Resident-Led Quality Improvement of Screening Chest CT Results Reporting in a Veterans' Affairs Primary Care Clinic

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Introduction & Background

- Veterans Health Administration Survey of Healthcare Experiences of Patients (SHEP) scores for Cleveland Wade Park Veterans' Affairs Medical Center (WPVA MC) show deficiencies in patient satisfaction with reporting of test results
- Quality Improvement (QI) team identified screening Chest Computed Tomography (CT) scans as one patient test that requires timely reporting to patients
- Problem: proper documentation of screening Chest CTs in the WPVA MC primary care setting
- What is the harm?[1]
  - Delayed or missed diagnosis of disease
  - Patient anxiety over not knowing results
  - Waste of resources
  - Decreased patient satisfaction and confidence in provider

Aim

- To increase by 50% from baseline the documented reporting of screening chest CT results to patients n the Wade Park VA primary care clinic by June 2018

Baseline Data

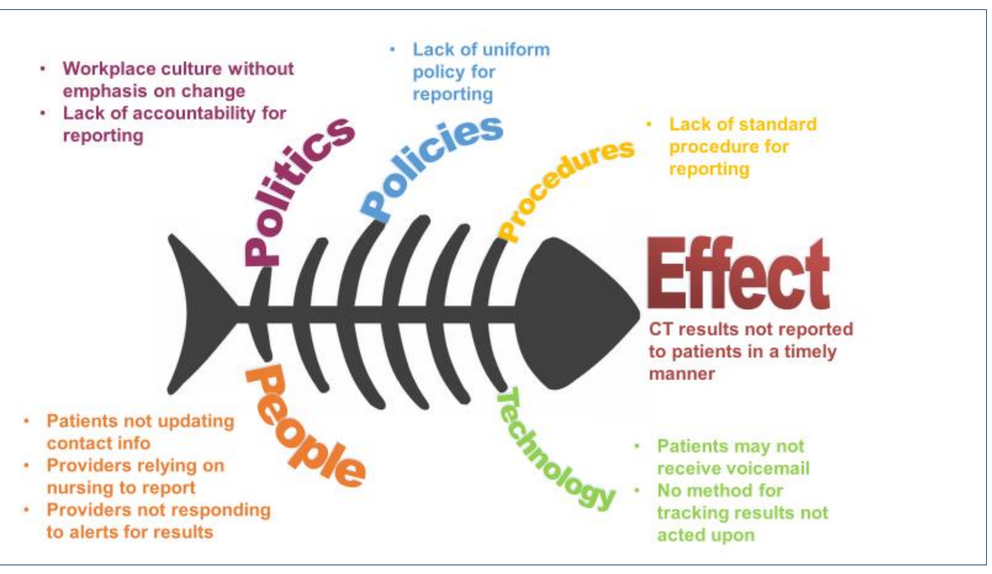

Figure 1: Fishbone/Ishikawa Diagram of Factors Limiting Reporting of Chest CTs

- Why are screening CT results not followed up on?[2]
  - Providers not viewing alerts for abnormal imaging
  - No alert system for normal imaging
  - Issues with communicating to the patient
- Retrospective chart review of all Chest CTs ordered 6/1/17 to 8/1/17
- Inclusion: Chest CTs completed for Center of Excellence (COE) resident managed patients (40 patients)
- Exclusion: chest CTs ordered by Specialty clinics for reasons other than routine screening (26 patients)
- Chart review conducted for documented communication of results to patients per VA policy (within 14 days for results not requiring action, 7 days for results requiring action)[4]

