FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

Track 1: Advancing Safety Science Implementation
Session 301

Implementing Root Cause Analysis and Action: What we've learned on our journey

Richard Guthrie, MD
Chief Quality Officer, Ochsner Health System
Jessica Behrhorst, MPH, CPHQ, CPHRM
System Director of Quality & Patient Safety, Ochsner Health System

NPSF
National Patient Safety Foundation®

Ochsner Health System
Our Vision: To Save and Change More Lives

2015 Patient Activity

- 623,000 Unique Patients
- From all 50 States & 80 Countries
- 1.6M Clinic Visits
- More than 8,800 Regional Referrals
- More than 16,000 Telemed Consults

Quick Stats

- 13 hospitals (Owned & Managed)
- 60 Health Centers
- Over 2,000 affiliated physicians, and 1,100 employed, in over 90 specialties & subspecialties
- 1,000 Clinical Trials, 8,000 Patients
- 417 Medical Students Ochsner Clinical School, University of Queensland
- 375 Residents in 27 Programs
- Largest Private Employer in Louisiana

Ochsner Health System Locations

FREEFROMHARM

3

NPSF
National Patient Safety Foundation®

Why did we do it?

Charting a new course in our Patient Safety journey

FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

Why Did Ochsner Pursue RCA[2]

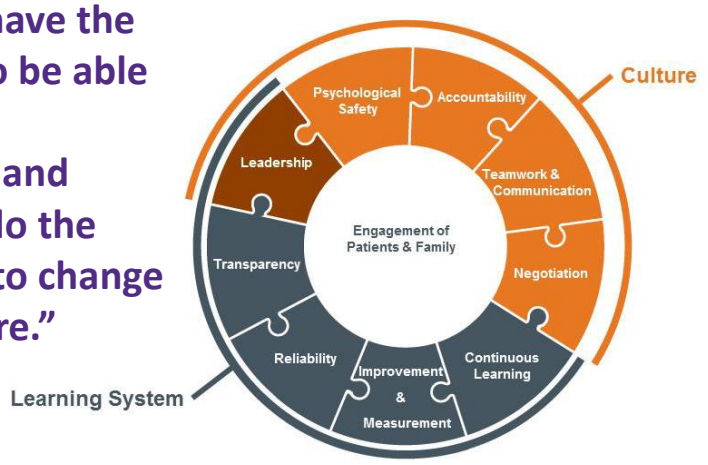
We had significant variability in how RCAs where done in our hospital system

We tended to see weaker corrective actions rather than stronger ones and continued to see adverse events recur

RCAs were feared

5

"Organizations need to have the culture to be able to do the learning, and need to do the learning to change the culture."



6 Institutes for Healthcare Improvement, A Framework for Safe, Reliable, and Effective Care, 2016

In a "Just Culture" view:

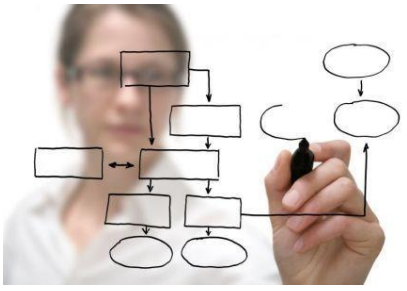
There are three behaviors contributing to errors or unsafe conditions that we can expect:

- Human Error
- At-Risk Behavior
- Reckless Behavior

RCA^2 does not address Reckless Behavior, or Blameworthy Acts – instead, those are managed through administrative mechanisms

7 Marx, D. Patient Safety and the "Just Culture": A Primer for Health Care Executives. Columbia University; 2001

When You Remove Blameworthy Acts…. You Can Be Systems Focused



RCA^2 focuses on identifying system vulnerabilities

RCA^2 is not used to focus on or address individual performance

The maximum benefit for patient safety occurs when system-based vulnerabilities are addressed

8

NPSF
National Patient Safety Foundation®

How did we do it?

