

3.11 A prospective audit of chest x-ray reporting accuracy by non-consultant hospital doctors (NCHDs): A comparison between in-hours and out-of-hours shifts during one week of acute medical admissions - St Lukes' General Hospital Kilkenny

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Background: The reading of chest x-rays (CXR) for acute medical patients is an essential skill for admitting doctors, with previously described NCHD inaccuracy^{1,2}. We assessed the accuracy of NCHD reporting and whether a difference existed between in-hours and out-of-hours.

Methods: A one-week prospective audit of medical admissions was performed. NCHD's report, radiology report and CXR report time were recorded. Four distinct outcomes were established: true positive, true negative, false positive and false negative. (Table 1)

Results: Ninety-six patients were admitted, 86 had a CXR performed. 58 admission notes commented on the CXR (67.4%). There were ten true positives and twenty-three true negatives. Sixteen reports were available during the same shift with median time to report of 1.53 hours, zero false positives (0%) and one false negative (6.25%). 42 reports were available at a later shift/day with median time to report of 17.16 hours, ten false positives (23.8%) and six false negatives (14.3%).

Conclusion: Accuracy in CXR reporting varied which may correlate with report availability. This may lead to inappropriate omission or commission of treatment which impacts patient outcomes. The results highlight the need for formal NCHD teaching on CXR reporting which we plan on implementing locally, in the first instance.

Conflict of Interest: The authors declare that they have no conflict of interest.

References:

1. Assessing the standard and accuracy of chest x-ray reporting by medical physicians in an acute medical take. Imran Satia, Razwana Ahmed, Fawad Zaman, Stuart Mellor *European Respiratory Journal* Sep 2012, 40 (Suppl 56) P643
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Table 1. Total number and percentages of each possible outcome separated by time of report availability.

	N =	T r u e positive	True negative	False positive	False negative	Report transcribed or Dr. telephoned with result
CXR available same shift	16	3 (18.8%)	4 (25%)	0 (0%)	1 (6.25%)	8 (50%)
CXR available at a later shift/day	42	7 (16.7%)	19 (45.2%)	10 (23.8%)	6 (14.3%)	0 (0%)
Total	58	10 (19%)	23 (39.7%)	10 (17.2%)	7 (13.7%)	8 (13.7%)

Table 1. True positive: a positive finding reported by both radiology and NCHD. True negative: a normal CXR reported by both radiology and NCHD. False positive: NCHD reports a finding subsequently not described in radiology report. False negative: NCHD fails to report a finding subsequently described in radiology report.