Diagnostic and Quality Improvement Insights Enabled by a Comprehensive NLP Pipeline for Radiology and Pathology Reports

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Radiologists and pathologists produce data-rich reports that contain information used by physicians throughout the healthcare system to deliver quality patient care. Most of the data is in plain text and inaccessible to simple queries, which is an obstacle to diagnostic quality improvement initiatives. We have implemented a program called PATHFINDER that applies comprehensive NLP to all radiology and pathology reports enabling accurate radiology-pathology correlation to support education, quality improvement, and diagnostic accuracy assessment. We will review the basic architecture of PATHFINDER and demonstrate its usefulness in measuring radiologist diagnostic accuracy and measuring the impact of clinical decision support on PE detection from the ER.

Monthly CTPA Positivity Before and After Clinical Decision Support
PE Positivity determined automatically for 6953 exams using PATHFINDER report annotations