IMPROVING TEAMWORK IN MEDICAL EDUCATION

AHA Team Training Monthly Webinar

November 14, 2018

AHA Education

AHA Education | AHA Team Training

RULES OF ENGAGEMENT

- Audio for the webinar can be accessed in two ways:
  - Through the phone (*Please mute your computer speakers)
  - Through your computer
- A Q&A session will be held at the end of the presentation
- Written questions are encouraged throughout the presentation and will be answered during the Q&A session
  - To submit a question, type it into the Chat Area and send it at any time during the presentation

UPCOMING TEAM TRAINING EVENTS

Grab your cowboy boots and block your calendar - AHA Team Training is heading to San Antonio next June for our annual conference! We'll be sharing more conference information over the coming months, but first get ready to answer our Call for Proposals. Registration will open in January 2019.

UPCOMING TEAM TRAINING EVENTS

We have spots available in our final Master Training Course in 2018:

- December 6-7 in New Orleans, LA with Tulane University

Monthly webinars:

- December 12: “Taking Stepps to Sustain a Just Culture” with Lynn Fricke, MPS, RN and Ronnie McKinnon RN, JD, CPHRM, CPSO, CPPS, Adjunct Professor Health Law, Loyola Law School, Beazley Institute for Health Law and Policy

CONTACT INFORMATION

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TODAY'S PRESENTERS

Rick Lang
TeamSTEPPS Master Trainer
Medical Student – Class of 2019
Rutgers Robert Wood Johnson Medical School
Pat Tillman Foundation – Tillman Scholar

Tom Kuriakose
TeamSTEPPS Master Trainer
Medical Student – Class of 2019
Rutgers Robert Wood Johnson Medical School

STUDENT CHAMPIONS: OUR RWJMS STUDENT TEAM

Kevin Fitzpatrick
TeamSTEPPS Master Trainer
Medical Student – Class of 2019
Robert Wood Johnson Medical School

Kristin Raphel
TeamSTEPPS Master Trainer
Medical Student – Class of 2019
Robert Wood Johnson Medical School

Stephanie Latham
TeamSTEPPS Master Trainer
Medical Student – Class of 2021
Robert Wood Johnson Medical School

KEY SUPPORT / CHAMPIONS

Rutgers - Robert Wood Johnson

- Project Faculty Advisors
  - Dr. Carol Terregino, MD
  - Dr. Greg Peck, DO
- Additional Faculty Champions
  - Dr. Joyce Afran, MD
  - Dr. Robert Lebeau, EdD
  - Dr. Robert Like, MD
  - Dr. Karen Lin, MD
  - Dr. George Mulheron, PhD
  - Dr. Paul Weber, MD

AHA / AHRQ

- Abby Evensky
- Chris Hund
- Dr. Kevin Krane, MD
- Rita Preiskaitis, RN

WEBINAR LEARNING OBJECTIVES

- Discover how a combined student-faculty implementation team can enhance teamwork training within the academic medical center
- Learn challenges and limitations associated with attempts to teach teamwork through an '*exposure-based*' model in academic curriculums
- Illustrate the importance of *recurring* teamwork barrier assessment in iterative teamwork training program improvement
- Understand how to apply lessons learned from this initiative to improve teamwork training programs at local academic institutions

DISCLOSURES

Financial: This work was partially supported with funding provided by:

1) American Medical Association (AMA)
    - Home Visit / Interprofessional Learner Team (ILT) Grant

2) Pat Tillman Foundation
    - Travel & scholarship support – Rick Lang

DOD: "*The views expressed in this article reflect the results of research conducted by the author and do not necessarily reflect the official policy or position of the Department of the Navy, Department of Defense, nor the United States Government*"

WEBINAR OUTLINE

• Background: Identifying & Understanding the Problem	5 min
• Initial TeamSTEPPS Intervention (High Points)	10 min
• Results & Survey Analysis	12 min
• Lessons Learned & Application	12 min
• Questions	15 min

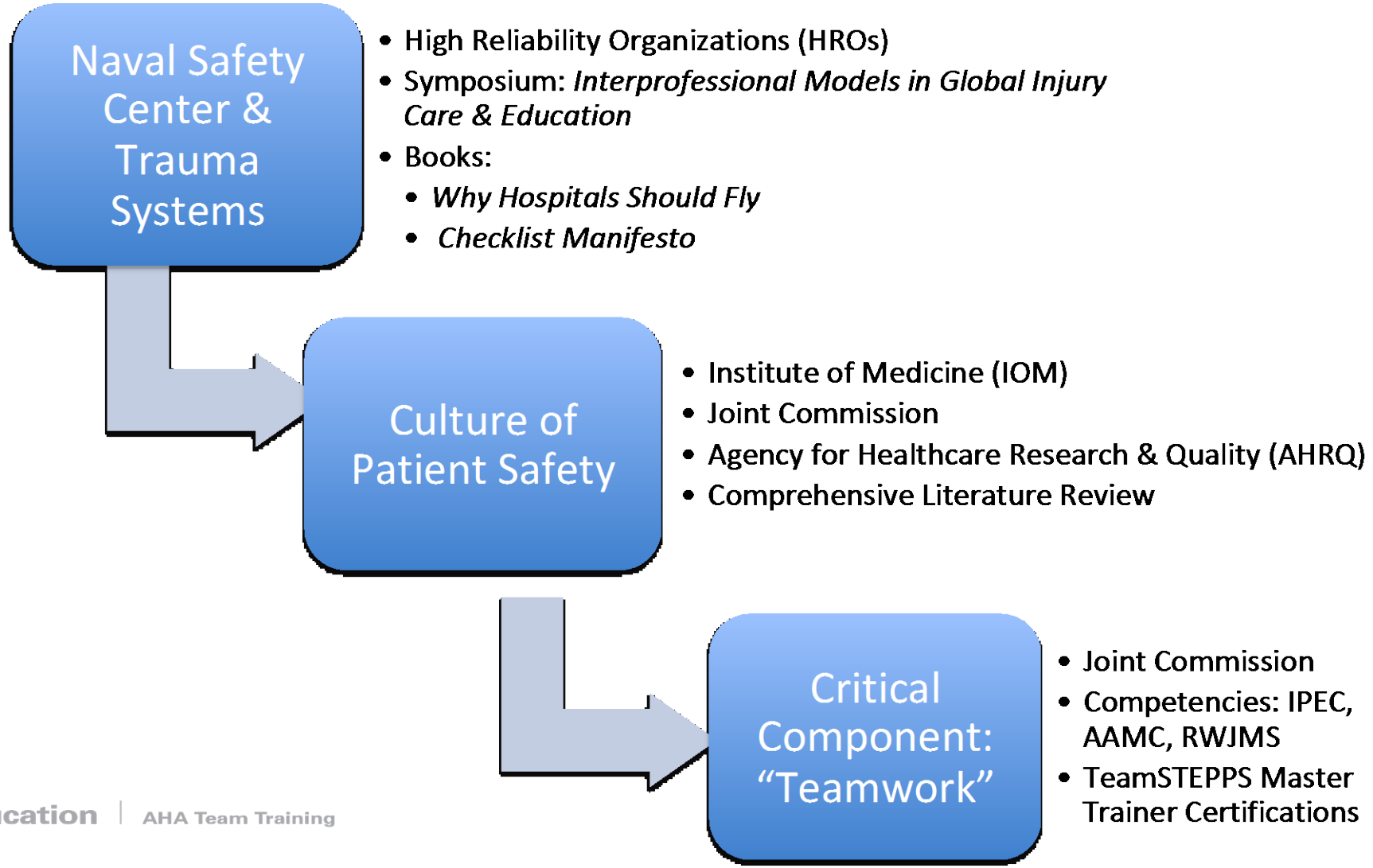
BACKGROUND:
What is the problem?

FALL 2015 - FIRST EXPOSURE TO MEDICAL SCHOOL TEAM-BASED CURRICULUM

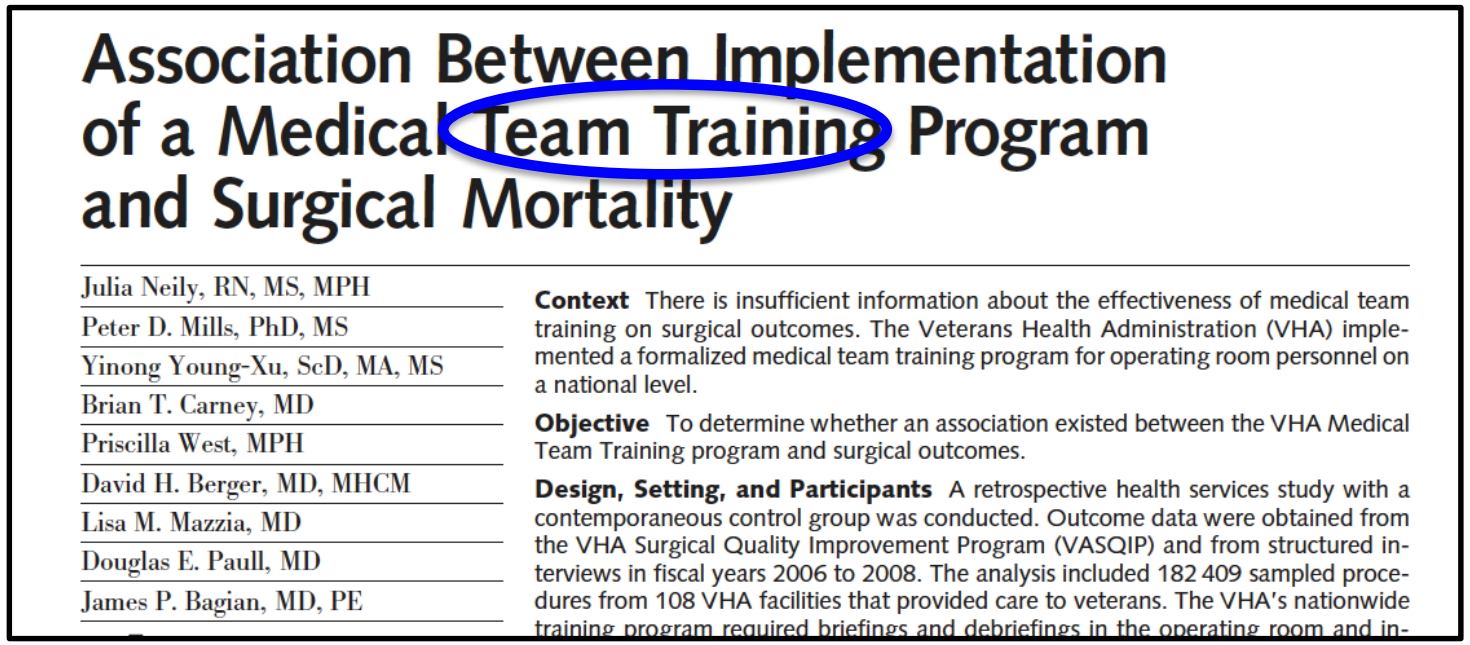
"I am still unsure as to whether we were trying to help with his leg, disregard the leg and focus on blood pressure, or if any of us were on the same page (with each other or the patient) as to exactly what the patients goals and desires for his appointment were …"

