



“Closing the Safety Net” on Pulmonary Nodule Incidental Findings

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Problem Statement

Incidental imaging findings require an assessment of risk and clinical relevance, as well as consideration of further evaluation. Incidental findings are common on imaging obtained in the hospital, with pulmonary nodules being among the most frequent findings that may require additional evaluation.*

WellSpan began a quality of care initiative in 2015 to develop a system response to the patient safety issue of unaddressed imaging findings and related follow up recommendations, by defining and developing an Incidental Finding Pulmonary Nodule Registry. A Registered Nurse is hired/trained to the Incidental Findings Care Coordinator (IFCC) role.

*Reference - J Hosp Med. 2017 Jun;12(6):454-457. doi: 10.12788/jhm.2757. Incidental Pulmonary Nodules Reported on CT Abdominal Imaging: Frequency and Factors Affecting Inclusion in the Hospital Discharge Summary. Bates R1, Plooster C1, Croghan I2, Schroeder D3, McCoy C1.

Current Condition

Patient imaging study results identify a pulmonary nodule that is incidental to the primary reason for the study, and the radiologist provides recommendations. These results are not always communicated to the patient or practitioner, and/or the recommended follow up has not been arranged. Specific related follow up guidelines were not followed.

Problem Analysis

1. Incidental Findings are identified, but are secondary to the original/focus of the imaging study.
2. The ordering practitioner may not be the primary care physician, i.e. an ED physician.
3. Missed early identification of lung cancer.
4. Patients being identified in end stage lung disease.
5. Communication gap to Primary Care Physician (PCP).

Implementation- Oncolog Tool Development

Oncolog is used as a database to document; number of nodules, size, type and the location of nodule(s). Fleishner guidelines are the criteria to determine urgency of follow up for nodules. Practitioners use these guidelines to determine the next imaging follow up that is needed for the patient.

Goal

To develop a System response to the patient safety issue of unaddressed imaging findings by defining and development of a Pulmonary Nodule Registry and related policy/procedure. To identify those nodules/incidental findings and assure follow-up communication within existing clinical resources, improving patient care and related follow-up direction/planning.

Costs/Benefits

Impact Summary: The purpose of the registry is to act as a safety net for WellSpan patient imaging study communication/follow up care gaps to the PCP, for those studies that identify incidental findings. Due to the Incidental findings care coordinator intervention/efforts, there is identified revenue resulting/inferred, that covers the program expense. The PCP/ACP is unaware OR has not acted on the pulmonary nodule in **12% of all patients reviewed.**

656 Chest CTs and 90 PET scans were done as the result of IFCC impact from July 2017 – June 2018.

Expected Net ROI = \$132,332.

Results

July 2017 through June 2018:

- **5119** patients were reviewed for pulmonary nodules.
- **4771** (93%) patients were closed to IFCC follow up. It was confirmed that all the closed patients are being followed by either a PCP or specialist (pulmonologist, CT surgery, oncology).
- **860 follow up exams** were performed.
- **1264 consultations** were performed (pulmonologist, CT surgery, oncology).

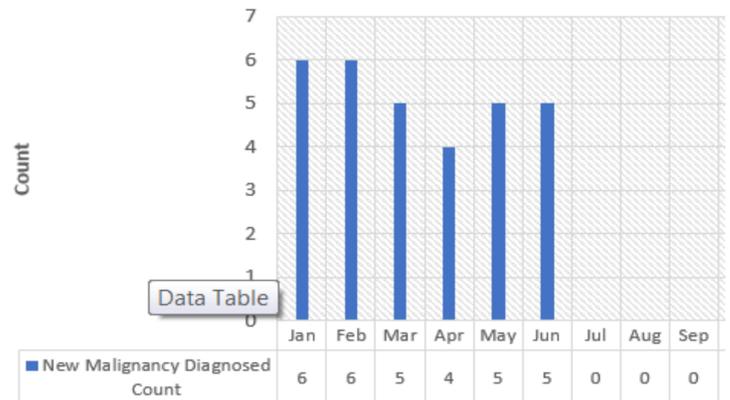
Significant Nodule findings reviewed :

- 3611 > 4 mm size
- 216 were Spiculated (suspicious for malignancy)
- 290 were ground glass
- 331 were specified as solid
- 439 were noncalcified

New Malignancies : 45 new lung cancers identified

These new malignancies did not include malignancies identified as metastases from other primary sources.

New Malignancy Diagnosed Count



Incidental Findings Care Coordination Impact

Once the IFCC RN received the incidental finding pulmonary nodule notice, a thorough research of the record is performed. The following findings have been determined:

- **Unaware-** The PCP or other provider is unaware of the nodule identified on imaging study. The IFCC RN has notified the provider, and the recommended care is now planned/initiated. **Average 47 patients/month.**
- **Aware-** The PCP or other provider is aware of the nodule identified on imaging study. However, treatment is not evidently planned/initiated. The IFCC RN notified the provider and the recommended care is now planned/initiated. **Average 4 patients/month.**

51 patients/month are positively impacted by the IFCC program

IFCC Impact