Implementing a new approach to improvement

FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

Our Approach to Learning

While the logistics are well described in the paper, we thought training by an expert would be helpful

- We engaged Jim Bagian, one of the authors and a national safety expert, to do a 1 ½ day workshop on the new process

We also had Dr. Bagian present to our executive team on High Reliability and Safety

The First Step - Leadership Engagement

Buy in from leadership is essential

- Meeting with executive leaders from across the system (LRT) was a necessary first step in our training

Leadership must have an understanding of basic patient safety and high reliability principals. This includes:

- Understanding and evaluating their progress on the road to High Reliability
- Understanding our culture of patient safety
- Defining blameworthy behaviors
  - For us it was a 3 hour conversation with top executives

11

"The single greatest impediment to error prevention in medicine is that we punish people for making mistakes."

Dr. Lucian Leape
Professor, Harvard School of Public Health
Testimony before the US Congress

12

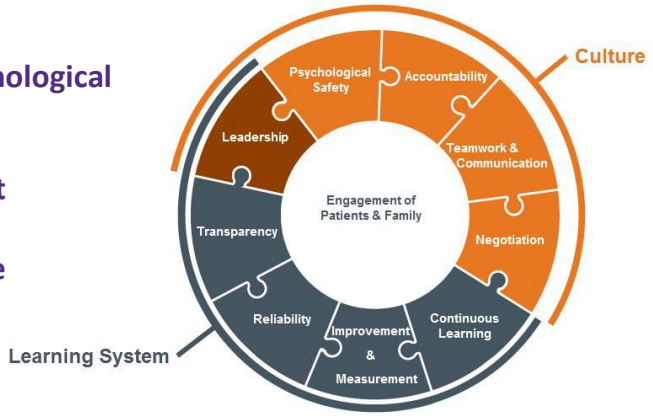
Essential Leadership Responsibilities

Guarding the learning system

Creating psychological safety

Fostering trust

Ensuring value alignment



13 Institutes for Healthcare Improvement, A Framework for Safe, Reliable, and Effective Care, 2016

Training Days

Day 1:

- Full day training for 100 people with NPSF course
- Included PI leaders, nursing leaders, board members, and physician leaders as well as PI staff involved in traditional RCAs

Day 2:

- Separate training for PI leaders and staff - Deeper dive into topics including, risk prioritization, RCA2 team requirements, causation and action planning
- Meeting with System Executive Team

Day 3:

- Presentation at Physician Leadership Retreat
- Meeting with legal and HR

14

What Did We Learn From Dr. Bagian?

In addition to a successful RCA2 training, we developed a much better understanding of:

- The crucial difference between a high hazard industry and a high risk industry
- The criticality of studying near misses
- That aviation, now a Highly Reliable industry, had a previous track record not too dissimilar from health care
- The opportunity that we have to become safer for our patients

15

FREEFROMHARM

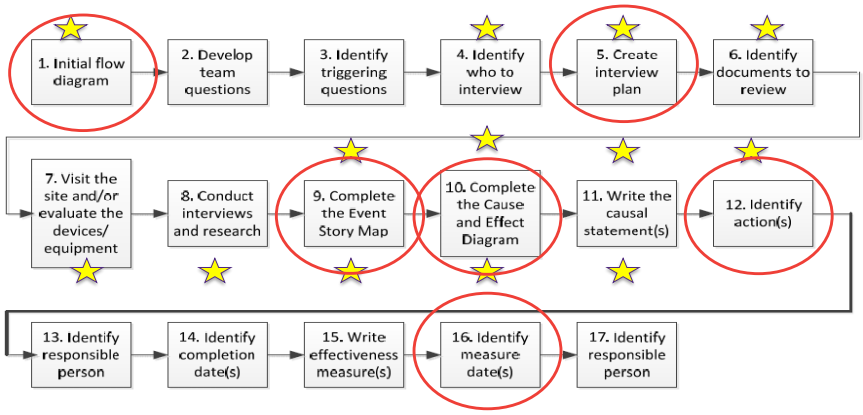
NPSF
National Patient Safety Foundation®

RCA² Basics?

How does it work

FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

RCA^2 Structure and Process



= Tools included in Toolkit PowerPoint

17

The Old Way Vs. The New Way

Ochsner Former RCAs

- Only done on sentinel events
- One large meeting with staff, leaders, legal, PI, etc.
- Those involved in the event were directly involved in the RCA
- PI lead all activities and interviews
- Causation and action plan not necessarily system focused
- Often weak actions
- No leadership approval of action plans
- No follow-up

RCA^2

- Done on serious events, but also on frequent events and near misses
- 4-6 member team
- Those involved in the event are not part of the RCA team
- PI facilitates, but team participates in all activities and interviews
- System focused
- Focus on stronger actions
- Leadership sing-off of action plans is required
- Structured follow-up

18

Should we do an RCA on that? Incorporating the SAC matrix into our reporting

The Safety Assessment Code (SAC) Matrix:

- Is an important part of our RCA^2 triage process
- To promote its use, we added it to our occurrence reporting form.
  - Occurrence file managers are required to validate the score before closing out the event form.

