Are follow-up chest x-rays being performed according to British Thoracic Society Guidelines on adults diagnosed radiologically with Community Acquired Pneumonia?

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INTRODUCTION:
The aim of this audit was to evaluate whether follow-up chest x-rays were performed on adults diagnosed with Community Acquired Pneumonia (CAP) radiologically, according to British Thoracic Society national guidelines.

BACKGROUND:
Each year, 0.5-1% of adults in the United Kingdom develop CAP (1). Diagnosis is based clinically on signs and symptoms of an acute lower respiratory tract infection such as a productive cough, chest pain, haemoptysis and breathlessness. This can be confirmed by a chest x-ray demonstrating new opacities and consolidation not due to any other cause (1). CAP is associated with significant mortality, with 5-14% of those admitted to hospital due to the severity of their illness dying from it.

Lung cancer is the second most prevalent cancer in both men and women. There were 43 500 new cases diagnosed in the United Kingdom in 2011 (2). Late presentation is common and therefore the mortality associated with the disease is significant, accounting for 1 in 5 deaths from cancer. Unfortunately, many of the symptoms of pneumonia are also found in patients diagnosed with lung cancer. Patients who have lung cancer are also more susceptible to superadded infection. As infective radiological changes may mask an underlying undetected malignancy, follow-up x-ray should be performed within 6 weeks to ensure resolution of radiographic opacities, as would be anticipated in pneumonia (1).

METHODOLOGY:
1. To retrospectively identify 100 cases of radiologically diagnosed CAP in adults who presented through the emergency department of a busy city hospital.
2. To quantify the number of those who went on to have a 6 week follow-up chest X-ray as per national guidelines.
3. To assess how information is communicated between clinicians in the requesting of follow-up chest radiography and devise local guidelines for future patients to be implemented by the radiology and emergency departments to facilitate this.

AUDIT STANDARD 100% Compliance:
A chest radiograph should be arranged within 6 weeks for all adult patients diagnosed radiologically with CAP who are at higher risk of underlying malignancy:
• >50 years of age
• Smokers of any age

INCLUSION CITERIA:
• Adults >18 years of age.
• Diagnosed with CAP on first chest x-ray at the time of presentation to hospital through the emergency department.

Patients were recorded as deceased if death occurred within the 6 week time frame for the purposes of data analysis. For those in whom a suspected pneumonia was identified, the radiology report recommendations in terms of follow-up imaging were recorded. Examples of reporting phraseology were also documented.

RESULTS:
107 cases of CAP were retrospectively identified during September 2014. If patients had undergone any form of chest imaging within 6 weeks, they were deemed to have fulfilled the audit standard.

Only 55/107 (51%) of patients fulfilled the national Guidelines for undergoing follow-up chest imaging. This means that potential lung cancer diagnoses may be delayed.

CONCLUSION:
Only 55/107 (51%) of patients fulfilled the national Guidelines for undergoing follow-up chest imaging. This means that potential lung cancer diagnoses may be delayed.

Suggestions for improving the diagnostic pathway include insertion of a macro into the radiology report:
“CXR appearances are suggestive of infection. Repeat CXR in 6 weeks after appropriate treatment is recommended to ensure resolution of changes”.

This will provide consistent guidance for clinicians and remove ambiguity of interpretation of the radiology report. It is proposed that this generate a recall appointment sent directly to the patient for a follow-up chest radiograph.