- **RWJMS M1 Student-Veteran Clinical Reflection**

SPRING 2016: RESEARCH PHASE



MORTALITY REDUCTION WITH TEAM TRAINING



Association Between Implementation of a Medical Team Training Program and Surgical Mortality

Julia Neily, RN, MS, MPH
Peter D. Mills, PhD, MS
Yinong Young-Xu, ScD, MA, MS
Brian T. Carney, MD
Priscilla West, MPH
David H. Berger, MD, MHCM
Lisa M. Mazzia, MD
Douglas E. Paull, MD
James P. Bagian, MD, PE

Context There is insufficient information about the effectiveness of medical team training on surgical outcomes. The Veterans Health Administration (VHA) implemented a formalized medical team training program for operating room personnel on a national level.

Objective To determine whether an association existed between the VHA Medical Team Training program and surgical outcomes.

Design, Setting, and Participants A retrospective health services study with a contemporaneous control group was conducted. Outcome data were obtained from the VHA Surgical Quality Improvement Program (VASQIP) and from structured interviews in fiscal years 2006 to 2008. The analysis included 182 409 sampled procedures from 108 VHA facilities that provided care to veterans. The VHA's nationwide training program required briefings and debriefings in the operating room and in-

- **18% decrease in mortality (*p* = *.01*)**
- **<u>Dose-response</u> relationship:**
  - For every increase in **<u>briefing / debriefing</u>** ➔ **mortality reduced** 0.6/1000 procedures

OVERVIEW OF RWJMS CURRICULUM

- **Years 1 & 2** = "Pre-clinical" (didactics)
- **Years 3 & 4** = "Clinical" (rotations)

- Longitudinal **Patient Centered Medicine** thread

- Existing "Teamwork" Curriculum: "**EXPOSURE-based"**
  - Repeated exposures to INTER & INTRAprofessional "team" environments
  - ****NO INTEGRATED TEAMWORK TRAINING MODEL****

RUTGERS
Robert Wood Johnson Medical School

INITIAL TEAMSTEPPS INTERVENTION

TEAMSTEPPS INTERVENTION DESIGN

Goals

1. Understand teamwork behaviors within existing "*exposure-based*" curriculum
2. Increase teamwork behaviors
3. Understand barriers to effective teamwork training in existing curriculum

"Hail Mary": Ignite cultural change within the academic health system

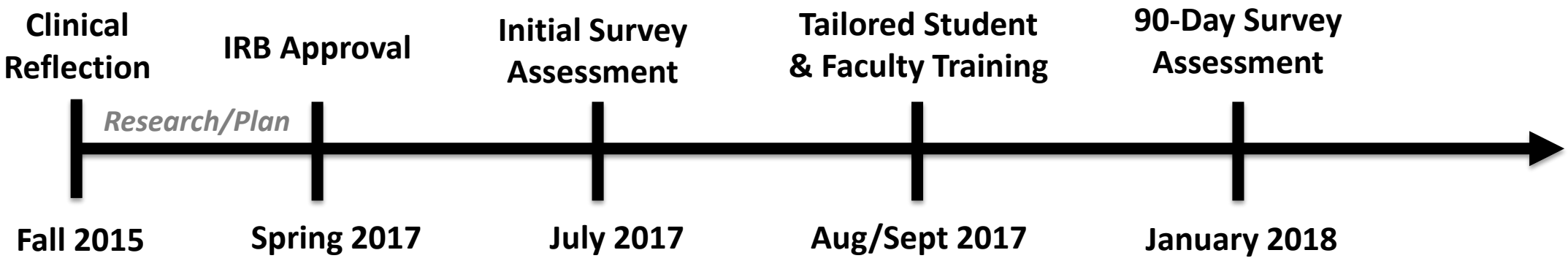
Implementation Focus: Preclinical curriculum → Follow-on expansion to Clinical curriculum

Student-Faculty Implementation Team: 2 student-veterans + 2 faculty champions

THREE SELECTED TEAM SETTINGS

Team Setting	Student Year	Team Makeup
Anatomy Lab	M1	*Intra*-professional
Home Visit Program / Interprofessional Learning Teams	M2	*Inter*-professional
Promise Clinic	M1 - M4	Primarily *Intra*-professional

PROJECT TIMELINE



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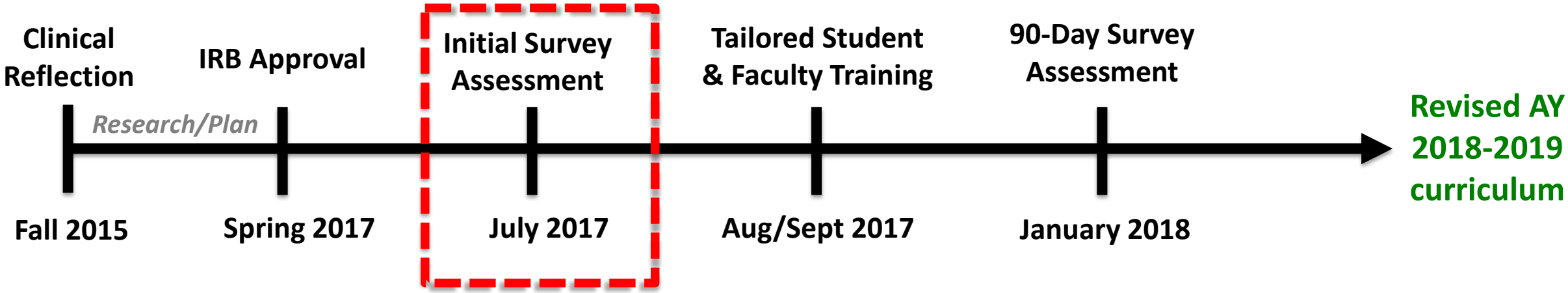


CONTROL GROUPS

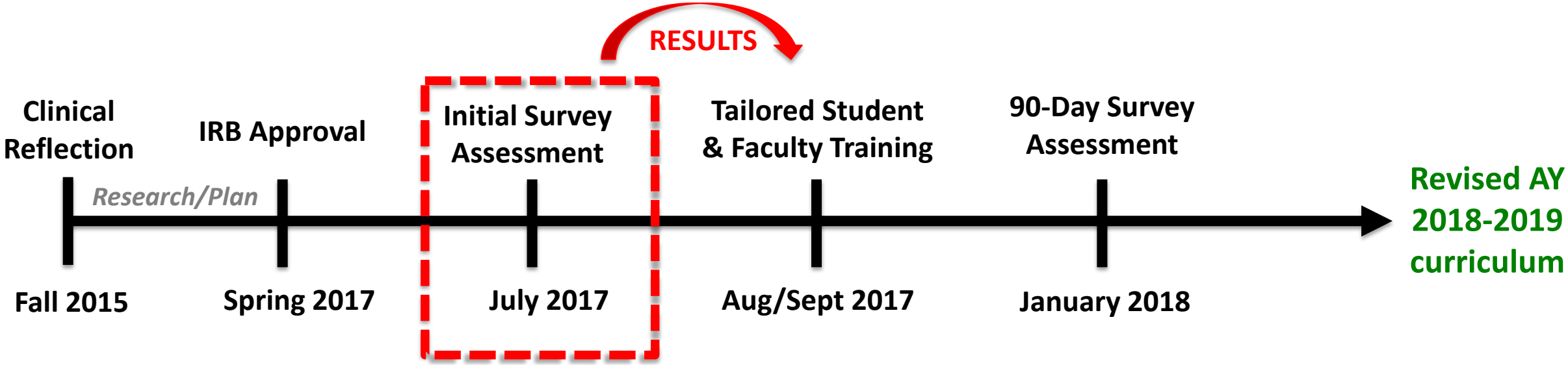
- *"Exposure-Based" Curriculum*
- *PRE-TeamSTEPPS*

IRB APPROVED SURVEY

- 43-item TeamSTEPPS-based survey
  - Teamwork behaviors
  - Frequency of briefing & debriefing
  - Curriculum effectiveness

