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MACRO CRITICAL:

Standardizing Documentation of Radiology Critical Test Results The NYU Experience

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RSNA Quality Storyboard
Annual Meeting December 2, 2015

Example Case

- Friday 4PM, inpatient brain MRI showed acute stroke
- Report says: Findings were discussed with house staff at time of dictation
- Team says they were not aware of findings until Sunday morning
- Although no harm came to the patient, management would have been different had they been aware of the finding on Friday at time the study was interpreted
- Who is responsible?
- Does the phrase 'discussed with house staff' meet the standard of care?

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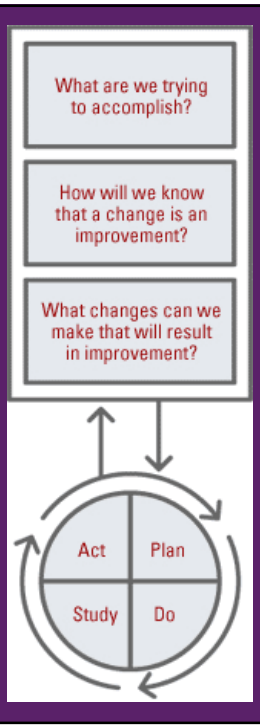
Model for Improvement

Plan-Do-Study-Act cycles



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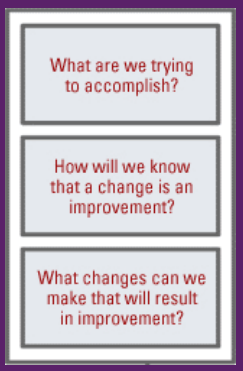
Setting our aim



Joint Commission's 2015 National Patient Safety Goal:

Improve staff communication: Get important test results to the right staff person on time

- Develop procedures to identify, manage, and evaluate the definition and recognition of critical results
  - By whom and to whom critical results are reported
  - Acceptable length of time between the availability and reporting of critical results

Our Aim: Complete documentation of reporting critical results to the licensed independent practitioner (LIP)

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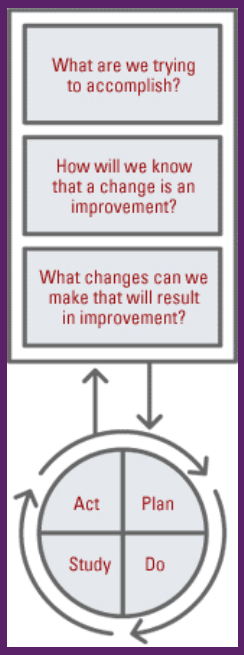
The Joint Commission. National Patient Safety Goals effective January 1 2015. Available at: http://www.jointcommission.org/assets/1/6/2015_HAP_NPSG_ER.pdf. Accessed Oct 23 2015

Intervention

While all changes do not lead to improvement, all improvement requires change



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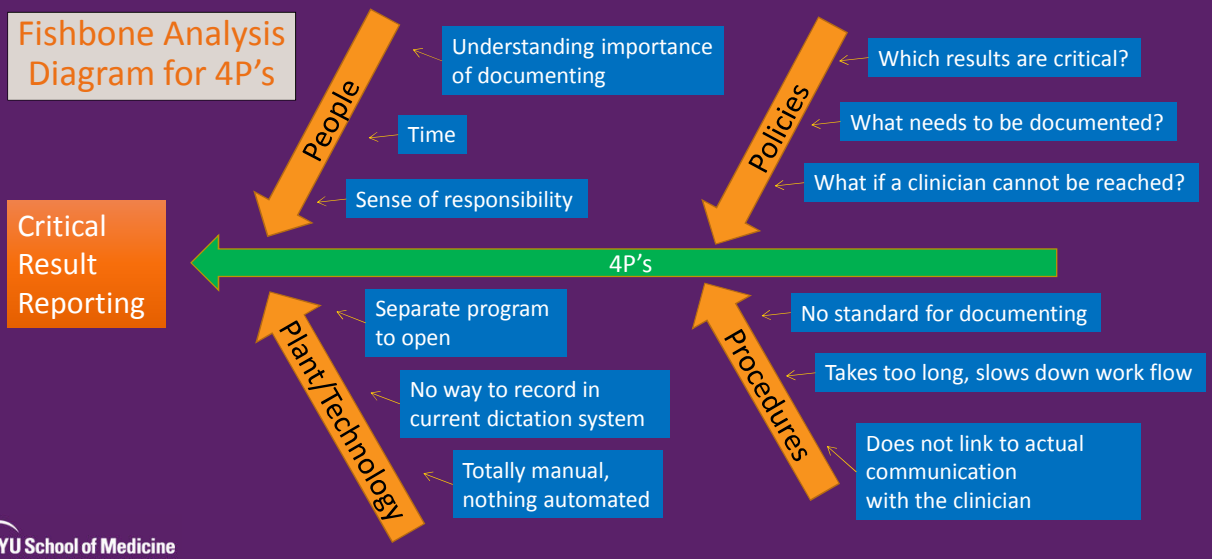
Understanding the current situation

