

A filmless radiology department in a full digital regional hospital: Quantitative evaluation of the increased quality and efficiency

Reggio Emilia hospital installed Picture Archiving and Communications Systems (PACS) as the final step towards a completely digital clinical environment completing the HIS/EMR and 1,400 web/terminals for patient information access. Financial benefits throughout the hospital were assessed upfront and measured periodically. Key indicators (radiology exam turnaround time, number of radiology procedures performed, inpatients length of stay before and after the PACS implementation, etc.) were analyzed and values were statistically tested to assess workflow and productivity improvements. The hospital went "filmless" in 28 weeks. Between the half of 2004 and the respective period in 2003, overall Radiology Department productivity increased by 12%, TAT improved by more than 60%. Timelier patient care resulted in decreased lengths of stay. Neurology alone experienced a 12% improvement in average patient stay. To quantify the impact of PACS on the average hospital stays and the expected productivity benefits to inpatient productivity were used a "high level" and a "detailed" business model. Annual financial upsides have exceeded \$1.9 millions/year. A well-planned PACS deployment simplifies imaging workflow and improves patient care throughout the hospital while delivering substantial financial benefits. Staff buy-in was the key in this process and on-going training and process monitoring are a must.