

Point-of-care ultrasound

Link ultrasound studies from specialty departments to enterprise systems for improved clinical visibility and care.

In today's healthcare environment where renewed focus has been placed on improving patient outcomes and satisfaction, emergent modalities such as point-of-care ultrasound (POCUS) are becoming more widely adopted by healthcare providers. This innovative solution uses ultrasound technology at the patient bedside to facilitate and expedite clinical diagnosis and increase the accuracy of certain medical procedures (e.g. pericardiocentesis, vascular access for anesthesiology, etc.). POCUS is portable, readily accessible, cost-effective, and has no risk of ionizing radiation. Moreover, it can be performed rapidly almost anywhere — from a busy Emergency Room to a local clinic.

POCUS has the potential to revolutionize healthcare by decreasing complications, limiting pain and suffering for patients, and improving diagnostic capabilities while saving health systems millions in imaging costs. However, several challenges exist when it comes to linking images captured on POCUS devices to enterprise systems such as EHRs. For example, most POCUS technology lacks common worklist features that are typically present in larger departments, such as radiology. Furthermore, POCUS procedures often lack a written physician order that is used to initiate workflow capabilities and aren't always stored or managed in a way that enables enterprise utilization. These functionality gaps mean that the patient and study indexing data are often entered manually, which introduces error into the process and inhibits clinical access to this important health information. Luckily, Hyland Healthcare can help.

Address all the requirements for managing POCUS

Hyland can provide healthcare delivery organizations with all the tools necessary to capture, manage, and visualize the images and video captured by POCUS devices throughout the enterprise. With Hyland's POCUS solution, organizations make this valuable imaging solution available to clinicians in a patient-centered manner via the systems they use most everyday (e.g., EHR, PACS, etc.).

Hyland Healthcare provides the following technologies to automate and streamline this process:

Capture: PACSgear Image Link Encounter Workflow

To increase the speed and accuracy of the indexing process for POCUS devices, PACSgear Image Link Encounter Workflow bridges the worklist functionality gap that currently exists in many POCUS devices by providing access to the HL7 patient and study data generated as part of normal clinical workflows. Using an automated process, Image Link Encounter Workflow can resolve issues with incomplete or incorrect metadata (e.g. order number, accession number, etc.) using a variety of data sources, logic and/or lookup tables. Once updated, the study is then forwarded to the appropriate destination (e.g. Acuo VNA, PACS, etc.).

Manage: Acuo VNA

Once the ultrasound is captured and properly indexed, the content can then be stored and managed in the Acuo VNA. This repository allows the study to be centrally managed within the context of the patient and alongside a variety of other imaging studies (e.g. radiology/DICOM, gastroenterology, dermatology, wound care, etc.). This non-proprietary, vendor neutral platform also makes integrating POCUS content with enterprise clinical systems much easier.

Visualize: NilRead enterprise viewer

Once stored in the Acuo VNA, POCUS studies can be made available enterprise-wide through the NilRead enterprise viewer. This zero-footprint, web-based viewer allows images from any modality to be accessed and referenced by clinicians from within the EHR or on any PC or mobile device.

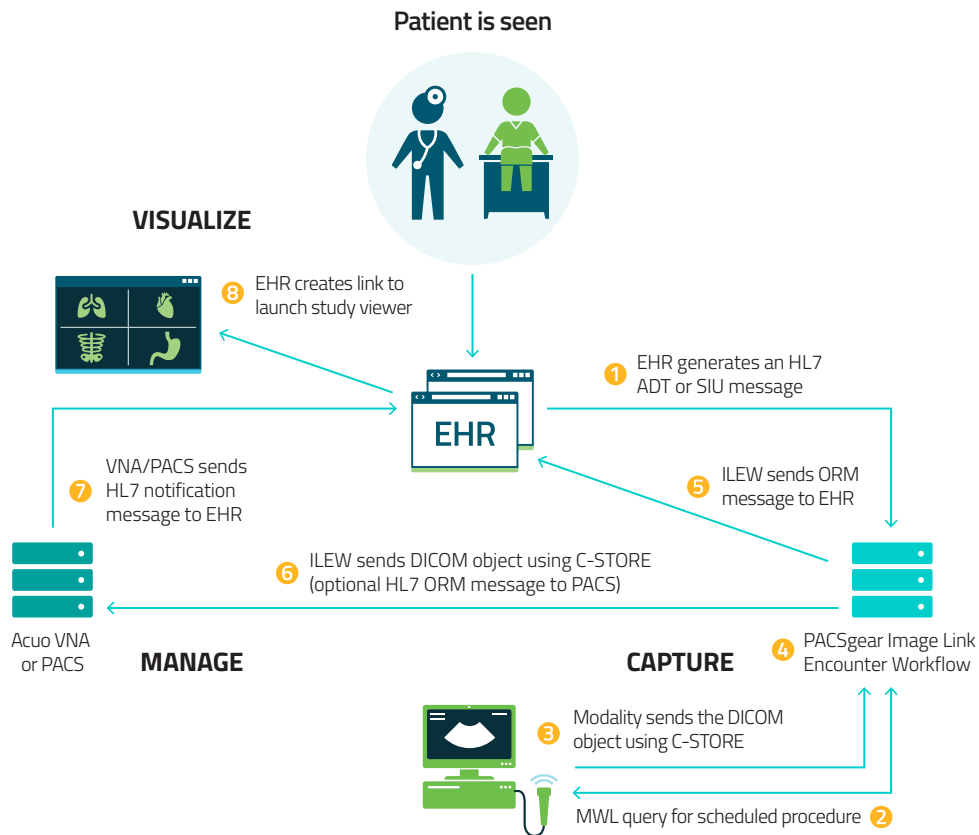
Hyland Healthcare's approach to POCUS eliminates clinical blind spots often created by ultrasound devices, enhancing clinical visibility and improving patient care and outcomes. This common solution framework can also be easily expanded to address the needs of many other image-intensive specialty departments.

Features:

- ▶ Utilizes industry standard protocols to capture, manage, and visualize POCUS studies within an enterprise imaging approach
- ▶ Scalable archive and viewing capabilities that can support POCUS and expand to other department use cases throughout the enterprise
- ▶ Provides methods to standardize workflow capabilities to address downstream requirements
- ▶ Improves charge capture for non-ordered procedures

Benefits:

- ▶ Eliminates clinical blind spots often created by point-of-care imaging devices, enhancing clinical visibility
- ▶ Reduces instances of “dark” or “rouge” data that can put a healthcare organization at risk
- ▶ Provides clinicians enterprise-wide with a more comprehensive patient record that includes POCUS images that can improve diagnosis and outcomes
- ▶ Improves charge capture for non-ordered procedures



1. Patient presents for care and an HL7 message (ADT or SIU) message is generated.
2. The Modality performs a DICOM modality worklist (DMWL) query for the scheduled procedure. The operator selects the appropriate scheduled procedure from a list to ensure proper indexing.
3. The procedure is performed and the Modality sends the DICOM object via C-STORE to ILEW for reconciliation.
4. ILEW Reconciles the received study with the scheduled procedure.
5. ILEW links the order to the patient by sending an HL7 ORM message to the EHR.
6. ILEW sends via C-STORE the reconciled DICOM object to the Acuo VNA or PACS.
7. Acuo VNA or PACS sends an HL7 notification message back to the EHR with an appropriate HTML URL to access the study.
8. The EHR creates an HTML URL within the patient’s medical record to launch the study with NilRead or another enterprise viewer.

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