Fishbone Analysis Diagram for 4P's



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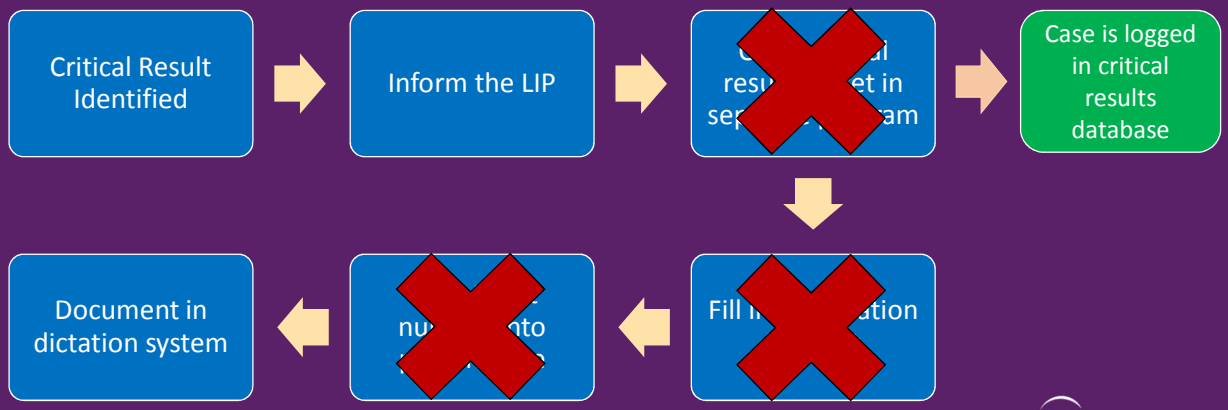
Process Map

Our Aim: Complete documentation of reporting critical results to the LIP

1. Steps we can eliminate to make process easy so people use it

2. Steps we need to address to ensure COMPLETENESS of reporting

What results are critical?



What should this statement include?

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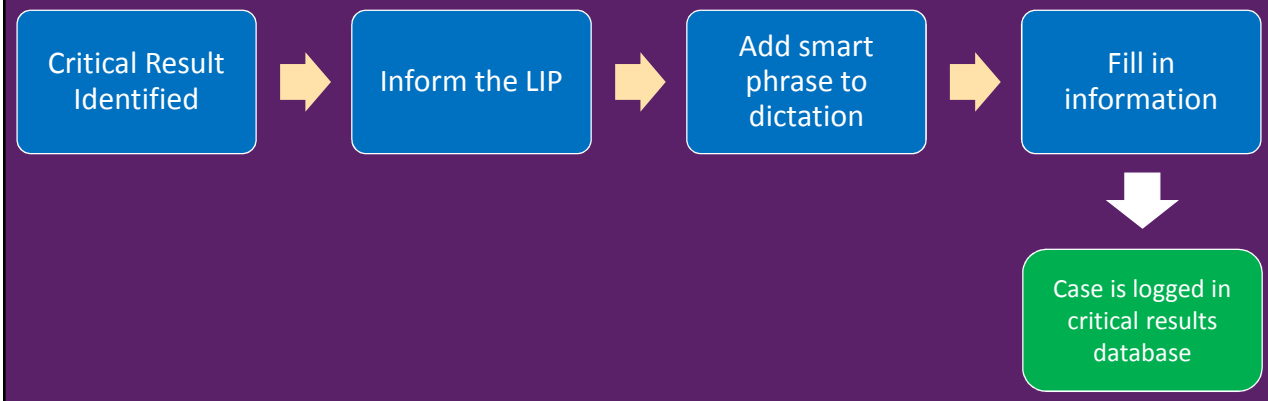
The New Process



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The New Macro

A critical result of [pick list choices] was reported to [Licensed Practitioner] on [Date] at [Time]. Communicated results were read back.