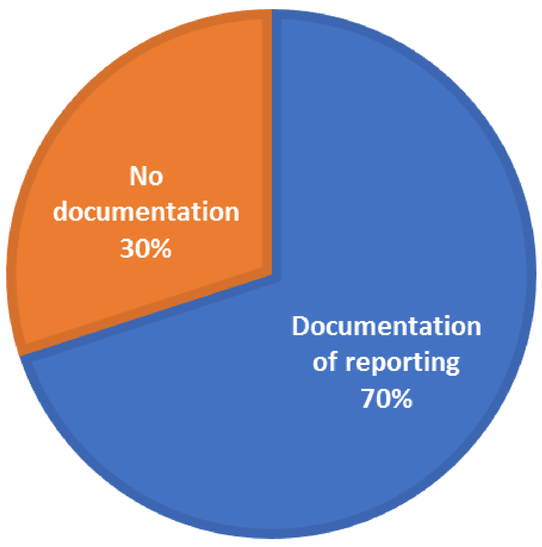

Figure 3: Pre-intervention CT Results Reporting

- Provider surveys collected to evaluate current reporting trends
- Most providers used a variety of methods to communicate results
- 38% of providers did not routinely check to make sure that results were communicated[3]
- 92% or providers thought that a reminder would be helpful

References

1. Singh, H., Thomas, EJ., Mani, S., Sittig, D., Arora, H., Espadas, D., Khan, MM., Petersen, LA. (2009). *Arch Intern Med.* 2009;169(17):1578–1586. doi:10.1001/archinternmed.2009.263
2. Singh H, Arora HS, Vij MS, Rao R, Khan MM, Petersen LA. *Journal of the American Medical Informatics Association : JAMIA*. 2007;14(4):459-466. doi:10.1197/jamia.M2280.
3. Litchfield IJ, Bentham LM, Lilford RJ, Greenfield SM. *Family Practice*. 2014;31(5):592-597. doi:10.1093/fampra/cmu041.
4. Veterans affairs test result follow-up procedure: https://www.va.gov/oig/pubs/VAOIG-13-01741-215.pdf. Accessed 2/1/18.

