

Clinical Video and Visible Light Workflow in Your Enterprise

How to Fulfill the Patient Centric Clinical Repository

Healthcare enterprises that have implemented a patient centric clinical repository with the help of vendor neutral archives (VNA) have additional gaps in areas that have been traditionally underserved. The pervasive and increasing use of medical video and visible light in a variety of settings within and outside the hospital introduce several key challenges:

1. Expanding the clinical repository to include medical video and visible light sources
2. Empower clinicians, on-site and off-site, with rapid access to collaboration tools to improve care coordination
3. Video-enable the electronic medical record (EMR) systems.

This white paper outlines the key elements for an efficient, enterprise wide clinical video and visible light workflow system that fulfills the patient centric clinical repository and describes how access and efficient sharing of relevant patient data can bring cost efficiencies, impact staff productivity, and improve patient care coordination.

Identifying Challenges in Clinical Video and Visible Light Workflow

Breaking Down Silos of Workflow

Healthcare providers often have numerous specialized departmental solutions for clinical video and visible light. These dedicated systems increase acquisition and maintenance costs while raising barriers for sharing of information. Low end solutions involve removable media, but more often than not, it is stored locally on the imaging device and eventually lost. High end solutions bring costly projects to digitally integrate sources in a proprietary manner.

As they stand, eliminating silos may not be financially feasible, but establishing a standard based vendor agnostic mechanism to acquire and

connect all the data into the clinical repository can eliminate costs and fulfill the enterprise's goal.

Centralized Access to Clinical Video and Visible Light

The storage and workflow silos make it difficult for clinicians to access patient data scattered across the enterprise. Typical manual workflow to document, share and access information results in time wasted and poor care coordination.

In order to focus on patient care, clinicians should have on demand access to clinical video and visible light from multiple platforms such as PC's and mobile devices with minimal footprint and intuitive design to facilitate immediate access.

Mobility and speed in capture, sharing and workflow

Valuable information may emanate from within or outside the hospital and effective information management requires the ability to capture visible light images and clinical video from any device. The mobility of the capturing capabilities must be equaled by the accuracy in which the information is associated to the patient's clinical repository and speed in which it is shared and made available to clinicians.

Clinical Information Lifecycle Management

Information lifecycle management is an important attribute of any clinical repository, especially where clinical video is concerned. Preventing data explosion of clinical video is crucial for the healthcare organization as it plans its growth and implements the deployment of storage space.

Rules must be specific to the exam type or location in order to better manage the storage consumption of the video repository while ensuring access to critical results is not jeopardized. This optimizes the return on investment for the storage infrastructure.

Supporting Transition to Value Based Care

The transition to value based care models drives healthcare organizations to restructure themselves and redefine their place on a regional and national level. This increases the need to better utilize healthcare IT spend and have a tighter control over clinical and financial operations.

Capital spend must be curbed along with replacing manual and time consuming clinical workflow with a platform that eradicates the mishandling of clinical video and visible light and reduces the exposure to medico-legal risks.

Building an Enterprise Clinical Video and Visible Light Workflow System

While implementing a VNA is important for building an enterprise clinical repository, the next step requires a holistic approach to solving the challenges of clinical video and visible light. An enterprise clinical video and visible light workflow solution serves as an important bridge between the acquisition systems and the storage systems and EMR's to provide the level of access that healthcare professionals need to ensure quality of care.

The optimal clinical video and visible light workflow system must:

1. Implement a centralized and standard approach to acquisition and information lifecycle management
2. Integrate with enterprise and regional solutions to facilitate sharing of information across the care continuum
3. Deliver speedy access to clinicians from any platform or location
4. Increase utilization of existing hospital assets and infrastructure

Standardized Management and Access of Clinical Video and Visible Light Images

Effective clinical video management starts with standardizing the mechanism in which visible light and video is acquired from myriad clinical imaging sources. It is vital to introduce a cost efficient, network efficient and secure method to capture and digitize visible light videos and images from multiple sources across the enterprise.