Probability and Severity	Catastrophic	Major	Moderate	Minor
Frequent	3	3	2	1
Occasional	3	2	1	1
Uncommon	3	2	1	1
Remote	3	2	1	1

The SAC Matrix identifies when near misses deserve an RCA

19

The SAC Matrix in the Occurrence Form

Resolution/Outcome

Potential severity should be based on a reasonable "worst case" systems level scenario

Catastrophic
PATIENTS: Death or major permanent loss of function not related to the natural course of the patient's illness or underlying condition
VISITORS: A death; or hospitalization of 3 or more visitors
STAFF: A death or hospitalization of three or more staff

Major
PATIENTS: Permanent lessening of bodily functioning not related to the natural course of the patient's illness or underlying conditions (i.e. disfigurement, surgical intervention required, increased length of stay for 3 or more patients, increased level of care for 3 or more patients)
VISITORS: Hospitalization of 1-2 visitors
STAFF: Hospitalization of 1-2 staff
EQUIPMENT/FACTILITY: Damage more than $100,000

Moderate
PATIENTS: Increased length of stay or increased level of care for 1-2 patients
VISITORS: Evaluation and treatment for 1-2 visitors (less than hospitalization)
STAFF: Medical expenses, lost time or restricted duty injuries or illness for 1-2 staff
EQUIPMENT/FACILITY: Damage more than $10,000 but less than $100,000

Minor
PATIENTS: No injury, nor increased length of stay nor increased level of care
VISITORS: Evaluated and no treatment required or refused treatment
STAFF: First aid treatment only with no lost time, nor restricted duty injuries no illnesses
EQUIPMENT/FACILITY: Damage less than $10,000 or loss of any utility without adverse patient outcome

Potential Severity * Moderate

Frequent - Likely to occur immediately or within a short period (may happen several times in 1 year)
Occasional - Probably will occur (may happen several times in 1-2 years)
Uncommon - Possible to occur (may happen sometime in 2-5 years)
Remote - Unlikely to occur (may happen sometime in 5 or more years)

Probability of Occurrence * Frequent

Safety Assessment Code * 2

20

Team Structure

Use multidisciplinary teams

Include both process experts and individuals not familiar with the process

Do not include anyone directly involved with the event on the team

Talk to supervisors before assigning their staff to the team

Team size is 4 to 6 members

- Process experts
- Individual naïve to the process being reviewed
- No supervisors and subordinates on the same team

Causation

Causal Statements:

- Causal statements help clearly communication the event to stakeholders and ensure it is focused on the correct issues
- They are accurate, objective, systems-based explanations of contributing factors to adverse events

Good Causal Statement

- Drugs in the Computerized Physician Order Entry (CPOE) system are presented to the user without sufficient space between the different doses on the screen, increasing the likelihood that the wrong dose could be selected, which contributed to the patient being overdosed.

Priority to Stronger Actions

Actions:

- Must specifically address the root cause/contributing factor
- Need to be specific, concrete, and clear; understood by a cold reader
- Reality checked (with the process owners)
- Tested or simulated prior to full system-wide implementation

Action Hierarchy

Less memory or reliance on individual performance

Greater reliance on memory and individual performance

Stronger Actions	Architectural/physical plant changes New devices with usability testing before purchasing Engineering control or interlock (forcing functions) Simplify the process and remove unnecessary steps Standardize on equipment or process Tangible involvement and action by leadership in support of patient safety
Intermediate Actions	Redundancy Increase in staffing/decrease in workload Software enhancements/modifications Education using simulation-based learning with a competency assessment completed on a recurring basis Eliminate/reduce distractions (sterile medical environment) Checklist/cognitive aid Eliminate look and sound-alikes Repeat-back/Read-back Enhanced documentation/communication
Weaker Actions	Double checks Warnings and labels New procedure/memorandum/policy Traditional training Additional study/analysis

Follow-up

Assignment of people, measures, timelines (www)

Presentation to leadership for approval and accountability

Quality Pow-wow – 60 Day Presentation

Facility:

RCA^2 Presentation	
1	What happened?
2	Why did it happen?
3	What can we do to keep it from happening again?
4	Where are you in your process?
5	Are there any barriers we can help with?
6	What should you look for at your campus?

