Visualizing Imaging Pathways after Anatomy-Specific Follow-Up Imaging Recommendations

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Abstract : Radiologists routinely make follow-up imaging recommendations, usually based on established clinical practice guidelines, such as the Fleischner Society guidelines for managing lung nodules. In order to ensure optimal care, it is important to make guideline-compliant recommendations, and also for patients to follow-up on these imaging recommendations in a timely manner. However, determining such compliance rates after a specific finding has been observed usually requires many time-consuming manual steps. To address some of these limitations with current approaches, in this paper we discuss a methodology to automatically detect finding-specific follow-up recommendations from radiology reports and create a visualization for relevant subsequent exams showing the modality transitions. Nearly 5% of patients who had a lung related follow-up recommendation continued to have at least eight subsequent outpatient CT exams during a seven year period following the recommendation. Radiologist and section chiefs can use the proposed tool to better understand how a specific patient population is being managed, identify possible deviations from established guideline recommendations and have a patient-specific graphical representation of the imaging pathways for an abstract view of the overall treatment path thus far.