

PACS 2.0: an evolution

Implementing a PACS 2.0 strategy can provide significant gains in efficiency and quality of care. PACSGEAR can successfully deploy the system.

Picture archiving and communications systems (PACS) for radiology and cardiology have significantly matured. In the late 1990s, PACS faced technical challenges to deliver images at the right time, in the right place, and with appropriate prior and related information. Today, the majority of PACS are now integrated with a hospital information system (HIS), or electronic medical or health record (EMR/EHR). Through standardised protocols such as DICOM, HL7 and IHE, images are easily associated with the right patient and exam.

What is PACS 2.0?

PACS 2.0 is an initiative to integrate medical imaging from all departments with PACS/EMRs. One of the benefits of EMRs is the ability to store and present all relevant patient information from a centralised and easily accessible system to promote better diagnosis, treatment, and sharing of data between physicians and patients.

The PACS 2.0 approach captures the next wave of connected and integrated imaging between PACS and EMRs. Departments such as dermatology, endoscopy, speech pathology and wound care are generating many different types of imaging. In fact, PACSGEAR has identified over 20 departments that create clinical medical images. These images are rarely integrated with PACS/EMRs, which limits a physician's view of the longitudinal patient record.

Other departments are looking to radiology as an example for digitised image workflow. The lessons learned from PACS implementations in radiology are being applied to other departments, allowing them to expedite their integration with EMRs.

“ The PACS 2.0 approach embodies the next wave of connected and integrated imaging between PACS and EMRs. ”

Why do you need PACS 2.0?

The EMR eliminates the hard-copy workflow. For many departments the paper-based record was used to store images from a patient examination or physician visit. Previously, images and video were stored locally on discs, videotape or DVDs. Other images were stored on physicians' computers or on USB drives, which has caused privacy and security issues in some instances.

Given that most departments do not have a departmental information system such as a radiology information system

(RIS), it is sometimes challenging to identify the context in which the images were taken. The concept of a unique study identifier is not available, which makes it difficult to retrieve data as part of a patient's EMR.

Benefits of PACS 2.0 include:

- **availability of images:** comparison of images to measure treatment progress, sharing data with other physicians and live sharing of video (such as ultrasound)
- **quality and standards of care:** standard study protocols, documentation of regulated studies (gall bladder, ER), structured reporting, and identification of body part and region
- **IT infrastructure:** integration with enterprise storage architecture, centralised data management, and use of existing established technologies and solutions.

PACS 2.0 implementation considerations

When implementing digital workflow for non-standard imaging types, one needs to make clear choices regarding:

- **information systems:** record the appropriate patient and visit information
- **image standards:** ensure that images can be seen and shared
- **acquisition technology:** medical devices and modalities have different image outputs, so acquisition must be accomplished with additional devices and/or software
- **examination identification:** ensure that the examination and the study are linked together so the context of the images does not get lost
- **communication standards:** use industry standards such as DICOM, HL7 and IHE, providing future-proof communication mechanisms
- **workflow requirements:** the workflow for each department will determine the acceptance of an implementation – carefully analyse workflow changes and benefits before implementation
- **PACS/EMR integration:** determine the interfaces between PACS and EMRs so that departmental images can be viewed from the patient record.

PACSGEAR has the solutions and expertise necessary to address all issues related to the successful execution of a PACS 2.0 strategy. ■

Further information

PACSGEAR
www.pacsgear.com
Email: info@pacsgear.com