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Process

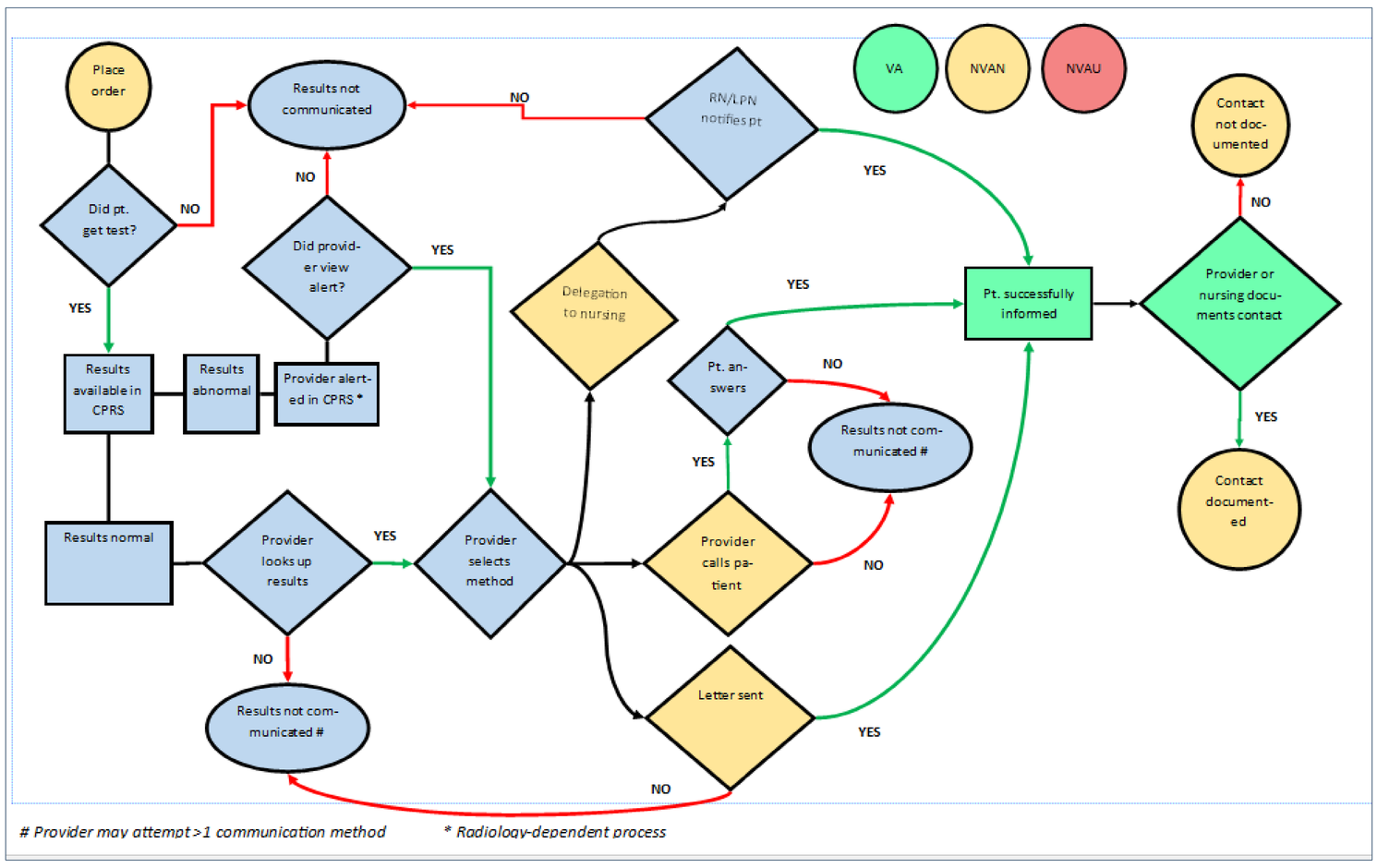


Figure 2: Process Map of Pre-Intervention Reporting of Screening Chest CTs

Intervention & Results

Results Template

"Based on the results of the CT scan of your chest, we believe that you have what is known as a "nodule" in your lungs. Nodules are sections of your lung tissue that look different than the surrounding area; we do not know that these are exactly. They can be benign (not harmful) or a sign of changes to the lung that we need to address in the future. Nodules are NOT medical emergencies; they can be found in up to half of patients who have this screening test done. Because of your individual CT scan results, I recommend that we repeat this test again in __ months."

Figure 4: CT Results Letter Template Intervention

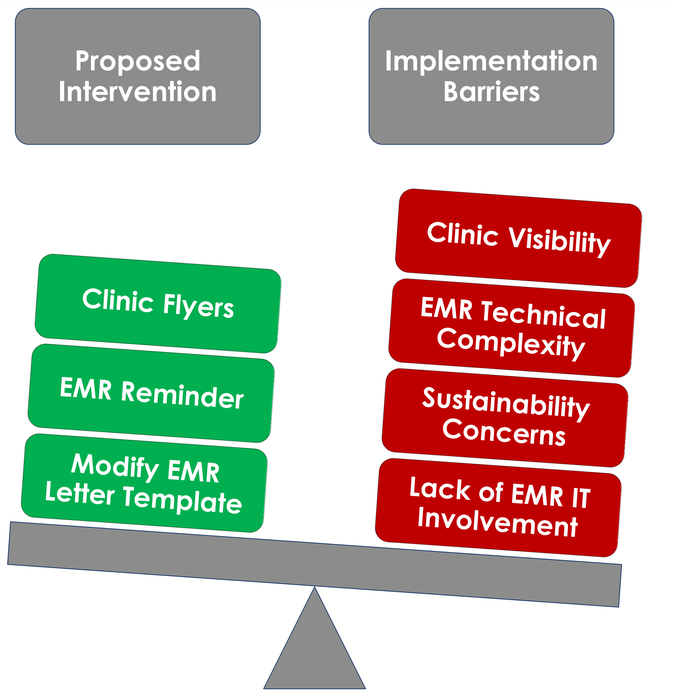


Figure 5: Proposed Interventions and Barriers

- Multiple interventions were considered but had barriers to implementation (Figure 5)
- Intervention: Results Template (Figure 4) text uploaded to shared server drive for provider access to copy into Electronic Medical Record (EMR) blank patient letters
- Access information and location of template provided during twice weekly provider "huddles" prior to seeing patients
- Results: Retrospective chart review of all Chest CTs ordered 2/1/18 to 4/1/17 with same inclusion and exclusion criteria as baseline data

