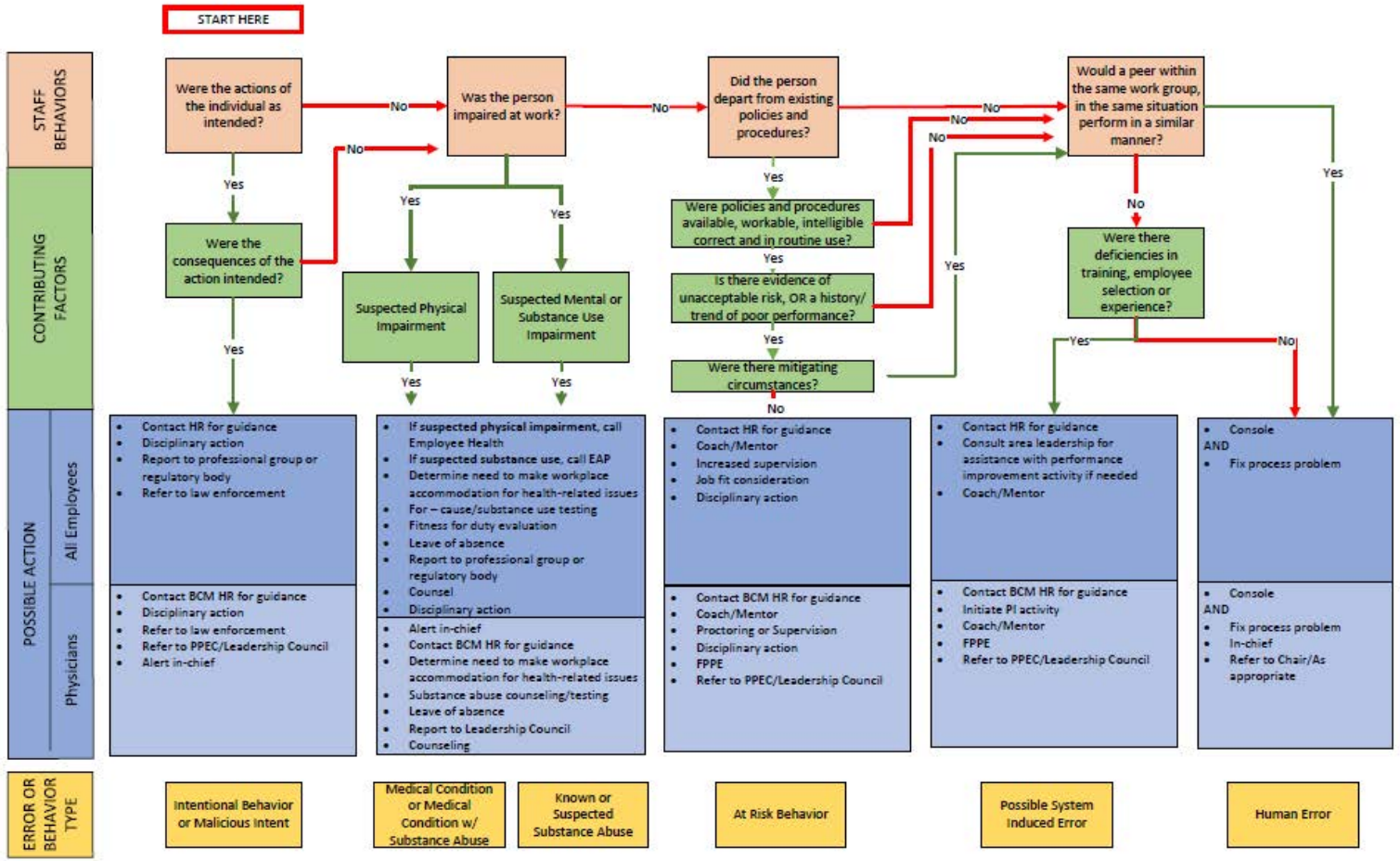
- Over 300 safety coaches trained
  - Quarterly refresher classes available
- Present across all clinical care areas
- Have incorporated Coaches into our Leadership Rounding



2016

- Balanced accountability algorithm
- New internet site
- Physician communication training: Breakthrough communication

