Wound Documentation Standardization:
Allowing Images to Speak as Loud as Words

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1 St Joseph Health

St. Joseph Health (SJH) is an integrated Catholic health care delivery system sponsored by the St Joseph Health Ministry which is organized into three regions: Northern California, Southern California and West Texas/Eastern New Mexico. SJH provides a comprehensive range of care through a variety of facilities, including **14 acute care hospitals**.

2 Background

Consistent and accurate documentation of wound and pressure ulcers is critical for quality patient care. The initiation of the CMS Hospital-Acquired Conditions—Present on Admission (HAC-POA) program has made the documentation of wound and pressure ulcers fiscally essential, because either absent or inaccurate documentation can have a huge impact to reimbursement and ultimately the financial health of an organization. (Snow, et al, 2012)

In 2009, the SJH Wound Care Collaborative began the process to access the current state of wound care documentation across facilities. Clinical Informatics (CI) joined the project as the group started the due diligence process to find technologies to support their goals.

3 Project Goals

The original goals of the project were to improve wound care documentation by enabling the clinician to more accurately and efficiently image, measure, and document wounds, while improving the ability to monitor healing progress. As the technical business case developed, these goals expanded to include the implementation of an advanced wound image capture and management system; as well as, the standardization of documentation and technologies across the Health System.

## 4 Project Implementation

1. Current state assessment & formal project business case development (2009-2010)
   - Process
     - End user & wound care clinician interviews
     - Chart audits
   - Business case drivers
     - Non-standard documentation processes
     - Inaccurate & non-standard wound measurements
     - Hybrid documentation (images printed, even if documentation electronic)
     - Incomplete and/or missing documentation and images
     - Inability to assess & communicate healing progression
     - Equipment missing/broken and lack of technical support
     - Non-standard camera - even in the same facility & poor image quality
     - High staff & leader frustration
     - Concerns regarding potential loss of reimbursement & accreditation
2. Test of Concept (2011)
   - HealthE*Pix image management system /Ricoh Camera with 2 step barcoding & wireless upload
3. System & Workflow Design (2012)
   - Focus groups (RN, PT, WOCN)
     - Standardize wound measurement process & tool
     - Standardize MEDITECH documentation
     - Standardize HealthE*Pix Image classification
     - Standardize camera settings
     - Standardize technical support model
4. Implementation (2013-2014)
   - Regional rollout starting September 2013; completed June 2014

5 Outcomes

1. Standard measurement & documentation processes; across all 14 facilities; however,
   - Accuracy and completion of wound documentation remains a challenge
   - Some frustration with duplication of documentation due to lack of data integration between HealthE*Pix & MEDITECH
2. 100% digital images viewable via the EMR with clinician & patient identifiers
3. End users & wound care specialists report:
   - Improved consistency of image capture & quality
   - Improved ability to assess & monitor healing progression
   - Improved equipment overall, except for the intuitiveness of the camera
   - Satisfaction with technical support
   - Frustration with inconsistent wireless image upload
4. Unexpected & new challenges
   - Wireless network inconsistency
   - Untimely classification affecting ability to view image in MEDITECH
   - Armband barcode quality impacting camera scanning
   - Poor end user camera skills
   - End user workflow errors resulting in unlinked images (image to patient)
   - End users not correctly associating consecutive images for the same wound resulting in the inability to easily view wound progression

6 Optimization/Expansion

1. Completed since go-live
   - Image capture of intact skin issues (rashes, bruises, etc.) & IV infiltrates in the pediatric population
     - Allows all skin images to be documented & classified in a standard format utilizing a single workflow & eliminating additional cameras & printers
2. Planned Expansion
   - Image capture for infants & ID photo of each child
     - The National Center for Missing & Exploited Children® advises a color image of an infant be taken <2 hours of delivery or prior to removal of the newborn from the birthing room. (Rabun, 2014)
3. Camera re-education & explore upgraded & alternate device (i.e. smartphone)
4. Investigating technology to support sharing of images with outside facilities