- Limitations:
  - TS-TPQ & TS-TAQ competency domains combined
  - Slight modification for applicability to student curriculum

PROJECT TIMELINE

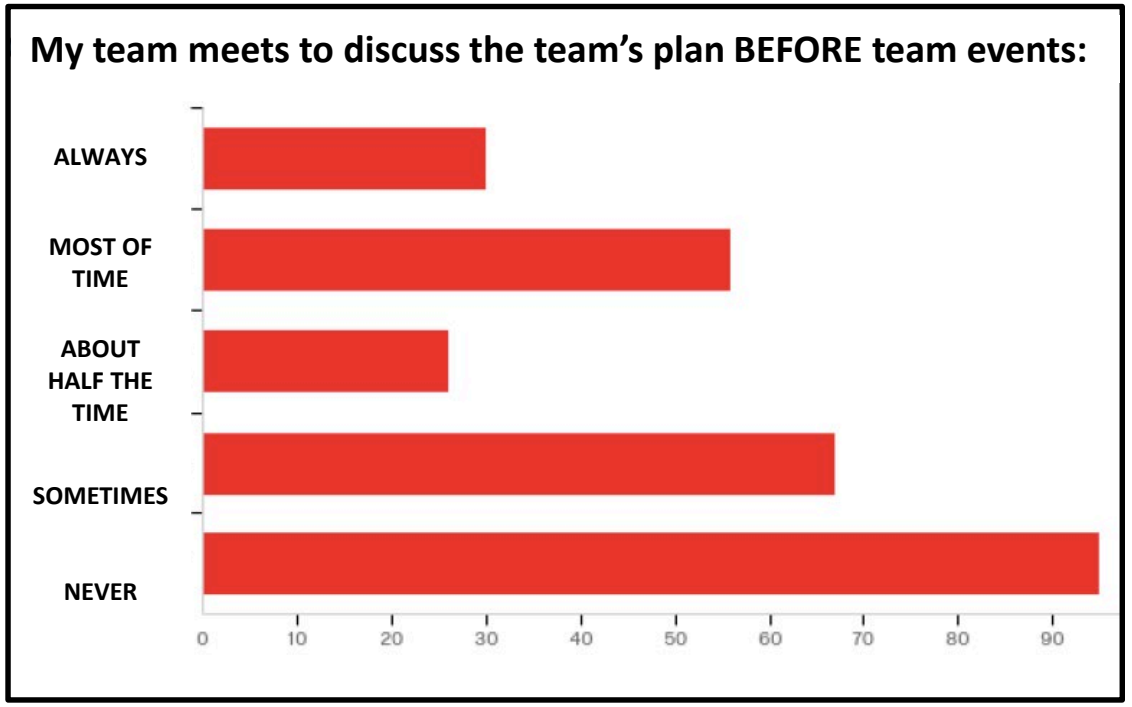


CONTROL GROUPS

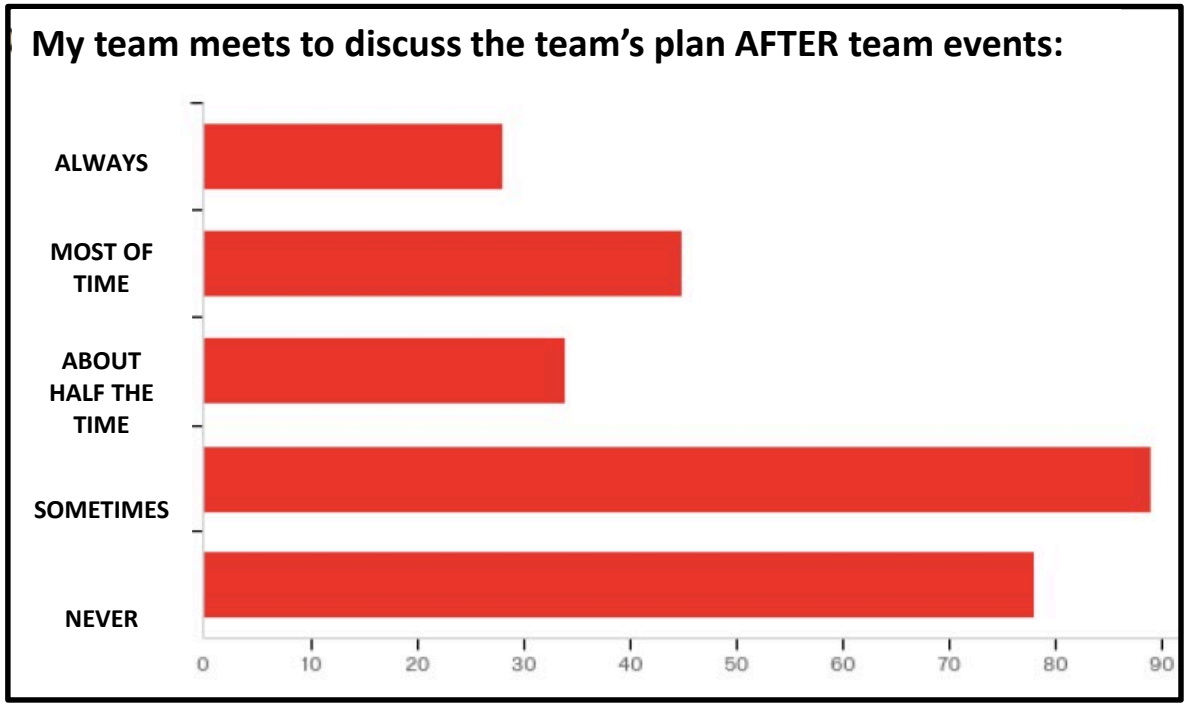
- *"Exposure-Based" Curriculum*
- *PRE-TeamSTEPPS*

EXPOSURE-BASED CURRICULUM RESULTS (PRE-INTERVENTION)

Frequency of BRIEFING (*All 3 team settings*)



Frequency of DEBRIEFING (*All 3 team settings*)



- **60% of 283 students reported NEVER or SOMETIMES for briefing & debriefing**
- **Only 10% of 283 students reported ALWAYS for briefing & debriefing**

EXPOSURE-BASED CURRICULUM RESULTS (PRE-INTERVENTION)

"Students don't like working in teams because they don't understand the fundamental importance of it."

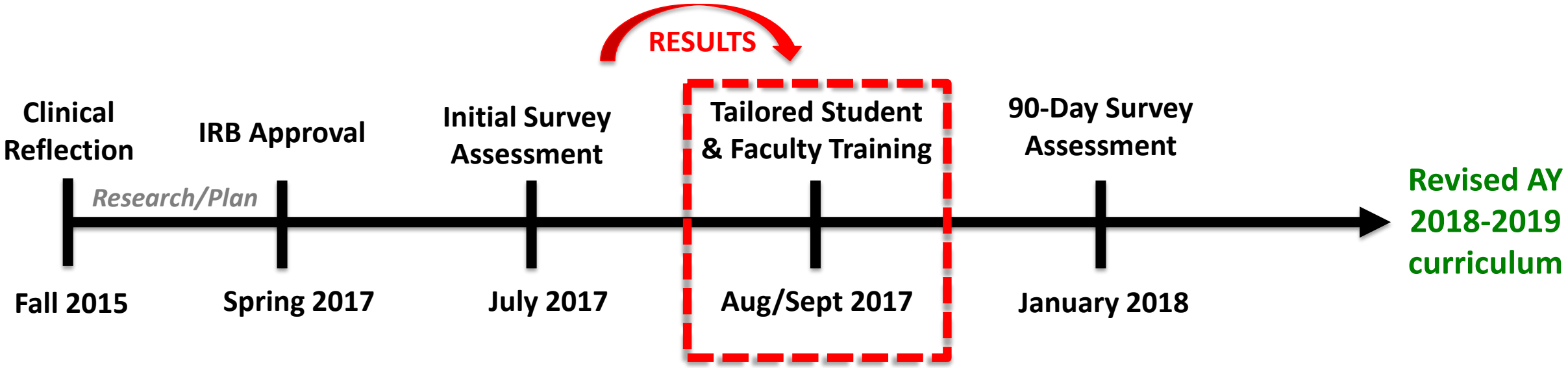
"…Limited tools are provided to teach students how to be effective team members of healthcare teams. Evidence-based methods are not taught."

"…there needs to be training to teach us HOW to do dissections as a team."