The platform must support DICOM, HL7, XDS and other industry standards to increase the bi-directional accessibility to the clinical assets as well as efficient on demand multicast capabilities to meet the unique needs when managing clinical videos.

Interoperability with Enterprise Solutions

Building a system that connects with the VNA and EMR using HL7 and DICOM ensures clinical videos and images are efficiently and accurately associated to the patient's clinical repository.

EMR systems are designed to support a wide range of data types and sources, but do not include clinical video and visible light imaging studies, which comprise a significant part in a patient's medical record. Not only does the enterprise repository and viewer must be embedded within the EMR or other exchange portals, it must also be plugged in to the clinical video on demand system, empowering clinicians with a complete view of the patient's record.

It is vital to be able to share the links to the clinical videos and embedding the visible light images in the enterprise systems while providing an efficient workflow to document procedures and share results.

Quality of Care Coordination and Delivery

A clinical video and visible light workflow system must be able to provide on demand and live access any time and from any platform with a well-designed interface that enables clinicians to collaborate on a local, regional and national level to achieve better patient care delivery.

Evidence based case review and conferencing coupled with physician and departmental performance metrics are key elements to build in order to continuously improve quality of care and team coordination.

Multi-system aggregation of images and documents using XDS and XDS-I standards is important to provide clinicians with the full patient's clinical repository at the point of care.

Scalability and Flexibility to utilize IT Infrastructure

To manage imaging data growth and utilize hospital IT infrastructure spend, the architecture of a clinical video and visible light system must be scalable and flexible with minimal footprint, both on the client application and server backend aspects.

Preferably virtual, the platform must comply with the healthcare organizations security and high availability requirements while maintaining ease of

deployment and providing support tools that facilitate the immediate delivery of value to the organization's clinicians.

Orpheus Realizes the Enterprise Patient Centric Clinical Repository

Orpheus is a scalable, vendor agnostic platform that captures clinical video and visible light images from a variety of sources and locations such as OR, endoscopy, pathology, ophthalmology and wound care and realizes a full clinical image repository and workflow system. Users of Orpheus gain rapid access, on demand or live, to patient centric information regardless of their location.

Orpheus breaks down silos of information and workflow by providing on demand and live access from anywhere to medical video and visible light. With Orpheus localized departmental solutions and complex costly projects are eliminated while leaving no image or video behind.

Orpheus empowers clinicians with tools to collaborate, coordinate and improve patient care intra-procedure or post-procedure by providing tools to perform evidence based case review and conferencing

Mobile capture and PC based capturing apps, means that images valuable to patient care are immediately made available within the patient's record whether they were taken inside or outside the hospital. Flexible and customizable clinical reporting modules coupled with video editing, indexing and snapshots ensures accurate documentation and speedy sharing with the EMR and VNA.

Fully interoperable with the hospital's EMR and VNA viewer, clinicians are literally a click away from having full visibility of the patient's clinical video and visible light imaging data.

With minimal footprint and virtualized architecture, Orpheus is fully scalable and fits the healthcare organization's data security, integrity, disaster recovery and high availability policies. The ease of deployment of the client applications and useful support tools empowers the healthcare IT to provide tangible and immediate value to its clinical users.

Orpheus's clinical life cycle management capabilities include smart compression and retention management rules and help in gaining control of imaging data and properly allocate storage capacity.

The vendor agnostic capabilities of Orpheus enables hospitals to control capital expense removing the need to replace or implement costly solutions. With Orpheus the healthcare organization eliminates the mishandling of medical videos and greatly reduces the exposure to medico-legal risks.

In summary, Orpheus is a flexible and powerful clinical video and visible light workflow solution that fulfills the needs for a complete patient clinical repository for the evolving healthcare organization. It helps transition the organization to value based care models by improving patient care coordination and delivery and reducing capital and operational costs.