# Impact of a Common Interpretation Platform on Pediatric Imaging

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Introduction: Historically, access to subspecialty radiologist interpretations has demonstrated a rural-urban divide which has been even more pronounced in pediatric radiology. A dramatic rise in teleradiology services accelerated by the Covid-19 pandemic has shifted this paradigm. Although access has improved, notable barriers to the availability of subspecialty radiology interpretation remain. This study explores the effects of a common interpretation platform on access to pediatric radiology subspecialist interpretations.

Methods: We present a retrospective study of pediatric radiology examinations at a large private multi-specialty practice servicing several hospital systems in Michigan. Studies for patients under 18 years of age were identified by billing audit. Interventional and mammographic codes were excluded. Studies were divided into 3 timeframes: before, during, and after transition to a common integrated EMR-PACS platform. The percentage of total studies interpreted by pediatric subspecialty radiologists and average turn-around time (time from upload of the study to signing of the report) were calculated for these timeframes.

Results: A total of 288,287 examinations met inclusion criteria. At the children's hospital, 84.4% of studies were interpreted by pediatric radiologists during the baseline timeframe compared to 91.2% after the transition was complete. At the other covered hospitals, 38.9% of studies were interpreted by pediatric radiologists during the baseline timeframe compared to 73.8% after the transition was complete. These increased percentages correlated with a 375% increase in the absolute number of studies read by pediatric radiologists. These increased percentages also correlated with improved turn-around time for study interpretation by 03:24:36 during the same timeframes. In summation, implementation of a common imaging interpretation platform resulted in significantly improved access to pediatric radiology subspecialty interpretation of pediatric studies and improved turn-around time for those interpretations.

Conclusions: Our study demonstrates that implementation of a common interpretation platform provides scalable opportunity for improvements in access and turn-around time for specialized pediatric radiology coverage. Transitioning to a such a platform would be expected to result in improvements in the same metrics in other radiological subspecialties as well.

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