What is PACs?

Picture archiving and communication systems have been around for over two decades. PACs is the “hard drive” of medical imaging. It eliminates the need to transport physical films to other facilities and/or physicians by providing storage and management of medical images. PACs works along with other systems such as DICOM and RIS. They easily allow medical facilities to capture, store, and share images with many hospitals. PACs handles images from many modalities such as MRI, CT, and ultrasound.

What does PACs do for Radiology?

In order for PACs to play an effective role in Radiology, it has to consist of four components: the imaging modalities, a secure network to hold patient information, a workstation to review images, and an archive to store and retrieve images and reports. In the digital era of radiology, picture archiving and communication system (PACS) has a pivotal role in retrieving and storing the images. Integration of PACS with all the health care information systems such as health information system, radiology information system, and electronic medical record has greatly improved access to patient data at anytime and anywhere throughout the entire enterprise. Any failure in hardware or software could interrupt the workflow or data and consequently, would risk serious impact to patient care. Any large-scale PACS now have an indispensable requirement to include deployment of a disaster recovery plan to ensure secure sources of data. In RIS-PACS systems, potential errors occurring during the execution of a radiologic examination can amplify the clinical risks of the patient during subsequent treatments.

Conclusions the RIS-integrated module has been the starting point for managing and monitoring errors, allowing improvement initiatives to guarantee and optimize workflow. Request and event traceability have allowed us to define personalized training programs, designed to minimize procedural and/or systematic errors. To protect the availability and consistency of information produced by radiology units, it is necessary to provide integrated and effective mechanisms for reconciliation management. Radiographers and radiologists can indicate non-compliances in an efficient and effective manner, informing all the operators involved with just a click of the mouse. Similar functionality should be implemented in the next generation of RIS-PACS in order to maintain the highest possible safety level for patients and workers.

The Future

An archive is a location containing a collection of records, documents, or other materials of historical importance. An integral part of Picture Archiving and Communication System (PACS) is archiving. When a hospital needs to migrate a PACS vendor, the complete earlier data need to be migrated in the format of the newly procured PACS. It is both time and money consuming. To address this issue, the new concept of vendor neutral archive (VNA) has emerged. A VNA simply separates the PACS and workstations at the archival layer. This is achieved by developing an application engine that receives, integrates, and transmits the data using the different syntax of a Digital Imaging and Communication in Medicine (DICOM) format. Transforming the data belonging to the old PACS to a new one is performed by a process called migration of data. In VNA, a number of different data migration techniques are available to facilitate transfer from the old PACS to the new one, the choice depending on the speed of migration and the importance of data.

PACS vendors have an indispensable requirement to include deployment of a disaster recovery plan to ensure secure sources of data. In RIS-PACS systems, potential errors occurring during the execution of a radiologic examination can amplify the clinical risks of the patient during subsequent treatments.

The Future of Digital Imaging Without PACs


