



# Learning from Defects

## Sustaining Safe Care ~ The Penguin Project



Mary E. Nennig, BSN, RN  
Healthcare-Associated Infections Program  
Center for Health Care Quality

*Adapted from "On the CUSP: Stop HAI"*

# Lessons Learned from the Field ~

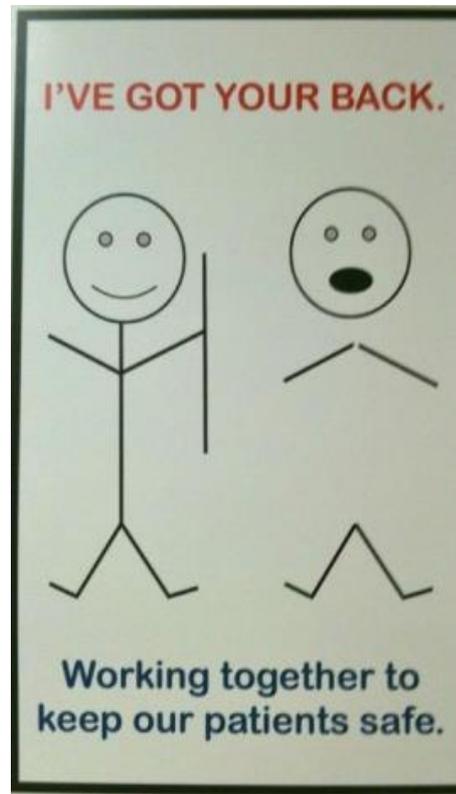
## Why Learning from Defects Is Important

-  In order to incorporate improvements into clinical practice it is necessary to perform a systematic review of areas of potential patient harm and to take action
-  Shared accountability by all staff must be operative on all units
-  It is wise to know the value and efficacy of various risk reduction strategies to sustain improvements

# Key Concepts

- Focus on systems not people
- Prioritize
- Use Safe Design principles
- Go mile deep and inch wide rather than mile wide and inch deep
- Pilot test
- Learn form one defect a quarter
- Answer the 4 questions

*What is wrong with this picture...*  
*...and how can we learn from it?*



# Defects Defined

A defect is any clinical or operational event or situation that you would not want to happen again.

## Examples:

- Unstable oxygen tanks on beds
- Medication look-alike
- Inconsistent use of agreed upon resource tools
- Inaccurate information by residents during rounds

# Sources of Defects

- Adverse event reporting systems
- Sentinel events
- Claims data
- Infection rates
- Complications
- Where is the next patient going to be harmed?

# Learning From Defects: Four Questions

1. What happened?
2. Why did it happen?
3. What will you do to reduce the risk of recurrence?
4. How will you know the risk is reduced?

# What Happened?

- Reconstruct the timeline and explain what happened
- Put yourself in the place of those involved, in the middle of the event as it was unfolding
- Try to understand what they were thinking and the reasoning behind their actions/decisions
- Try to view the world as they did when the event occurred

# Why Did It Happen?

- Develop lenses to see the system factors that lead to the event
- May result from production pressures
- Damaging consequences may not be evident until a “triggering event” occurs

# What will you do to reduce the risk of it happening again?

- Prioritize most important contributing factors and most beneficial interventions
- Employ Safe Design principles:
  - Standardize what we do
  - Eliminate defect
  - Create independent check
  - Make it visible
- Safe Design applies to technical and socio-adaptive work

# What will you do to reduce risk?

- Develop list of interventions
- For each intervention rate:
  - How well the intervention solves the problem or mitigates the contributing factors for the accident
  - The team's belief that the intervention will be implemented and executed as intended
- Select top interventions (2 to 5) and develop intervention plan
  - Assign person, task follow up date

# How do you know risks were reduced?

- Did you create a policy or procedure (weak)
- Do staff know about policy or procedure
- Are staff using the procedure as intended
  - Behavior observations, audits
- Do staff believe risks were reduced

# Risk or Error Reduction Strategies

*Listed from most effective to least effective*

- Forcing functions and constraints
- Automation and computerization
- Standardization and protocols
- Checklists and double check systems
- Rules and policies
- Education and information
- "Be more careful. Be vigilant."

# Just Culture and Learning from Defects

A system of **shared accountability**

- ***Healthcare institutions*** are accountable for the systems they have designed and for supporting the safe choices of the patients, visitors and staff
- ***Staff*** are accountable for the quality of their choices, knowing that they may not be perfect, but can strive to make the best possible choices available



# Staff Safety Assessment

- Step 1 – What are clinical or operational problems that have or could have jeopardized patient safety?
- Step 2 – How might the next patient be harmed on your unit?
- Step 3 – What can be done to minimize harm or prevent safety hazards?

# Next Steps

- List all defects submitted by staff
- Prioritize defects by the potential level of risk to one or more patients
- Select one defect to address with the support of senior executive
- Develop a plan for the selected defect

# Using the Learning from Defects Tool

- Assemble team with staff appropriate to define resolution
- Minimum requirement: physician, nurse, administrator and others as appropriate
- Complete the Learn from Defects Tool
- Implement the plan
- Evaluate the plan to determine if risk was reduced

# Safety Issue Worksheet for Senior Executive

- Engage the senior leadership in addressing the safety issues identified
- Use the form to:
  - Document issues
  - Identify potential solutions
  - Record resources needed

There is no routine work in healthcare

***Learning from Defects = Professional Development***



# Summary

1. Create a one-page summary answering the four Learning from Defects questions
2. Share the summary within your organization
  - Engage staff in face-to-face conversations to provide opportunities to learn from defects
3. Share de-identified information with others (pending institutional approval)

# Questions?

Mary Nennig  
California Department of Public Health  
Healthcare-Associated Infections Program  
[mary.nennig@cdph.ca.gov](mailto:mary.nennig@cdph.ca.gov)