"School tends to tell us we're going to be leaders one day, instead of showing us how to properly lead…"

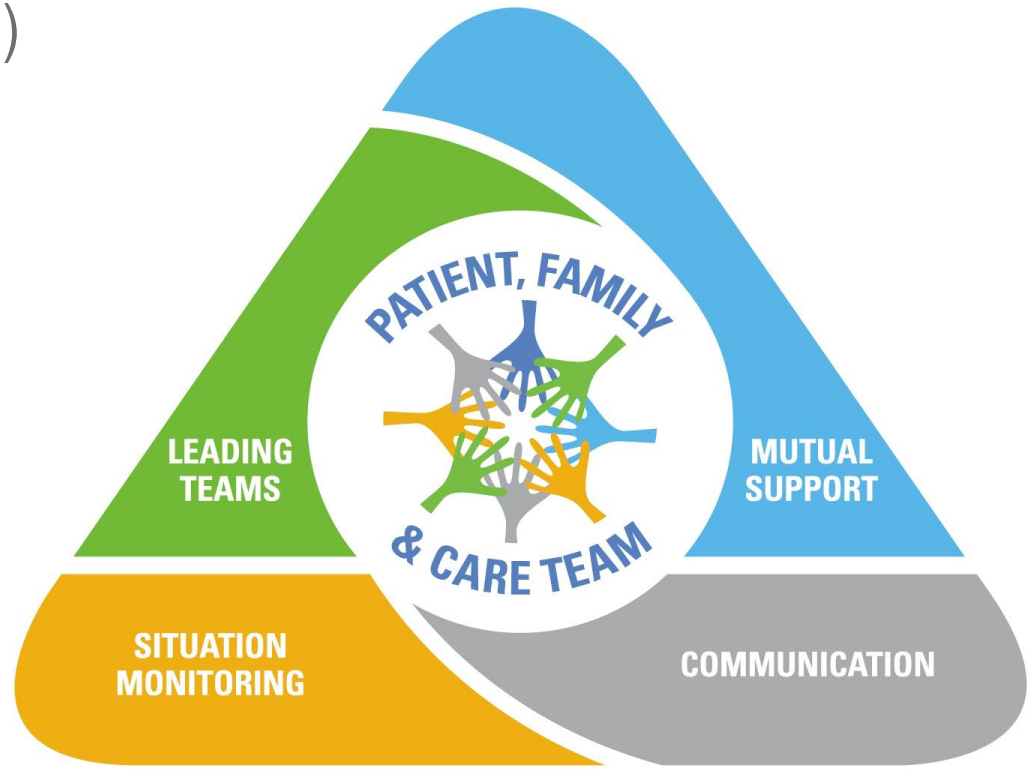
"We did NOT have a team leader." (multiple students)

PROJECT TIMELINE



INITIAL TEAMSTEPPS INTERVENTION

- 90-minute didactic presentation (student-instructed)
- "*RWJMS Teamwork Playbook*"
- Targeted TeamSTEPPS competencies :
  - **Teamwork = Patient Safety**
  - **Team Structure**
  - **Leading Teams**
    - Briefing & Debriefing Frequency
  - **Communication**



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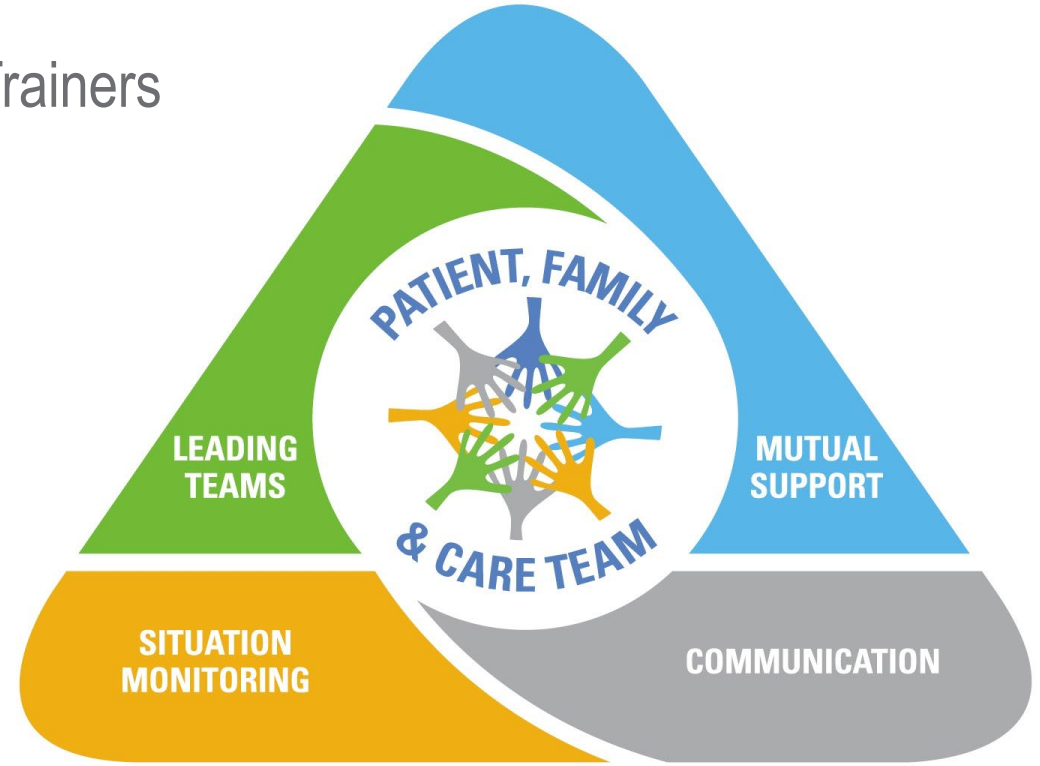
AY 2017-2018 TRAINING COMPLETED

- **650 Students Trained**
  - Instructed by **Student** TeamSTEPPS Master Trainers
- **80 Clinical Faculty Trained**
  - AHRQ TeamSTEPPS Master Trainer Course
  - Dr. Kevin Krane, MD (Tulane University)
  - Rita Preiskaitis, RN (Tulane University)



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TeamSTEPPS Pre-Event Tools

Robert Wood Johnson Medical School "Teamwork Playbook"

Team Set-Up / Structure

- Establish **Designated Leader**
  (Situational leaders may emerge real time)
- **Select Team Size & Members**
  - *Diversify talents/background*
  - *Involve Patient &/or Family*
- Set **Brief Time**
- Set Conditions for team success
  - Sufficient personnel, training/skills, equipment / space, time needed

Team Events

Sharing the Plan

- **Brief** - Short session prior to start to share the plan, discuss team formation, assign roles and responsibilities, establish expectations and climate, anticipate outcomes and likely contingencies

Monitoring and Modifying the Plan

- **Huddle** - Ad hoc meeting to re-establish situational awareness, reinforce plans already in place, and assess the need to adjust the plan

Reviewing the Team's Performance

- **Debrief** - Informal information exchange session designed to improve team performance and effectiveness through lessons learned and reinforcement of positive behaviors

BRIEF Checklist

*Normally conducted by **Designated Leader***

Core Brief Items

- ❑ **Goal(s)**
- ❑ **Roles** (& Responsibilities *as req'd*)
- ❑ **Plan**
- ❑ **Contingency plan** (ie."*huddle if req'd*")

Optional

- ❑ *Resource considerations* during shift:
  - ❑ Team members availability
  - ❑ Workload considerations
  - ❑ Resource Changes / Limitations
- ❑ *Expected* TeamSTEPPS tools
- ❑ Questions?

TeamSTEPPS Post-Event Tools

DEBRIEF Checklist

*Normally conducted by **Designated Leader***

Core Debrief Items

- ❑ Quick **factual recap** of events
- ❑ **What went well?**
- ❑ **What can we improve?**
  - *Ie. Errors or near misses?*
  - *Ie. Breakdowns in situational awareness*

Optional

- ❑ Did teamwork barriers exist?
- ❑ Did we achieve stated goal(s)?
- ❑ Clarity of roles / responsibilities
- ❑ Resource management
- ❑ Workload distribution

Feedback

Information provided to team members for the purpose of improving team performance

Feedback should be:

- Timely – given soon after the target behavior has occurred
- Respectful – focuses on behaviors, not personal attributes
- Specific – relates to a specific task or behavior that requires correction or improvement
- Directed toward improvement – provides directions for future improvement
- Considerate – considers a team member's feelings and delivers negative information with fairness and respect

BARRIERS to TEAMWORK

- Inconsistency in Team Membership
- Lack of Time
- Lack of Information Sharing
- Hierarchy
- Defensiveness
- Conventional Thinking
- Complacency
- Varying Communication Styles
- Conflict
- Lack of Coordination and Followup With Coworkers
- Distractions
- Fatigue
- Workload
- Misinterpretation of Cues
- Lack of Role Clarity

TeamSTEPPS Communication Tools
(Not every tool will apply to each team setting)

SBAR

A technique for communicating critical information that requires immediate attention and action concerning a patient's condition

Situation – What is going on with the patient?

"I am calling about Mrs. Joseph in room 251. Chief complaint is shortness of breath of new onset."

Background – What is the clinical background or context?

"Patient is a 62-year-old female post-op day one from abdominal surgery. No prior history of cardiac or lung disease."

Assessment – What do I think the problem is?

"Breath sounds are decreased on the right side with acknowledgment of pain. Would like to rule out pneumothorax."

Recommendation and Request – What would I do to correct it?

"I feel strongly the patient should be assessed now. Can you come to room 251 now?"

Check-Back

Using closed-loop communication to ensure that information conveyed by the sender is understood by the receiver as intended

The steps include the following:

1. Sender initiates the message
2. Receiver accepts the message and provides feedback
3. Sender double-checks to ensure that the message was received

Example:

Doctor: *"Give 25 mg Benadryl IV push"*

Nurse: *"25 mg Benadryl IV push"*

Doctor: *"That's correct"*

Application:
Medication orders, Patient Hand-offs, complex or rapidly delivered important communication, etc.

Call-Out

Strategy used to communicate important or critical information

- Informs all team members simultaneously during emergent situations
- Helps team members anticipate next steps
- Important to direct responsibility to a specific individual responsible for carrying out the task

Example during an incoming trauma:

Leader: "Airway status?"

Resident: "Airway clear"

Leader: "Breath sounds?"

Resident: "Breath sounds decreased on right"

Leader: "Blood pressure?"