BALANCED ACCOUNTABILITY ALGORITHM



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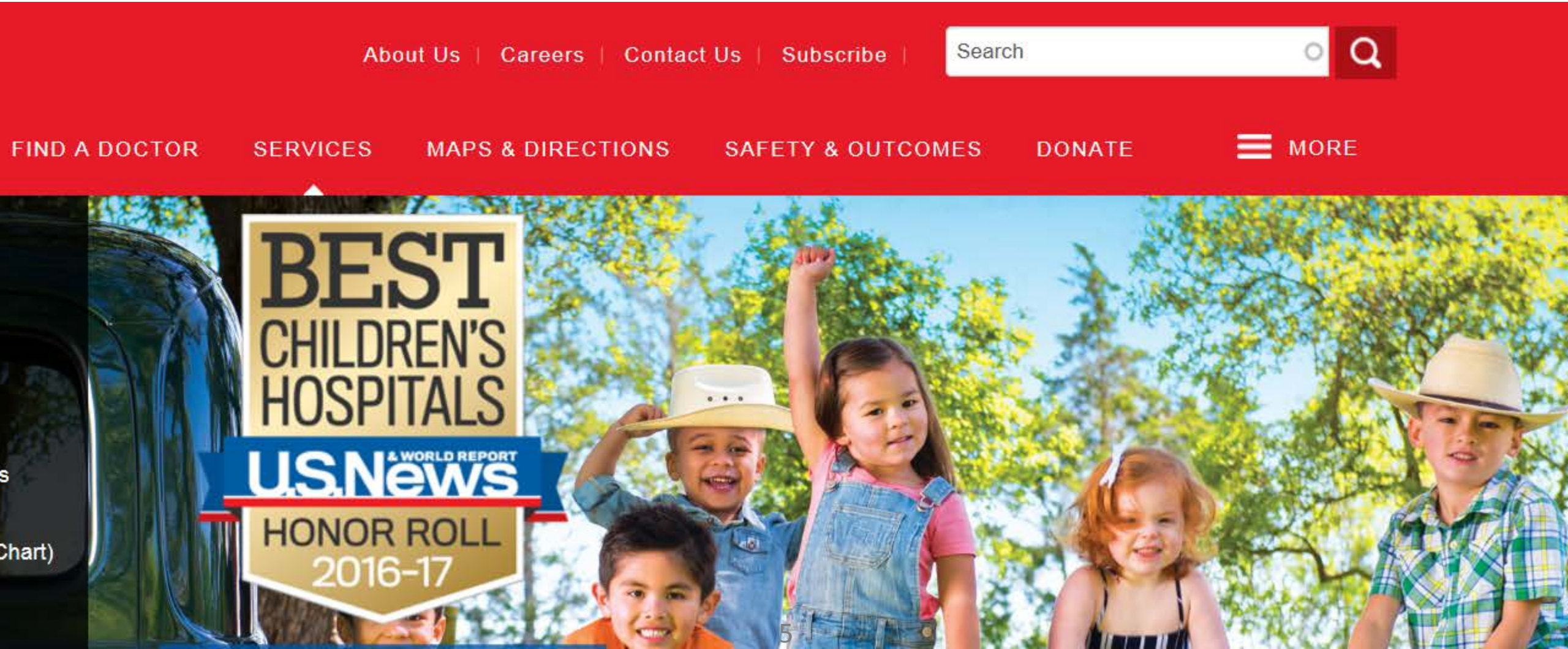
THE NEW SAFETY AND OUTCOMES PAGE



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SAFEY AND OUTCOMES PAGE

Safety & Outcomes

Services › Safety & Outcomes

At Texas Children's Hospital, we believe our patients and families deserve the most complete and accurate information possible about how we are doing as a health care system. We want you to feel empowered to ask us questions and be active participants on the care team. We want families to know what you can expect if you come to Texas Children's. As a hospital system, we believe that a critical component to offering outstanding clinical programs is tracking the results of the care delivered through them and doing our best to provide the safest environment possible.

CONTACT US

Texas Medical Center

Clinical Care Tower

tellus@texaschildrens.org

SAFETY & OUTCOMES

KEEPING YOU SAFE

SAFETY AND OUTCOMES PAGE

Keeping You Safe

Washing our hands and preventing infections are two examples of ways we work to keep you safe.

- Hand-hygiene compliance
- Catheter associated blood stream infections (CLABSI)
- Surgical site infections

Healing You

Our goal is to make you better and get you back to living your life.

Key contact: Anne Dykes

PROVIDER COMMUNICATION TRAINING

- Built on “4 habits model” of empathic communication
- Skills can be taught and learned: mastery requires deliberate practice and feedback
  - Elicit perspective
  - Express empathy
  - Assess understanding
- Relationship centered care leads to better outcomes

PROVIDER OUTCOMES OF RELATIONSHIP CENTERED COMMUNICATION*

Improves

- Diagnostic accuracy
- Efficiency
- Self confidence
- Job satisfaction and engagement

