UVA Health | Department of Radiology & Medical Imaging

IMPROVING TURNAROUND TIME FOR BREAST BIOPSY RADIOLOGY-PATHOLOGY CONCORDANCE REVIEW AND DOCUMENTATION: OUR SUCCESS STORY

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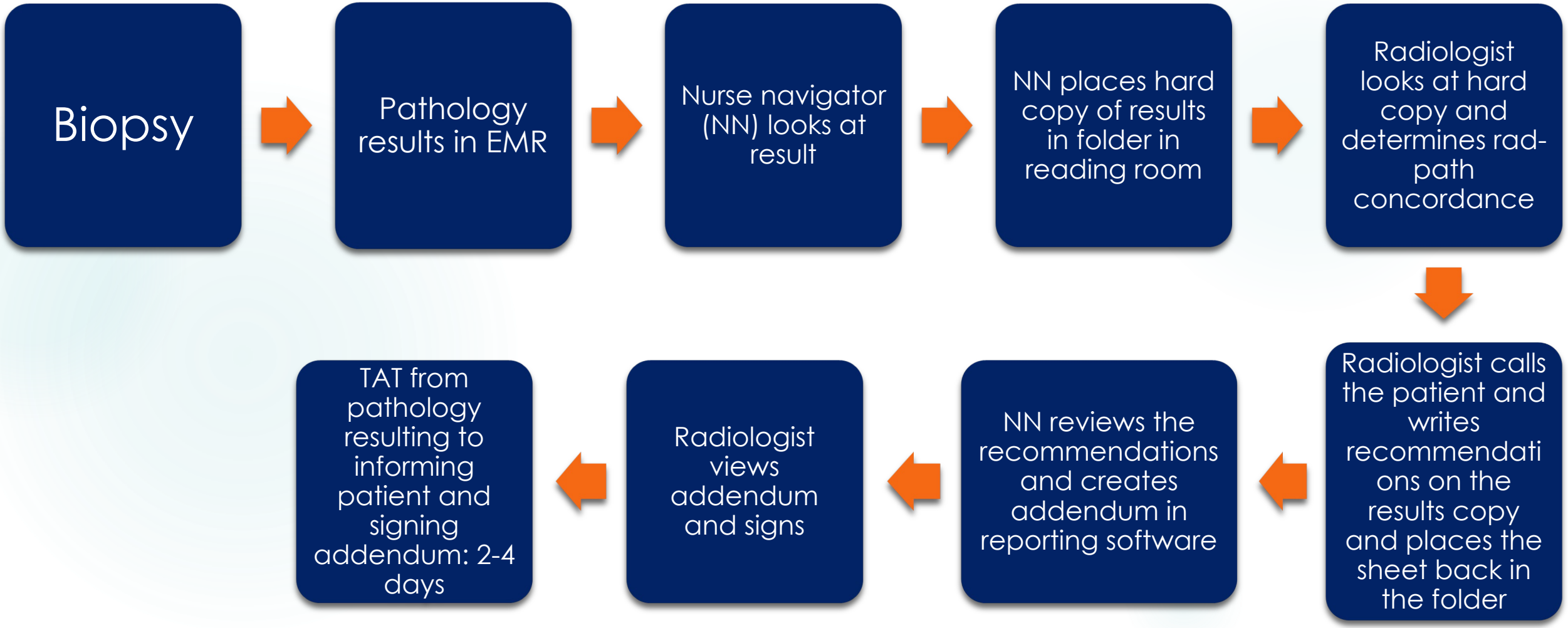
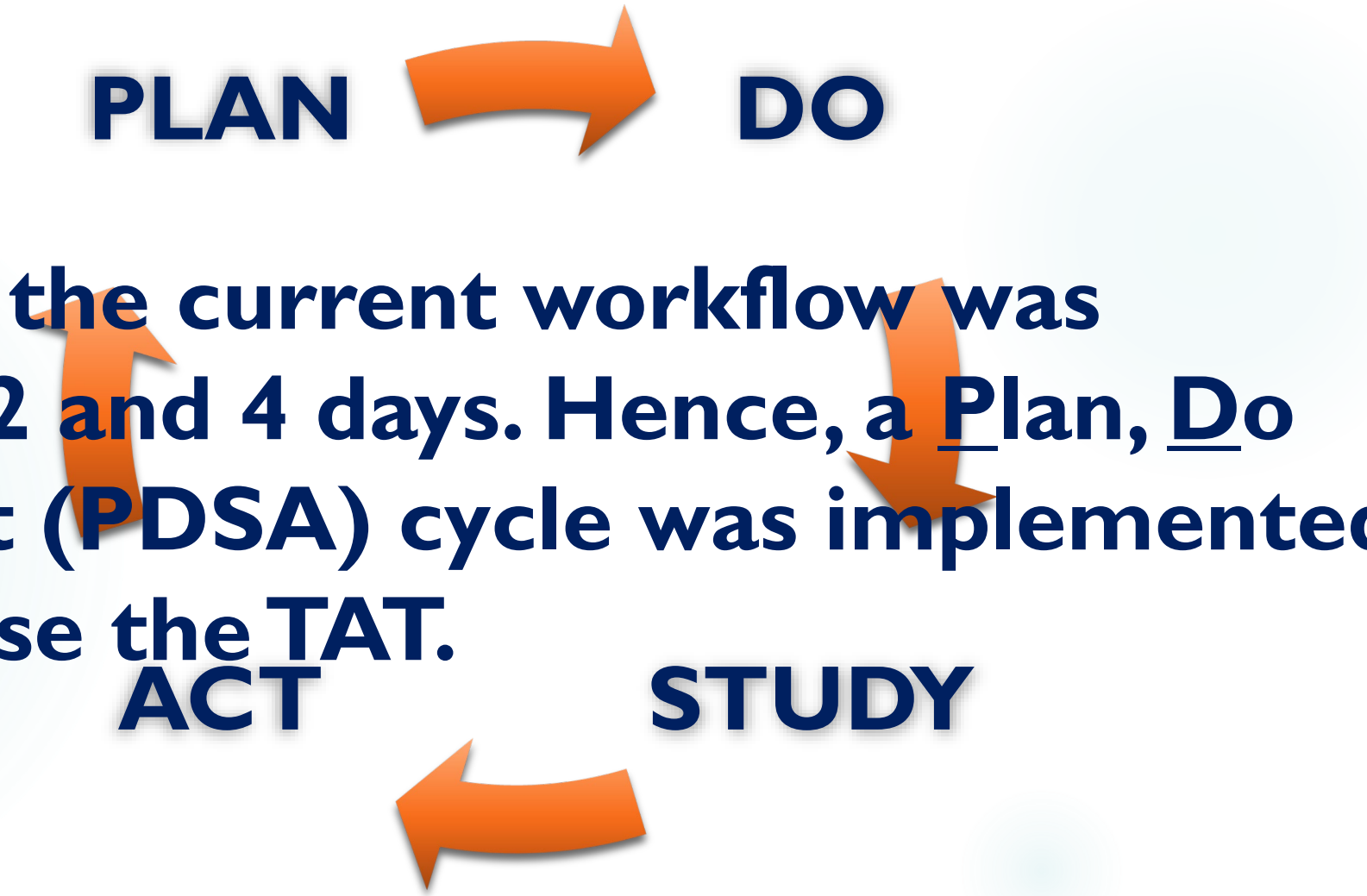
BACKGROUND AND OBJECTIVE