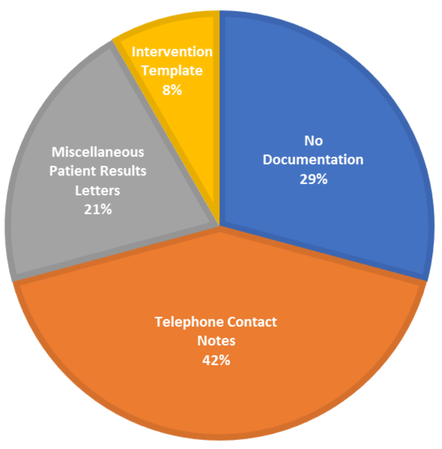


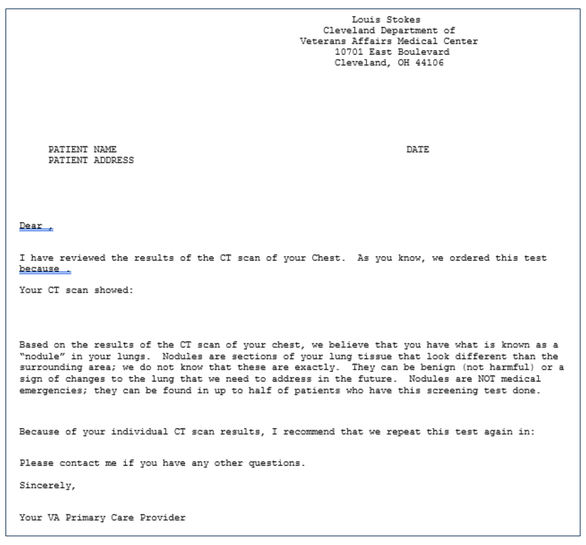
Figure 6: Post-intervention CT Results Reporting

Conclusions & Limitations

- Intervention was not successful: documented reporting of screening Chest CT result to patients increased only 1% from baseline (only 2 instances of utilization of template)
- Barriers were numerous and involved many different systems
- QI team lacked liaison for EMR issues and data collection
- Multiple approval steps required (including section chief and EMR) in order to modify existing EMR documents
- Lack of computing power to automatically import data into note template
- Change originated from local rather than federal initiative
- Lower-tech interventions are cumbersome for providers to implement
- Investigators not available for regular weekly reminders for use

Lessons Learned & Next Steps

- Implementing changes in technological infrastructure, as well as in medical/clinical settings is complex and requires buy-in from multiple administrative and technology support team members
- Access to experts who can champion the project increases the likelihood of success
- After the first Plan-Do-Study-Act (PDSA) Cycle, plans made for second cycle
- Once EMR changes are possible, will plan to implement dedicated Chest CT patient results letter template (Figure 7)



Louis Stokes
Cleveland Department of
Veterans Affairs Medical Center
10701 East Boulevard
Cleveland, OH 44106

PATIENT NAME
PATIENT ADDRESS

DATE

Dear ,

I have reviewed the results of the CT scan of your Chest. As you know, we ordered this test because .

Your CT scan showed:

Based on the results of the CT scan of your chest, we believe that you have what is known as a "nodule" in your lungs. Nodules are sections of your lung tissue that look different than the surrounding area; we do not know that these are exactly. They can be benign (not harmful) or a sign of changes to the lung that we need to address in the future. Nodules are NOT medical emergencies; they can be found in up to half of patients who have this screening test done.

Because of your individual CT scan results, I recommend that we repeat this test again in:

Please contact me if you have any other questions.

Sincerely,

Your VA Primary Care Provider

Figure 7: Proposed EMR dedicated CT Results Letter Template