Nurse: "BP is 96/62"

Benefits of Effective Teamwork

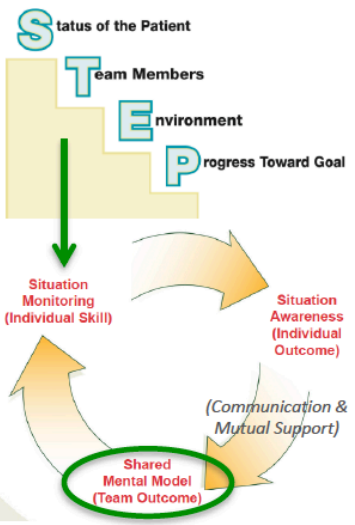
- Shared Mental Model
- Improved Performance (Adaptability, Accuracy, Productivity, & Efficiency)
- Improved Knowledge & Attitudes
- Decreased Medical Error & Improved Patient Safety

TeamSTEPPS Situation Monitoring & Mutual Supt
(Not every tool will apply to each team setting)

STEP

A tool for monitoring situations in the delivery of health care

Components of Situation Monitoring:



Two-Challenge Rule

Empowers all team members to *"stop the line"* if they sense or discover an essential safety breach

When an initial assertive statement is ignored:

- It is your responsibility to assertively voice concern at least ***two times*** to ensure that it has been heard
- The team member being challenged must acknowledge that concern has been heard
- If the safety issue still hasn't been addressed:
  - Take a stronger course of action
  - Utilize supervisor or chain of command

DESC Script

A constructive approach for managing and resolving conflict

D = Describe the specific situation or behavior; provide concrete data

E = Express how the situation makes you feel/what your concerns are

S = Suggest other alternatives and seek agreement

C = Consequences should be stated in terms of impact on established team goals; strive for consensus

CUS

Assertive statements:

I am **C**ONCERNED!
I am **U**NCOMFORTABLE!
This is a **S**AFETY ISSUE!

"Stop the Line"

Patient HANDOFF

Poor handoff's => Risk of Patient Harm

I	Illness Severity	• Stable, "watcher," unstable
P	Patient Summary	• Summary statement • Events leading up to admission • Hospital course • Ongoing assessment • Plan
A	Action List	• To do list • Time line and ownership
S	Situation Awareness and Contingency Planning	• Know what's going on • Plan for what might happen
S	Synthesis by Receiver	• Receiver summarizes what was heard • Asks questions • Restates key action/to do items

Joint Commission Handoff Guidelines

1) Face-to-Face, two-way communication
2) Standardized handoff templates /procedures (**30% medical error reduction**)
3) Make quality handoffs a cultural priority
4) Transfer ownership/responsibility

Rev(3): 7/1/18

References: 1) https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/teamstepps/instructor/essentials/pocketguide.pdf - *Accessed January 16, 2017.*
2) The Joint Commission. Joint Commission Sentinel Event #58: Inadequate hand-off communication. https://www.jointcommission.org - Published Sept. 12, 2017. Accessed Aug. 1, 2018.

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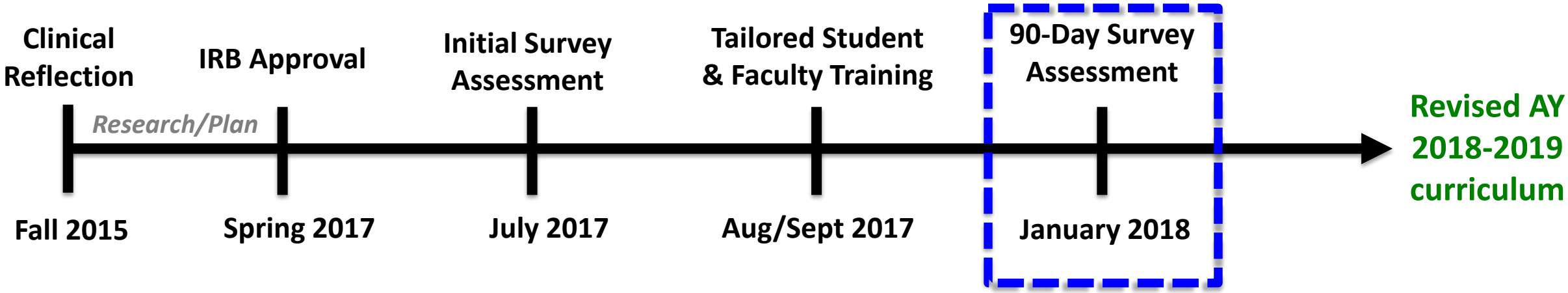
RESULTS

PROJECT TIMELINE



INTERVENTION GROUPS

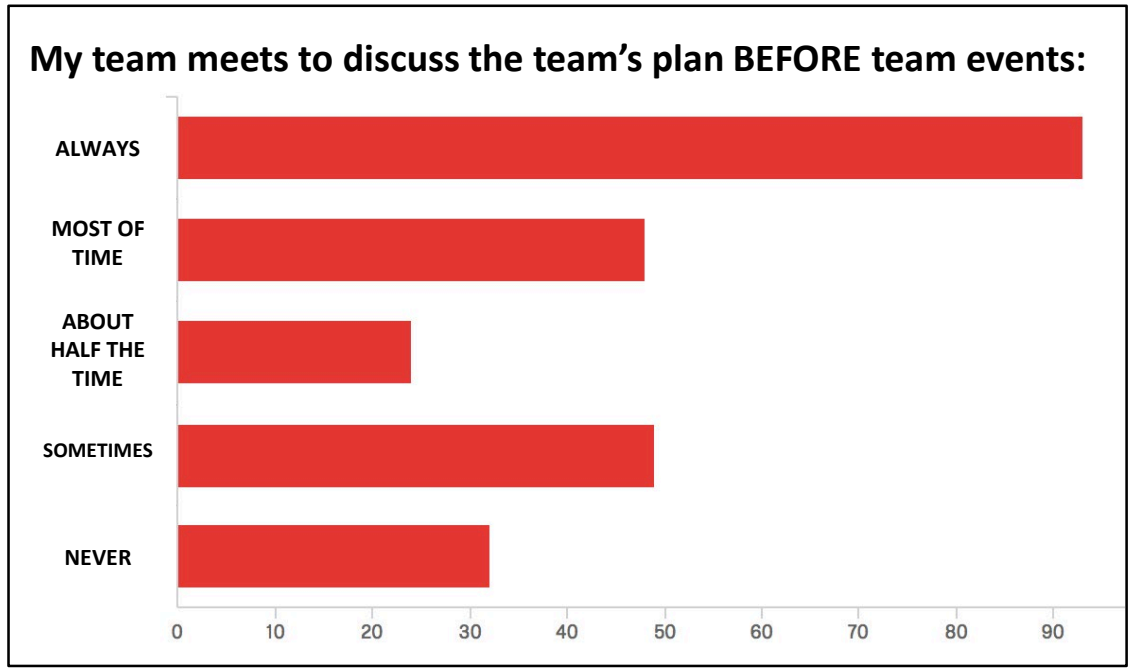
- ***POST-TeamSTEPPS Training***

DATA ANALYSIS

- Quantitative Analysis
  - Teamwork behaviors
  - Pre & Post mean scores by teamwork competency
  - Cohen's-D effect size: **magnitude of behavioral change**
- Qualitative Analysis
  - **Perceived Effectiveness** of teamwork curriculum
  - **Frequently expressed Implementation Barriers**
- Graphically plotted for visual analysis

TEAMSTEPPS-BASED CURRICULUM RESULTS (POST-INTERVENTION)

Frequency of BRIEFING (*All 3 team settings*)