Reduces

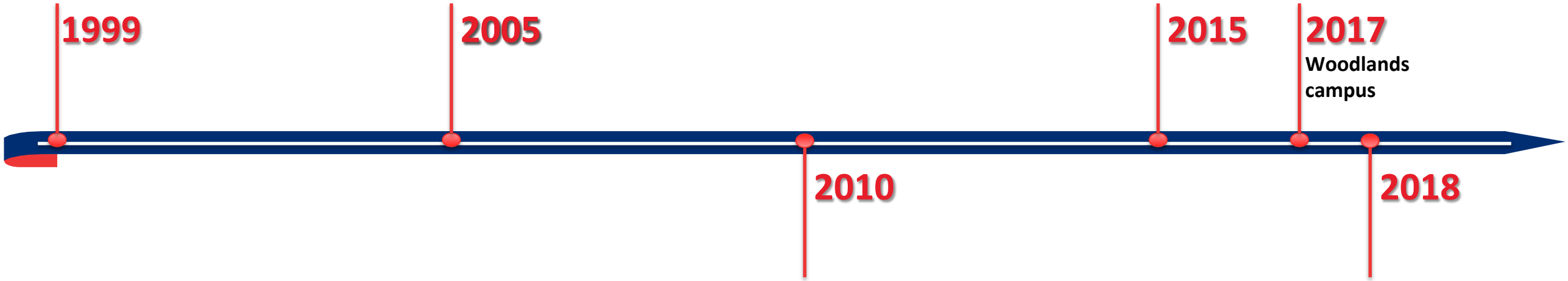
- Professional burnout
- Malpractice claims
- Cost of providing care

*Cleveland Clinic Foundation

PATIENT OUTCOMES OF RELATIONSHIP CENTERED COMMUNICATION*

Enhanced

- Comprehension &recall
- Trust & loyalty
- Sense of self-efficacy& support
- Satisfaction with care
- Treatment adherence
- Self management of chronic disease
- Symptom improvement or resolution
- Functional improvement
- Health status and quality of life
- safety



2017

- Woodlands expansion
  - Grounded in the elements of SPS
- All staff trained in EPT and communication
- HAC teams up and running before opening
- Simulation of the campus is in process

WHAT IS NEXT?

CROSSING THE QUALITY CHASM (IOM, 2001)

- Heath care environment should be safe for all patients
  - In all of its processes
  - All of the time
    - Same standard for days, nights, weekends and holidays
- Health care must be seamless—supporting the ability of interdependent people and technologies to perform as a whole

IOM, 2001

- Achieving a higher level of safety is an essential first step in improving the quality of care overall
- Healthcare system should seek to earn trust by not hiding its defects by revealing them along with a commitment to improve
- Requires a commitment to transparency

FIVE TRANSFORMING CONCEPTS

- Transparency must be practiced value in everything we do
- Care must be delivered in multidisciplinary teams
- Patients must become full partners in all aspect of care
- Healthcare workers need to find meaning and joy in their work
- Medical education must be redesigned to prepare new physicians to work in this environment

TRANSPARENCY

"the free, uninhibited sharing of information is probably the most important single attribute of a culture of safety"

Leape, L, Berwick D et al Qual Saf Health Care 2009

TRANSPARENCY AND ERRORS

- All errors are openly identified and investigated
  - Response is not punitive
  - Goal is to understand what happened
  - And to facilitate open discussion to prevent similar mistakes from recurring

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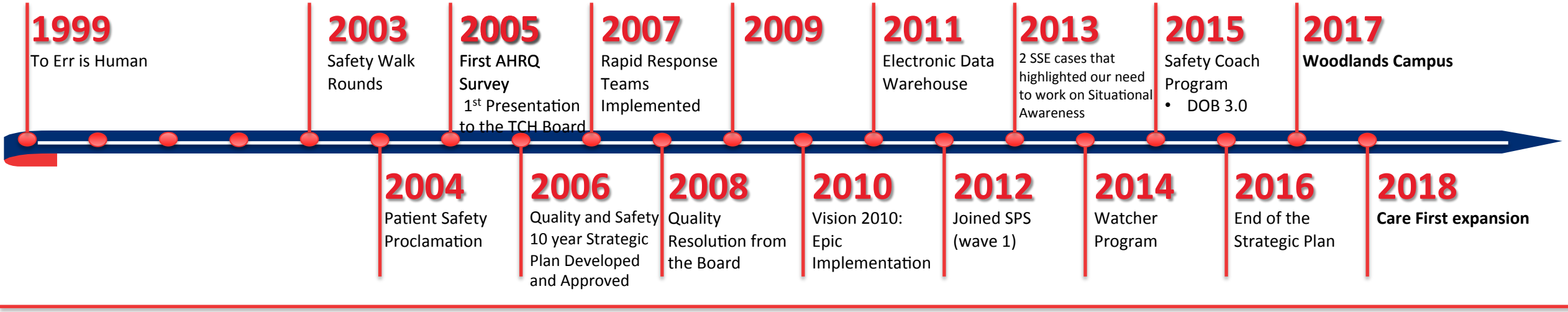

PATIENT SAFETY: WHAT CAN YOU DO?

- Commit to keeping patients safe: EVERY Patient : EVERY Encounter: EVERY Handoff
- Report events and near misses
- Assist in the delineation of risks and development of solutions
- Design all systems of care with patient safety as the top priority and with an eye toward what might fail next

WITH GRATITUDE TO

- Our patients
- The TCH family
- SPS

Texas Children's Hospital®

COMMENTS/QUESTIONS?