Side bar menu of critical results*
Decided across the department.

1. What does this statement need to include?
2. Which results are critical?

active bleeding
acute stroke
appendicitis
brain tumor
carotid artery dissection
cerebral hemorrhage / hematoma
complete bowel obstruction
critical carotid stenosis
dvt or vascular occlusion
ectopic pregnancy
free air in abdomen
ischemic bowel
other critical issue
ovarian torsion
pulmonary embolism
spinal cord compression
tension pneumothorax
vascular occlusion
volvulus

Larson PA, et al. Actionable Findings and the Role of IT Support: Report of the ACR Actionable Reporting Work J Am Coll Radiol 2014;11:552-558.

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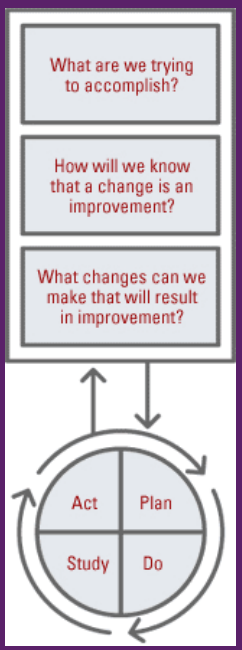
Intervention

Create a macro or smart phrase to use within the voice dictation system

- **Improve work flow** by embedding in application already open
- **Improve efficiency** by including all required aspects (name, date/time, diagnosis, read back confirmation) in the phrase
- **Reduce error** by standardizing format



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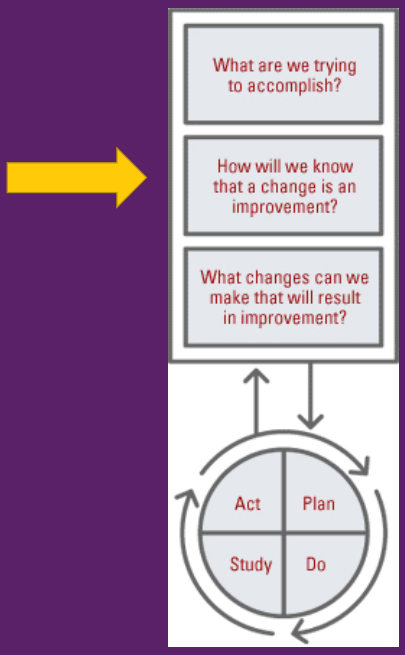
Measurement

- **Outcome measures** – Is there improved completeness of reporting?
- **Process measures** – How are radiologists documenting critical results reporting?
- **Balancing measures** – Are there trade offs being created? What work arounds are being used?

For first cycle: We will query our critical results database prior to and post implementation to assess **usage** and **completeness** of documentation



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PDSA Cycle 1

- **Objective** is to introduce the critical result macro to radiologists
- **We predict** documentation and completeness of critical result reporting will improve
- **Will query** database of critical results before and after macro introduced to assess for change

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PDSA Cycle 1

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- **Macro debuts 12/15/2014**
- At leadership and staff meetings
- Through department-wide email correspondence

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PDSA Cycle 1

- **Objective** is to introduce the critical result macro to radiologists
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- **Analysis of Data**
- Most is as expected