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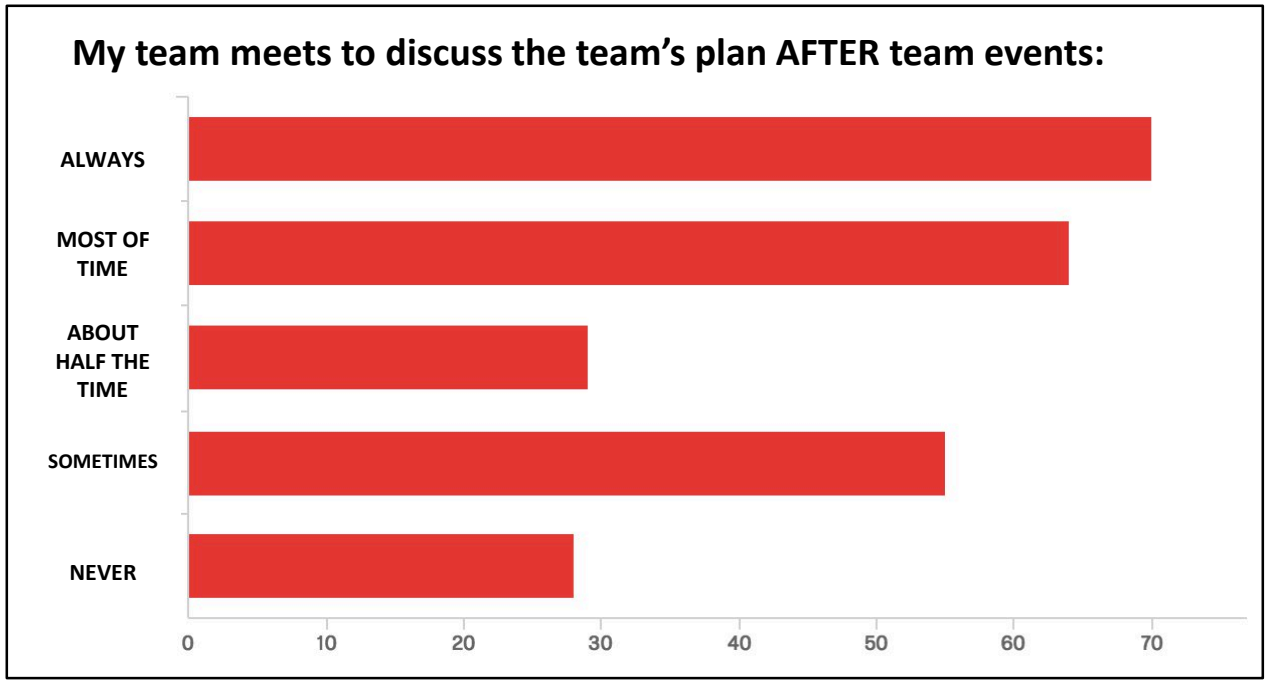
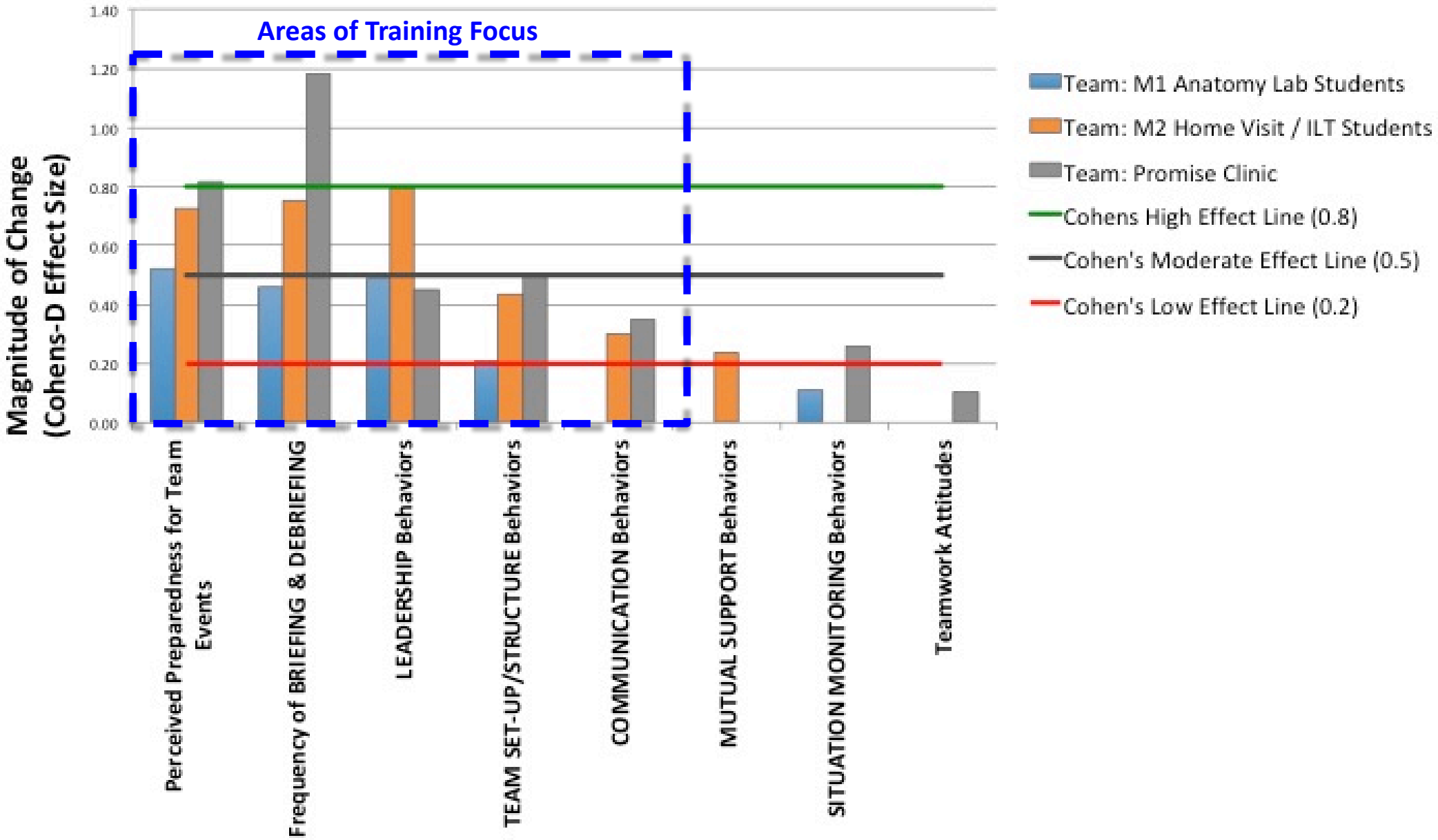
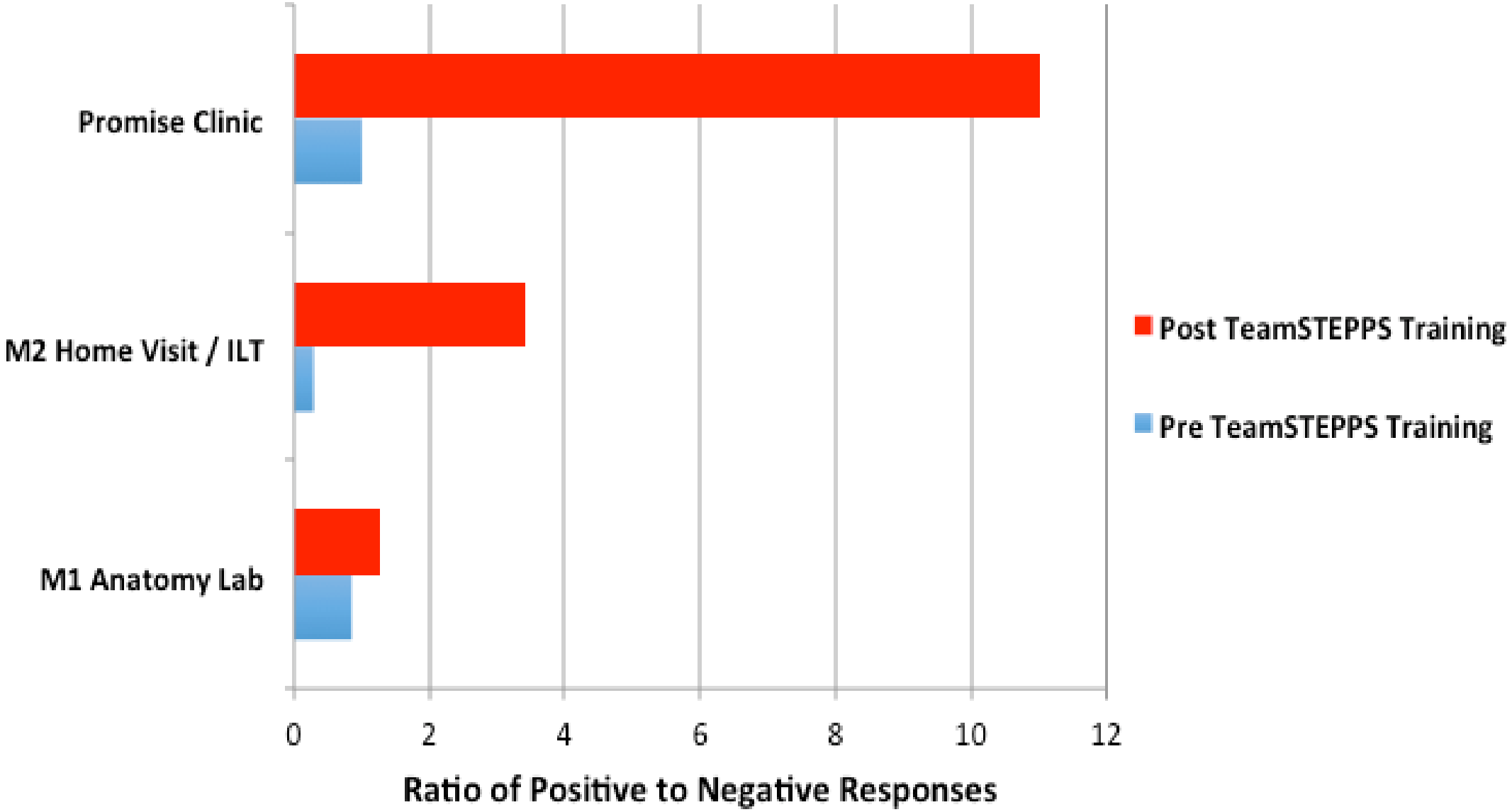


- **60% of students reported ALWAYS or MOST OF THE TIME for briefing & debriefing**
- **Only 12% of students reported NEVER for briefing & debriefing**

Magnitude of Change in Medical Student Teamwork Knowledge and Behaviors in Three Student Team Settings



Open Response Analysis: Student Perceived Effectiveness of RWJMS Teamwork Training in Three Team Settings