Quality Pow-wow

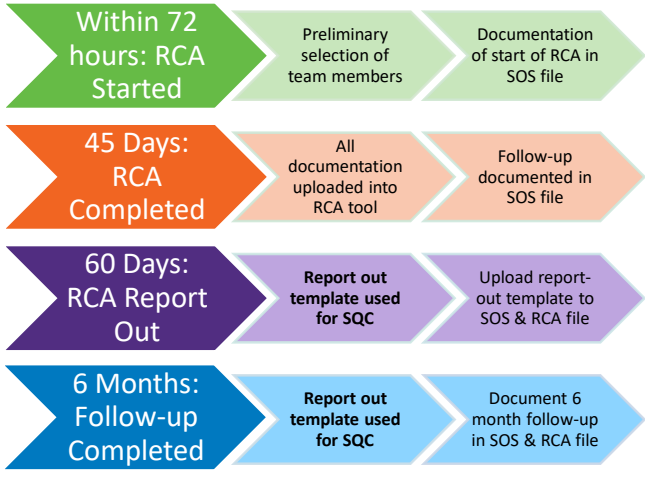
Facility:

RCA² 6-Month Follow-up

	Measures of Success	Progress	Barriers
1			
2			
3			
4			

27

RCA² Timeline



28

NPSF
National Patient Safety Foundation®

Successes and Challenges?

What have we learned from our experience

FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

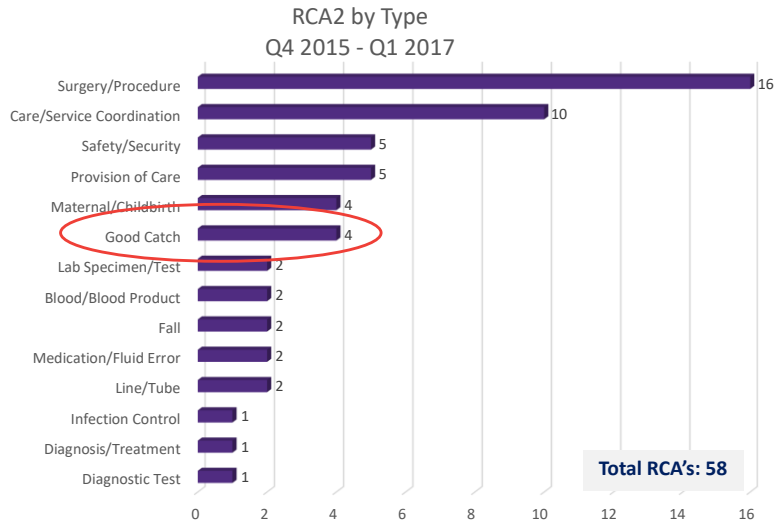
Successes – RCA^2:

Significantly increase in the # of RCAs done across the system, including some done on Good Catches

Increased the number of stronger Corrective Actions

Became a common way to share event experiences among system quality leaders, along with the actions our hospitals were taking to prevent further adverse events (for Psyc. patients pre-PEC: SOPs – Code Watch, Electronic Learning Module, Sitter Competency Checklist/DHH)

30



31

Successes

Teaching RCA^2 was an "anchor" that helped us to teach many of the principles of a culture of safety:

- Just Culture
- Reporting Culture
- System's focused
- High reliability (action hierarchy)

Significantly improved executive team and board awareness of a Culture of Safety and RCAs

32

Successes

The RCA^2 tools work well and have given us a standard language

- Risk-based prioritization
- Flow Diagram
- Triggering Questions
- Cause and Effect Diagram
- Causal Statements
- Action Hierarchy