- Macro debuts 12/15/2014

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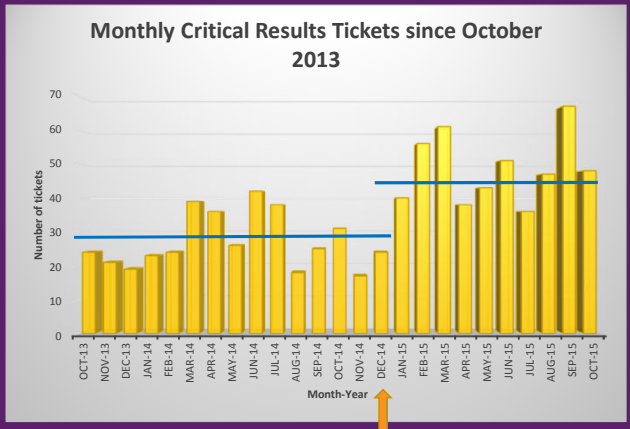
Results

- 399 studies were logged before the macro
- 495 were logged after the macro
- Average of 45 critical test results/month after vs 27/month before (T-test p <.001)

Retrospective review of radiology reports submitted to the critical test result database from 10/1/2013 – 10/20/2015



Macro introduced 12/15/2014

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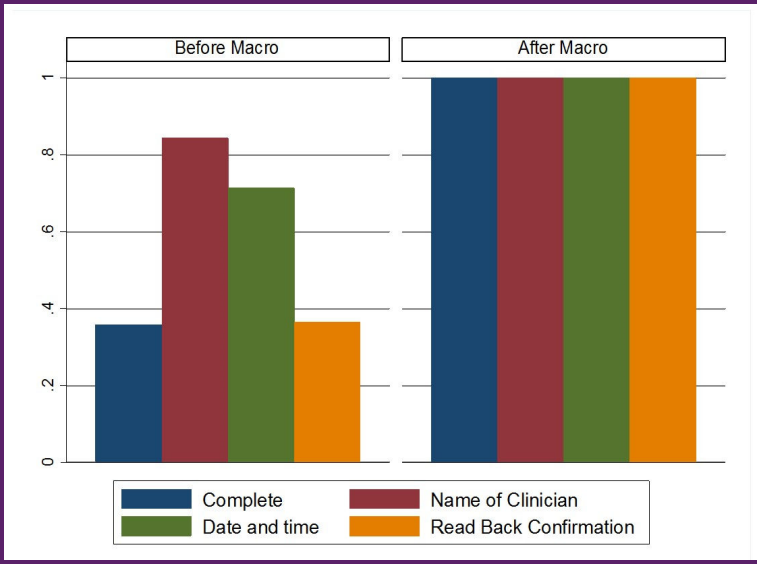
Results

- Macro was used most in chest and abdomen
- Average time to report did not change
- Complete reporting increased from 35% to 100% (p <.0001 overall and for each detail independently)



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PDSA Cycle 1

- **Closer look at:**
- Low-use sections
- Critical results reported but not captured in database

- **Objective** is to introduce the critical result macro to radiologists
- **We predict** documentation and completeness of critical result reporting will improve
- **Will query** database of critical results before and after macro introduced to assess for change

- Data Analysis: Most is as expected

- Macro debuts 12/15/2014

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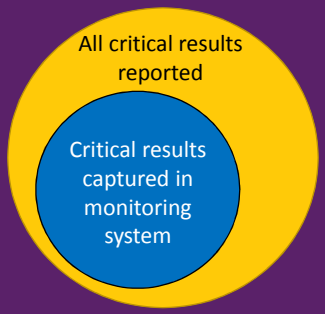
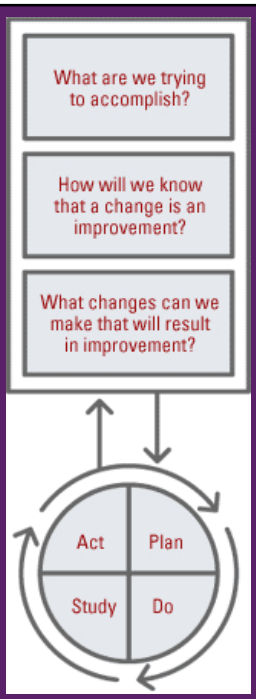
Back to the top

- **Outcomes measures:**
  - Doing better but how many critical results are not getting captured? Of those, how many have complete critical result reporting?
- **Process measures:**
  - Has use of the macro been maintained?
  - How do we create buy in?
- **Balance measures:**
  - What are barriers to use of the macro?
  - Unique features to each section?





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