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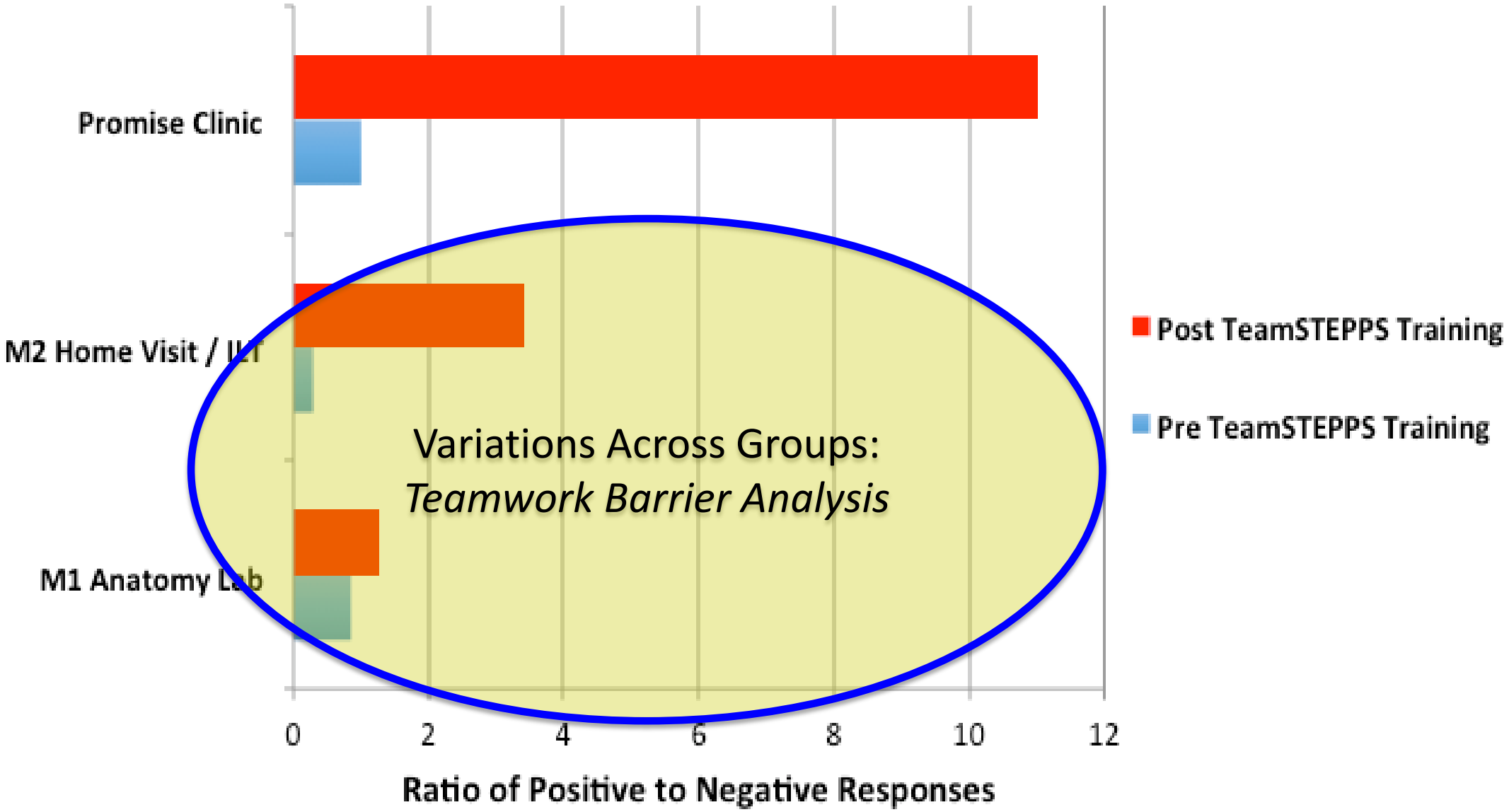


TEAMWORK BARRIER ANALYSIS

M2 Home Visit / ILT Student Comments:

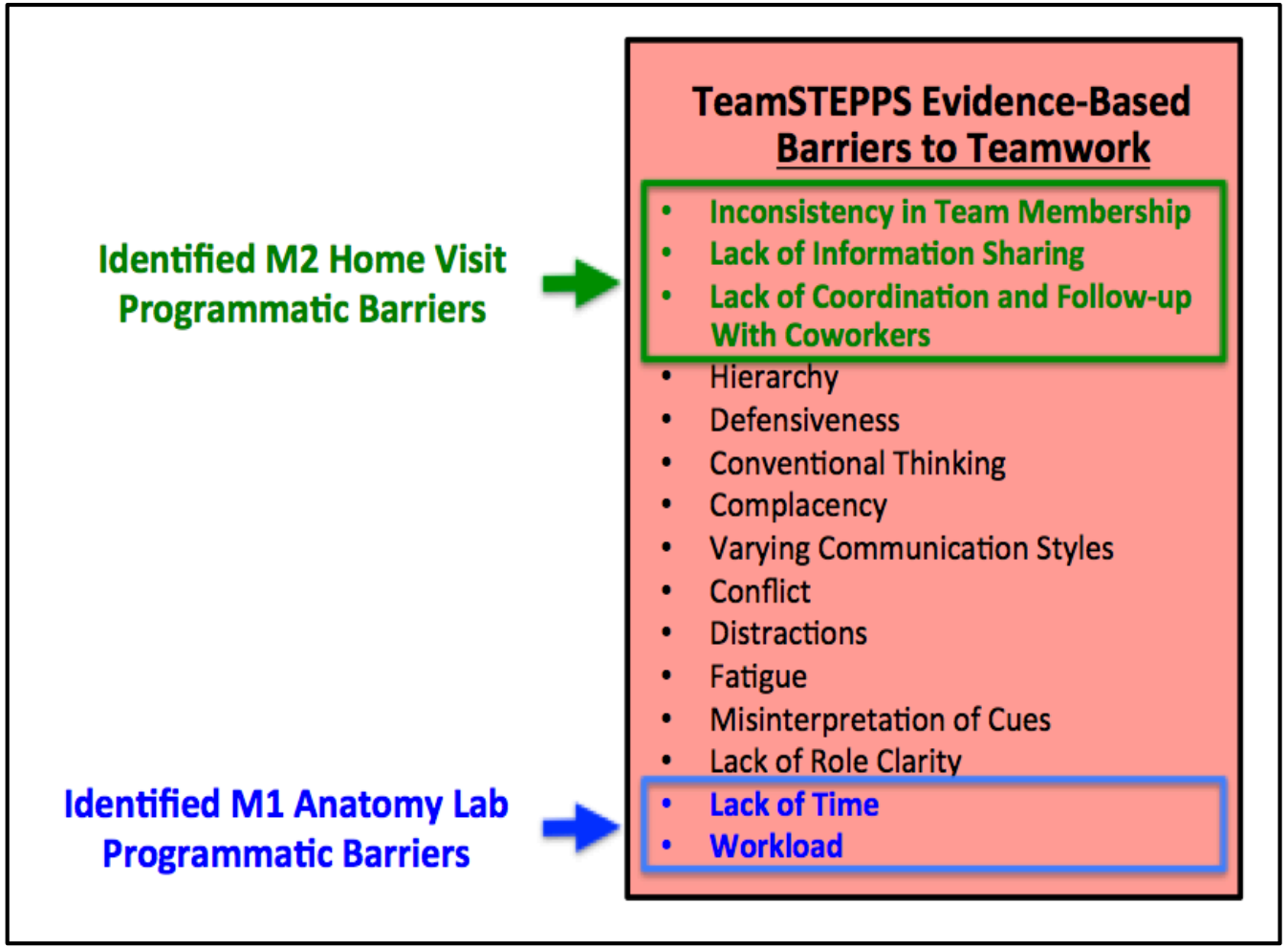
- **Intra-team training disparities**
- **Participation requirements not standardized** across schools
- **Team members not responding to team emails**

Anatomy Lab Student Comments:

- "**Too much**": too many competing demands, too little time

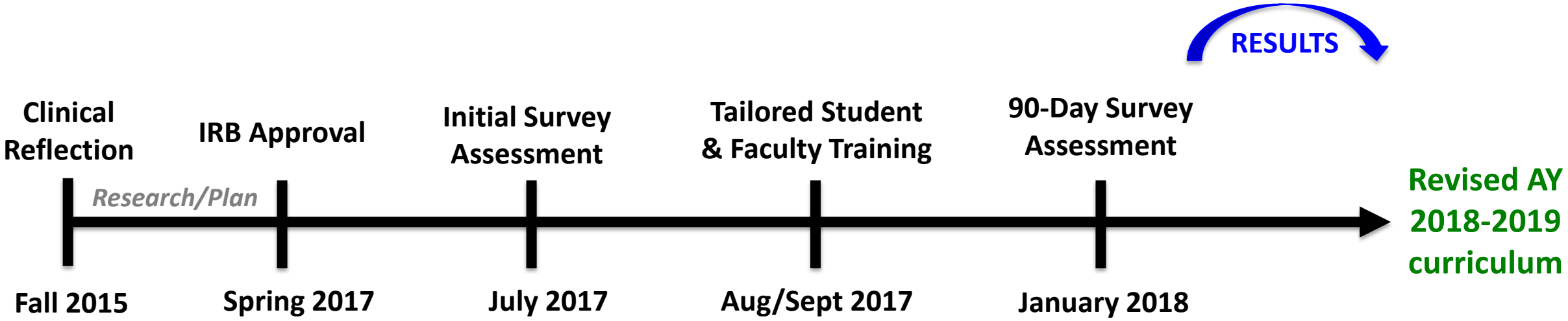
Present in BOTH GROUPS

- **Desired more small-group reinforcement** through M1-M4
- **Insufficient faculty support / knowledge** of concepts



LESSONS LEARNED

PROJECT TIMELINE



DISCUSSION: PROMISE CLINIC ENVIRONMENT

- **No consistent teamwork barriers identified in student comments**
  - Clear clinical application of TeamSTEPPS tools
  - Training and TeamSTEPPS tool use reinforced via Promise Clinic leadership
  - All Promise Clinic students received TeamSTEPPS training
  - Student-led appointments with consistent team member attendance
- Promise Clinic infrastructure/leadership allowed continuous real-time barrier identification and mitigation → more effective teamwork training