- Radiology-pathology concordance review after biopsy, communicating results to the patient, and documenting the results and recommendations in the electronic medical record (EMR) are critical components of breast imaging patient care.
- To decrease turn around time (TAT) between pathology report being finalized in EMR and radiologist's addendum being completed in EMR after communicating results to patient.

CURRENT WORKFLOW



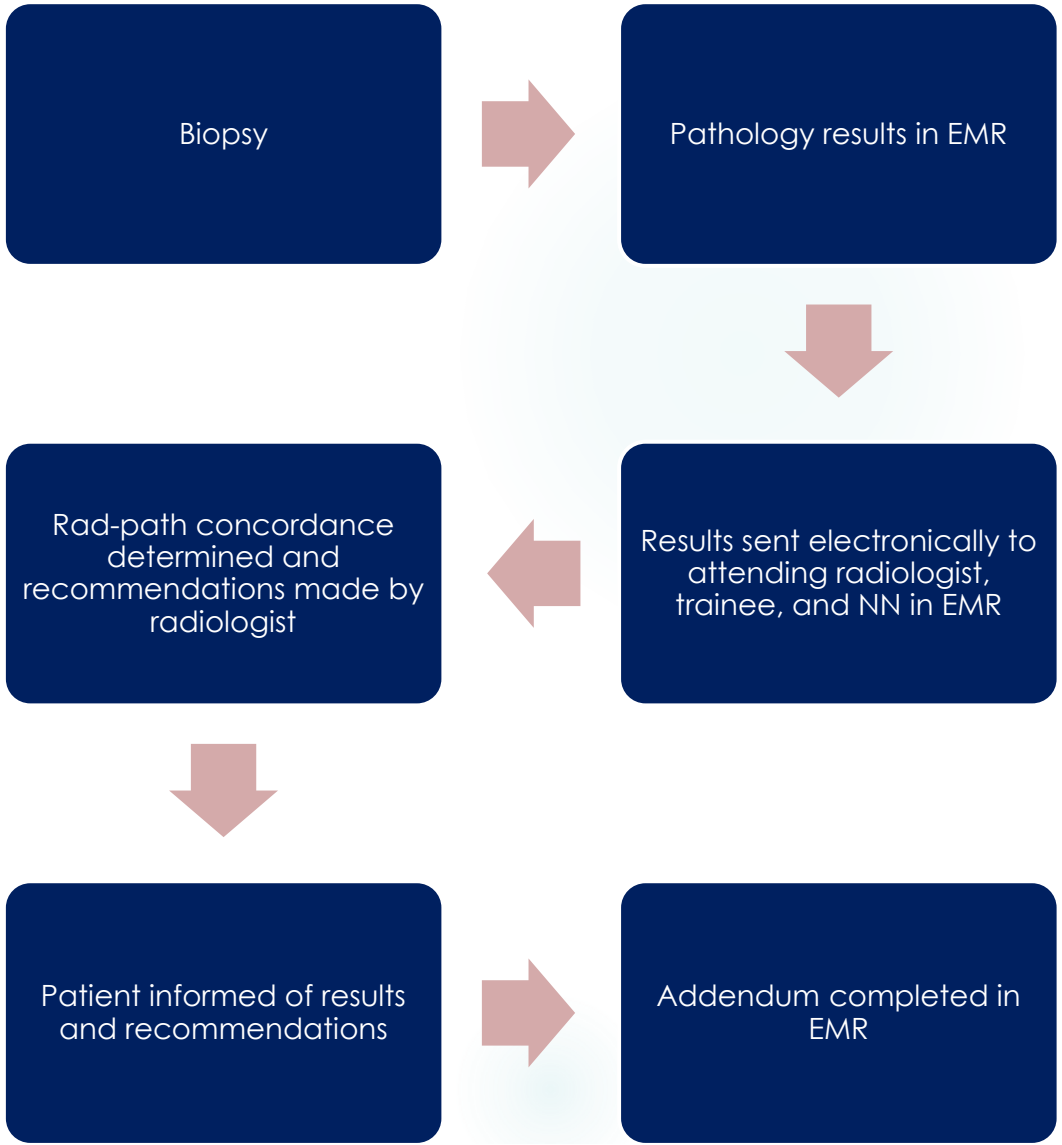
CURRENT WORKFLOW



TAT with the current workflow was between 2 and 4 days. Hence, a Plan, Do Study, Act (PDSA) cycle was implemented to decrease the TAT.

PDSA: PLAN - PROPOSED WORKFLOW

- Topic- improve turn-around time (TAT) from pathology report to result communication to patient.
- **Root cause analysis** identified the major cause of delay to be **the lack of instant electronic notification** for the radiologists once a pathology report became available.
- Activating an **automatic notification in the EMR "in-basket"** of the radiologists involved in the procedure once the pathology report was finalized.
- Measurement: TAT (time between finalized pathology report and radiology addendum).
- Desired measurement target and goal: <24 hours.
- Predicted measurement result: 24-48 hours.



