Homerton University Hospital NHS
NHS Foundation Trust

Canterbury Christ Church University

Diagnostic Accuracy of Radiographer Chest X-ray Reporting

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- Why radiographer reporting?
- Study design
- Results
- Implications for practice

Why Radiographer CXR Reporting

- Sustained increases in radiology activity[1]
- Significant reporting backlogs[2]
- Diagnostic capacity highlighted as barrier to improved care[3,4]
- Promising initial research[5,6,7]

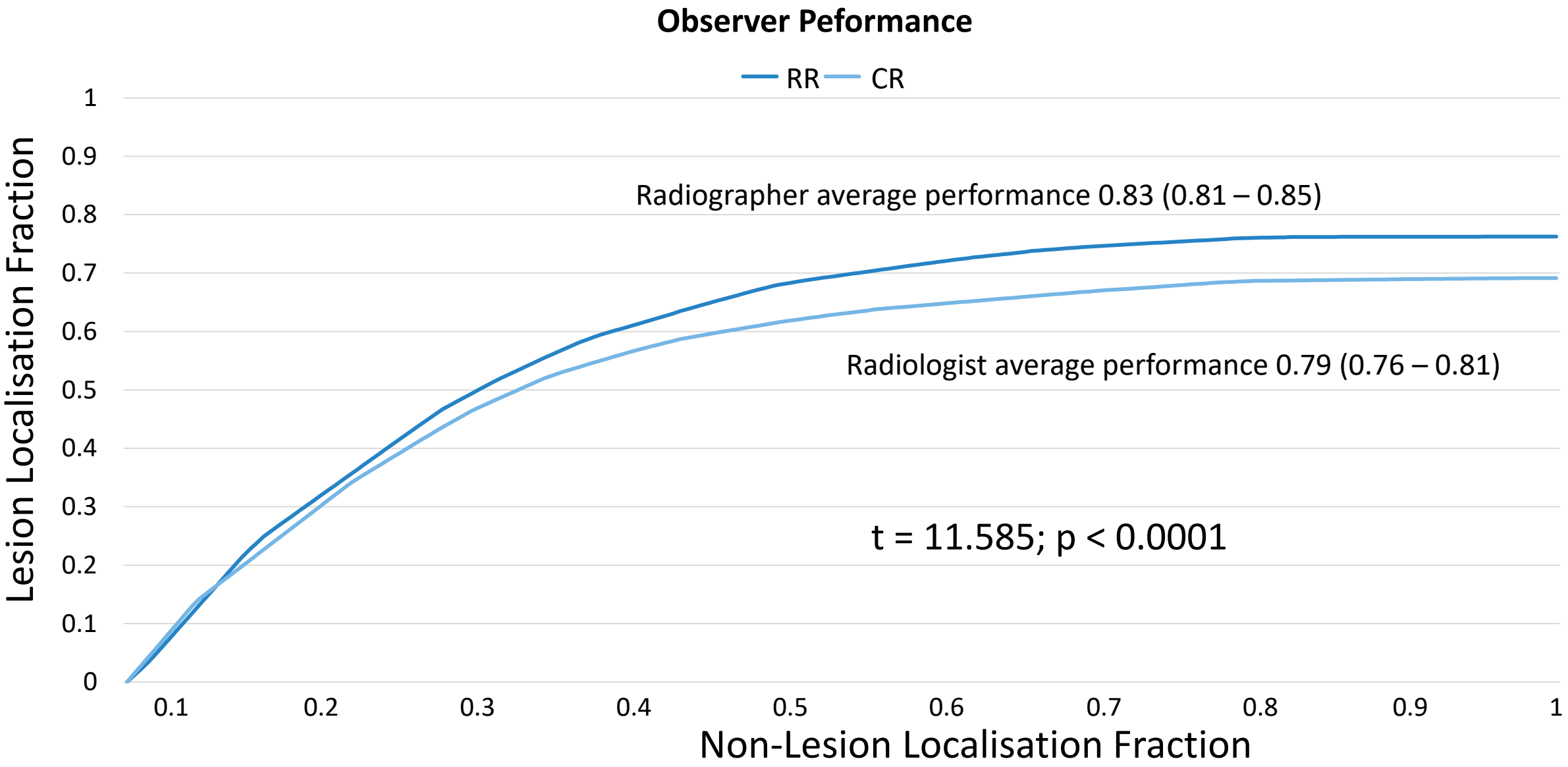
1 – Diagnostic Imaging Dataset 2016; 2 – RCR Our patients are still waiting… 2016; 3 – Independent Cancer Taskforce 2015; 4 – 2020 Delivery Horizon Scanning 2015;
5 – Piper *et al. Radiography 2014;20:94;* Woznitza *et al. Radiography* 2014;20:223; 7 – Woznitza *et al. Radiography* 2014;20:258

Study Design

- 10 consultant radiologists & 11 reporting radiographers
- 106 adult chest x-rays with robust reference standard diagnosis
- Normal reporting conditions
- Free response methodology, analysed using jack-knife approach (JAFROC)
- Non-inferiority approach[1,2]

1 – RCR & SCoR team working in clinical imaging 2012; 2 – Piaggio *et al.* JAMA 2012;308:2594

Results: weighted JAFROC



Weighted JAFROC: Experience vs. Current Volume

	Consultant Radiologists			Reporting Radiographers		
	Volume			Volume		
Experience	< 5,000	5,001 – 9,999	≥ 10,000	< 5,000	5,001 – 9,999	≥ 10,000
0 – 5 years	0.809 n=2	^	^	0.839 n=1	0.839 n=4	0.803 n=1
6 – 9 years	0.760 n=4	^	^	0.824 n=1	0.844 n=2	0.822 n=1
≥ 10 years	0.787 n=2	0.813 n=2	^	^	^	^

Implications for Practice

- With appropriate postgraduate education, reporting radiographers are able to interpret chest X-rays at a level comparable to consultant radiologists
- Sustainable & safe capacity increase
- Opportunity for redesigned patient pathways, including lung cancer

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Questions?

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