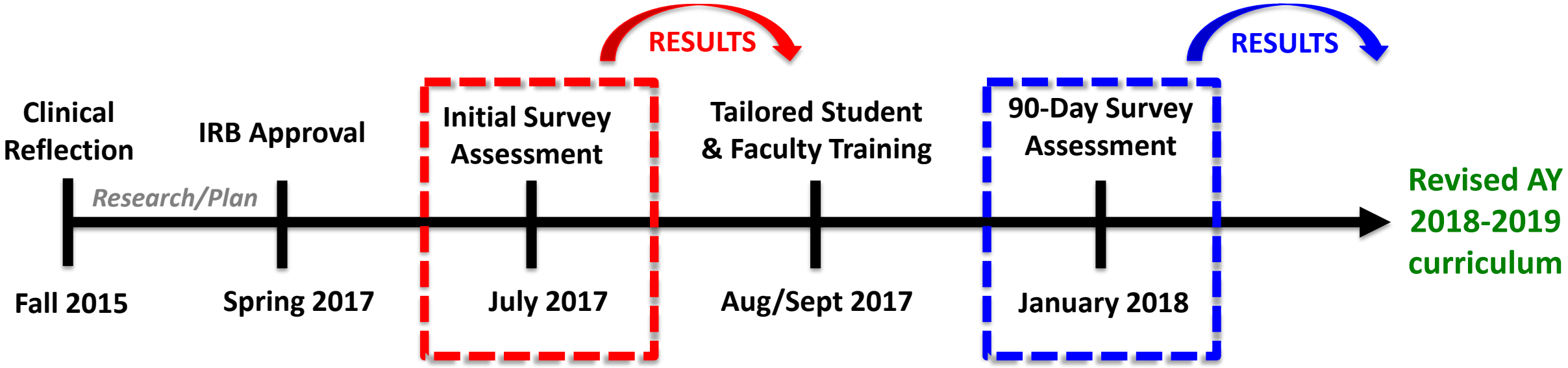
KEY LESSONS LEARNED

1. "Exposure-based" curriculums result in IMPROPER teamwork habit patterns
   i. Medical education curriculums need an effective teamwork training model
2. Student-instructed TeamSTEPPS training is effective within medical education curriculum
3. Most limiting barriers to effective training were:
   i. Institutional/programmatically-imposed
   ii. Initially unforeseen in intervention planning
4. Magnitude of behavioral change is INVERSELY proportional to presence of barriers
5. **Effective training requires RECURRING barrier analysis and ITERATIVE change**

APPLICATION:

DESIGNING EFFECTIVE TEAMWORK TRAINING CURRICULUMS

PROJECT TIMELINE



CONTROL GROUPS

- *"Exposure-Based" Curriculum*
- *PRE-TeamSTEPPS*

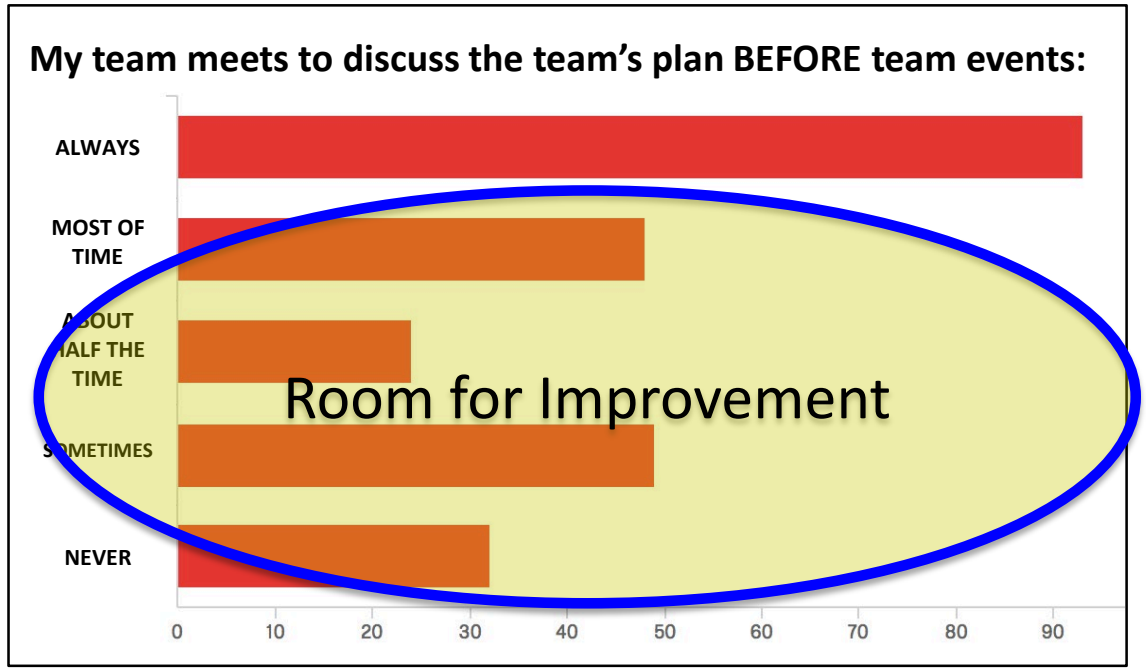
INTERVENTION GROUPS

- *POST-TeamSTEPPS Training*

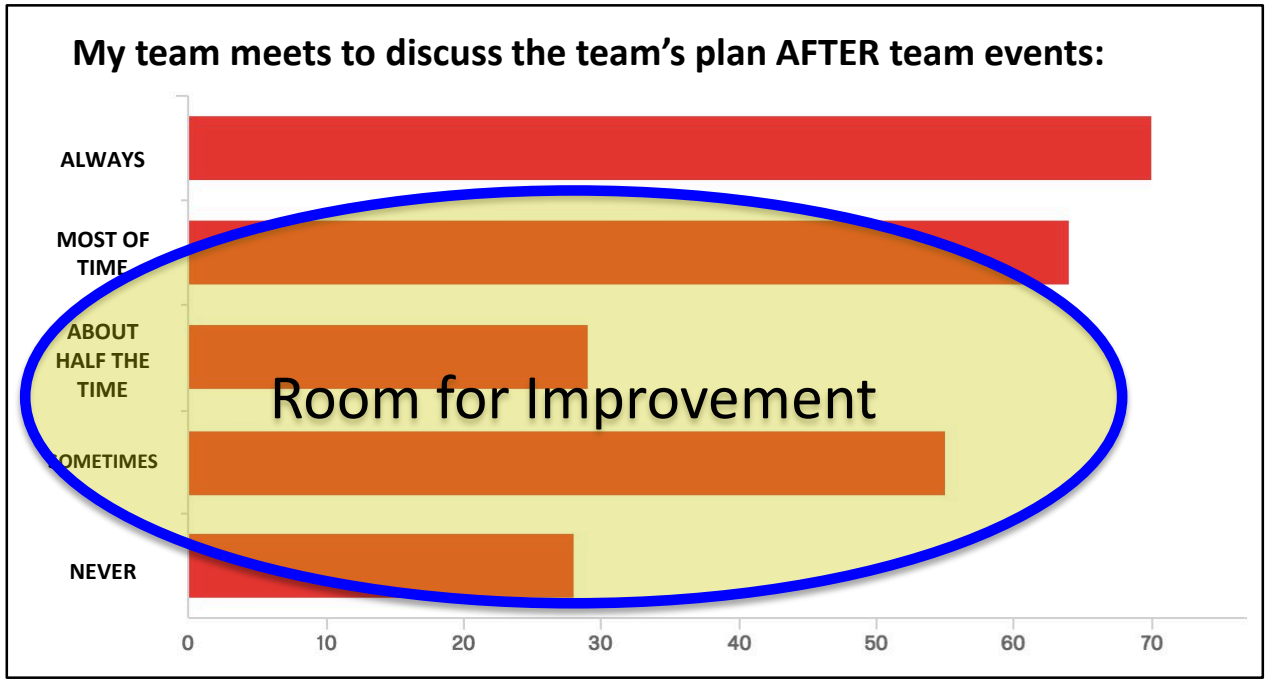
ITERATIVE CHANGE!

TEAMSTEPPS-BASED CURRICULUM RESULTS (POST-INTERVENTION)

Frequency of BRIEFING (*All 3 team settings*)



Frequency of DEBRIEFING (*All 3 team settings*)



BUILDING A CURRICULUM: WHAT STUDENTS WANT

1. Students have strong desire for standardized teamwork training
2. Longitudinal TeamSTEPPS curriculum likely more effective than traditional single-dose course
    i. Two-day Master Trainer course not feasible within most academic curriculums
3. Suggested model: 30-45 min didactic + recurring small-group case-based application
4. Organized one-page pocket reference helpful (example: *RWJMS Teamwork Playbook*)
5. Sufficient Faculty support & coaching critical
6. Tie training into reward pathway (graded events) periodically to enhance student motivation

CONCLUSION

INSPIRED CULTURAL CHANGE

- Inspired Cultural Change
  - Expansion throughout medical school curriculum
  - Growth of TeamSTEPPS movement among Rutgers interprofessional schools
  - Integration of TeamSTEPPS into multiple hospital departments
  - Project briefings to RWJ Executive Council & RWJ/Barnabas Chief Medical Officer

- TeamSTEPPS Community Involvement
  - 2018 AHA Team Training National Conference – Poster
  - 2018 AAMC Accelerate Change in Medical Education Consortium – Case Study

SPRING 2017 STUDENT SURVEY FEEDBACK

"TeamSTEPPS has transformed how my team functions. We are so much more organized, directed, and efficient. Communication and knowledge of our roles has greatly increased. I think it has translated to better care for our patient and a better experience for students."

- Student, Robert Wood Johnson Medical School

QUESTIONS?

- Stay in touch! Email teamtraining@aha.org or visit www.aha.org/teamtraining