PDSA: DO - Methods/Data Collection

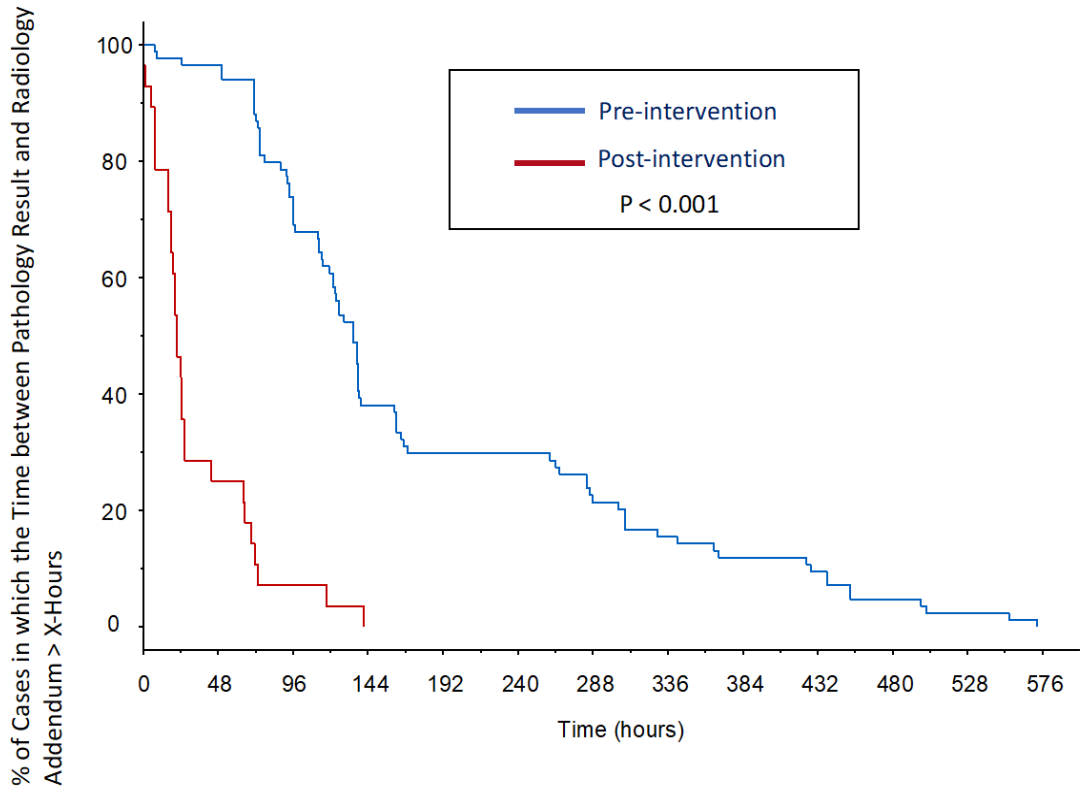
- Time of **finalized pathology report** and **radiology report addendum** were collected from the EMR for breast biopsies done between 1/2/2019 and 1/21/2019 and 1/3/2020 and 1/31/2020.
- Number of data points collected:
  - 80 patients who had undergone breast biopsy at the UVA breast care center all 5 attending radiologists between 1/2/2019-1/31/2019.
  - 28 patients who had undergone breast biopsy at the UVA breast care center by three selected attending radiologists between 1/3/20-1/31/20.
- Median time interval between release of finalized pathology report and completion of radiology addendum in EMR was measured for the two groups.
  - The median time (with 95% CI) between finalized pathology report and radiology addendum being completed in EMR was calculated for the pre-intervention and post-intervention groups.
  - A logarithmic rank test was performed to test the null hypothesis that the median time between finalized pathology report and radiology addendum is the same for the pre-intervention and post-intervention groups.

	Pre-Intervention	Post-intervention
Number of patients	80	28
Timeframe	1/2/19-1/31/19	1/3/20-1/31/20
Number of attending radiologists	All five attendings of the breast care center in January 2019 prior to the intervention	Three of the five attendings selected to participate in this study in January 2020

PDSA: STUDY - RESULTS

- The post-intervention median TAT was significantly less than the predicted result of 24-48 hours.
- The post-intervention median TAT was less than the desired target goal of <24 hours.
- The baseline results met our target goal.

PDSA: STUDY - RESULTS



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Post-intervention median: 21.6 hours (95% confidence interval: 17.6-26.0 hours)

Cumulative empirical distributions for the **pre-intervention** and **post-intervention** groups with respect to the percentage of cases in which the time between finalized pathology result and radiology addendum is greater than the time in hours on the x-axis. P denotes the p-value of the log-rank test for testing the null hypothesis that the cumulative distribution function is the same for both groups.

PDSA

- Topic- improve turn-around time (TAT) from pathology report to result communication to patient
- **Root cause analysis** identified the major cause of delay to be **the lack of instant electronic notification** for the radiologists once a pathology report became available.
- Activating an **automatic notification in the EMR "in-basket"** of the radiologists involved in the procedure once the pathology report was finalized.
- Measurement: TAT (time between finalized pathology report and radiology addendum)
- Desired measurement target and goal: <24 hours
- Predicted measurement result: 24-48 hours

- Time of **finalized pathology report** and **radiology report addendum** were collected from the EMR.
- Number of data points collected: 28 patients who had undergone breast biopsy at the UVA breast care center by the three selected attending radiologists between 1/3/20-1/31/20
- Baseline measurement value calculated: 21.6 hours (95% confidence interval 17.6-26.0 hours)

- The post-intervention median TAT was significantly less than the predicted result of 24-48 hours.
- The post-intervention median TAT was less than the desired target goal of <24 hours.
- The baseline results met our target goal.

- Our project met performance goal and was adopted to improve practice

CONCLUSIONS

- Time between finalized pathology report and radiology report addendum for breast biopsies was reduced significantly - from over 48 hours to under 24 hours - by this PQI initiative.
- Our initiative is being applied to all breast procedures at our practice.
- Further investigation is needed to ensure that this is generalizable to other breast imagers in our practice.