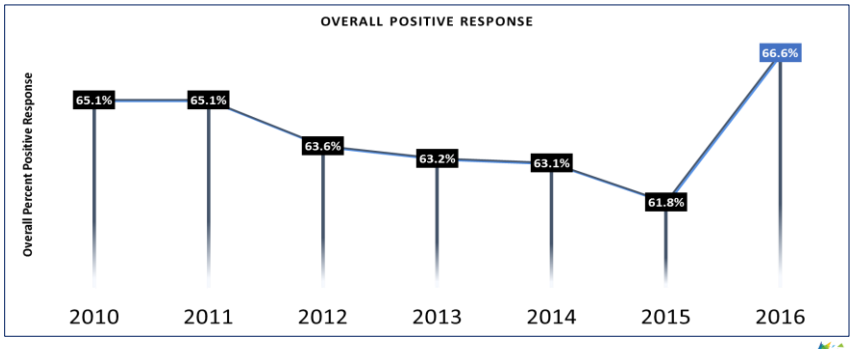
Toolkits have helped us neatly package tools for RCA teams to use

33

Improving our Culture of Safety

AHRQ HSOPS Survey Increases:

- Non-punitive response to error
- Feedback and communication about error
- Hospital management support for patient safety



34

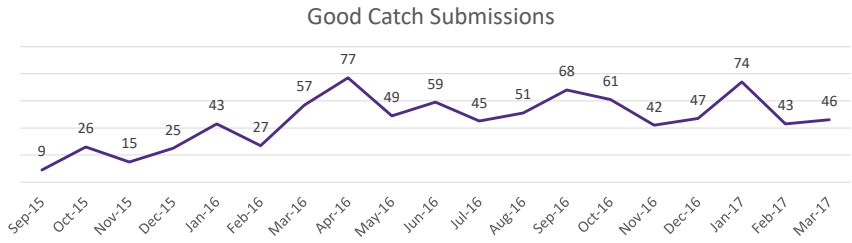
Improving our Culture of Safety

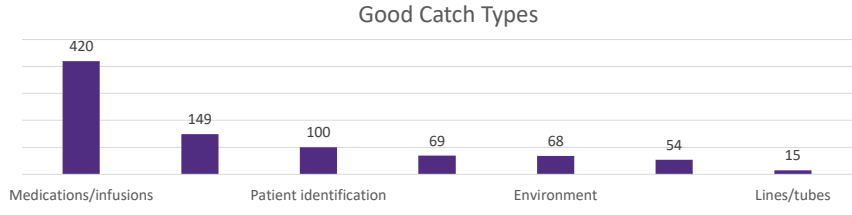
Staff and leaders are more eager to participate in RCAs

Good Catches have become part of the lexicon of event reporting. They are encouraged and often rewarded.

35

Good Catches





36

Sterile processing RCA

What Happened?

- Several events had been entered for one particular site which involved bio burden found on processed instruments.
- In all cases the instruments were removed from use and re-processed.

How was this Different?

- No reported event of this type ever reached the patient.
- Many of these events had been entered in as "Good Catches"
- We grouped several similar events and used them to do a "grouped" RCA to identify and address process issues

Causal Statement, Action, & Measure

Root Cause/Contributing Factor (RCCF) Statement:	Lack of standardized process in combination with inconsistent leadership oversight of sterile processing increased the likelihood of soiled instruments on the sterile field.
Action 7	Implement/Reinforce process for spraying enzymatic on dirty instruments "Policy: **Decontamination of Instruments**" • Discussed in staff meeting (**/**/**): ensure instruments are sprayed prior to bringing to decontam room • Obtain enzol spray for each OR room • Ensure cardiovascular team is aware of the process
Completion Date:	**/**/20**
Responsible Person:	Surgery Director / SPD Director
Process/Outcome Measures **(Each process/outcome measure needs to include what will be measured, how long it will be measured, and the expected level of compliance)**	•Department observation and interview of staff •Spray use increased as evidenced by reorder request •Number of instruments found dry
Measure Date:	**/**/20**
Responsible Person:	Surgery Director / SPD Director

 NPSF, Improving Root Cause Analyses and Actions to prevent harm, June 2015

Challenges

The RCA^2 process requires that the participants have dedicated time to complete the process (8-10 hours)

At times it has been hard to find subject matter experts that were not involved in the events

- We're considering "System Team Members"

At larger facilities, we have more RCAs to do than time to do them, which may be a good problem to have

39

Rollout at different campuses

After training at the system level, individual sites were asked to implement at their own site.

There was wide variation in the way it was rolled out at each campus

Our most successful campuses:

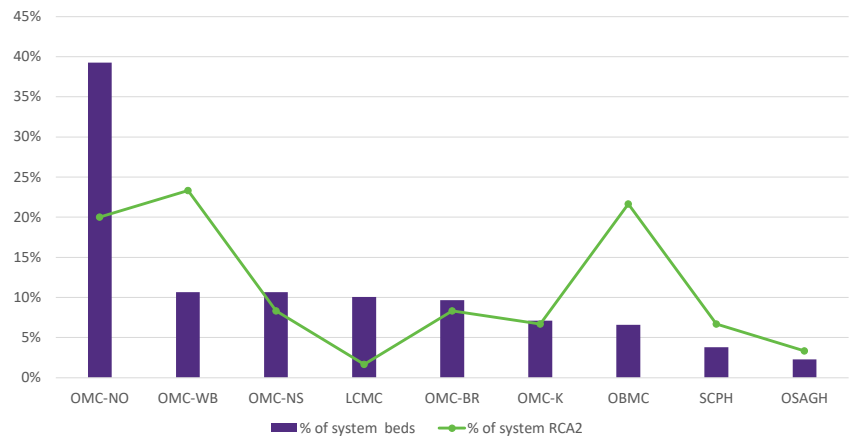
- Have trained dozens of additional resources for RCA that are 'waiting in the wings' for RCA teams.
- Transitioning operational ownership of RCA to department leaders for ownership

Campuses with the most challenges:

- Not enough team members have been trained
- PI has retained ownership of the process and follow-up

40

Bed Size and RCA^2 Volume



41

Challenges

We didn't train enough potential RCA^2 team members

- We've conducted additional training for potential RCA^2 team members, but continued education for new and existing team members will be key in sustaining our success. This includes:
  - Full RCA^2 training with case study (table exercise)
    - New leaders and PI Staff
    - Groups that were not exposed to original training, but would like to implement the process in their area
  - Basic overview of RCA^2 as a part of Just Culture and the event reporting process
    - All new employees and providers

Larger pool of interested people = Better Teams

42

PI Involvement in RCA

Performance Improvement (PI) has traditionally owned and managed all aspects of the RCA process. Reluctance to let go of this as led to:

- Not staying true to the process (PI does all interviews, etc.)
- Having a much smaller pool of individuals to use in RCAs

With the goal of increasing the number of RCAs and conducting more RCAs on near misses, PI's resources can be heavily taxed if the process continues to be internalized. This can lead to variation in:

- Volume of RCAs
- Quality of RCAs and follow-up

43

Will we get less information?

There were concerns about missing information if those involved directly in the events were not part of the RCA team.

But:

- Individual blame or fear thereof can lead to less-than-transparent reporting of information needed to discover the true root and contributing causes of an adverse event
- Can negatively impact general occurrence reporting for adverse events and near misses
- The less intimidating individual interviews by peers can often bring out information that those involved in the event may be reluctant to share openly in a group setting.

44

Addressing Challenges

We are in the process of:

- Incorporating our LEAN team and process engineers
- Expanding the team to include more front line stakeholders after the high level solutions are developed in order to aid in buy-in for corrective actions and successful adoption

45

Addressing Challenges

We've added rigor to the report out of results at 2 and 6 months after the event within a quality group of all VPMAs, PI Directors, CNOs and a few other leaders

46

NPSF
National Patient Safety Foundation®

Where do we go from here?

Our path forward

FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

Other Observations & Next Steps

- Project Management support is very important in conducting such a large scale change
- This type of change requires administrative support
- Human Factors expertise is important and not plentiful
- Important to get front line input for acceptance of action plan
- Involve Executive Team members and residents in RCAs
- Development Culture of Safety engagement awards (cornerstone award)

48

Questions?

FREEFROMHARM
19th Annual NPSF Patient Safety Congress
May 17-19, 2017 | Orlando, Florida

Thank You!

Dr. Richard Guthrie
rguthrie@Ochsner.org

Jessica Behrhorst
Jbehrhorst@Ochsner.org
504.842.7180

NPSF
National Patient Safety Foundation®