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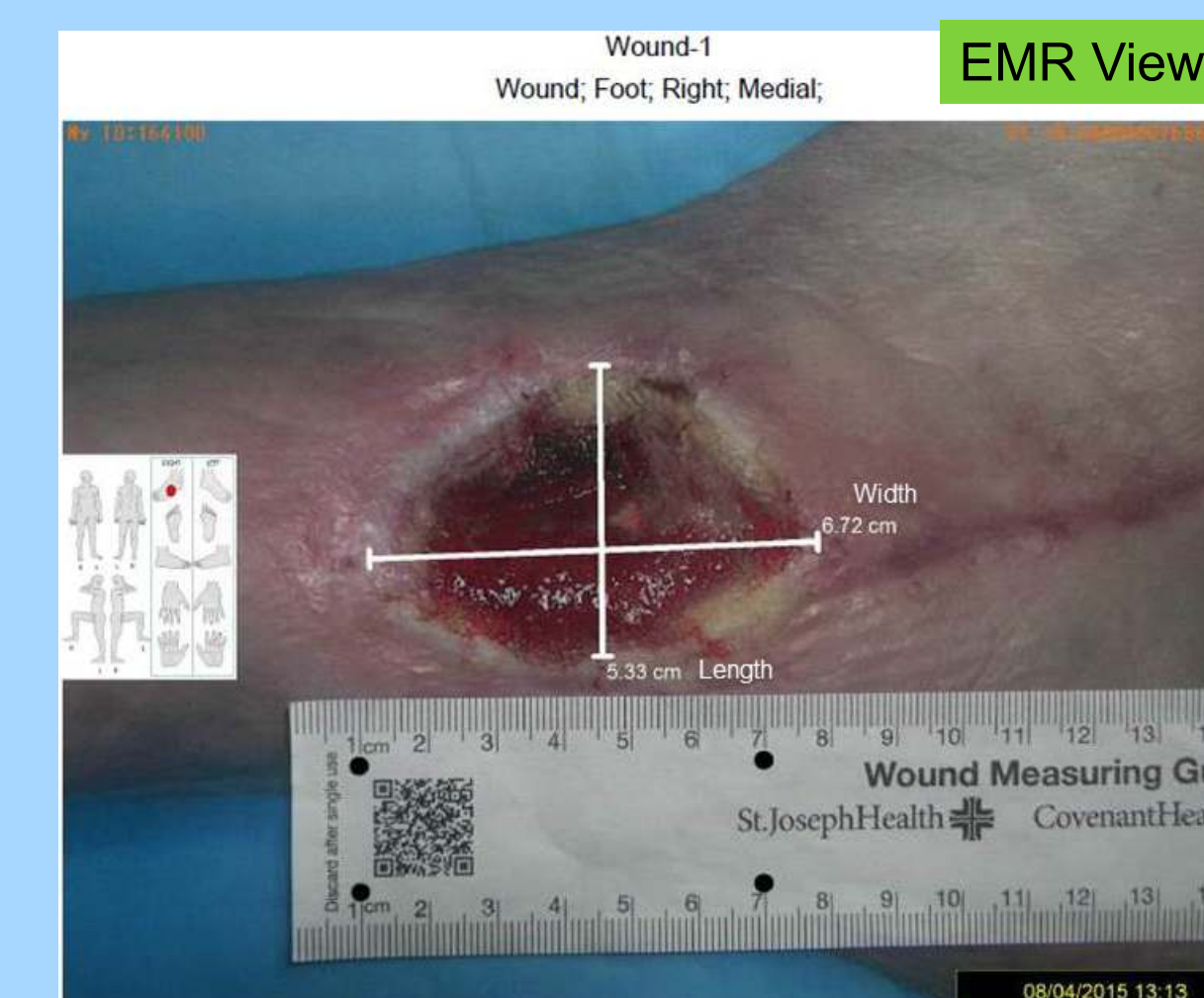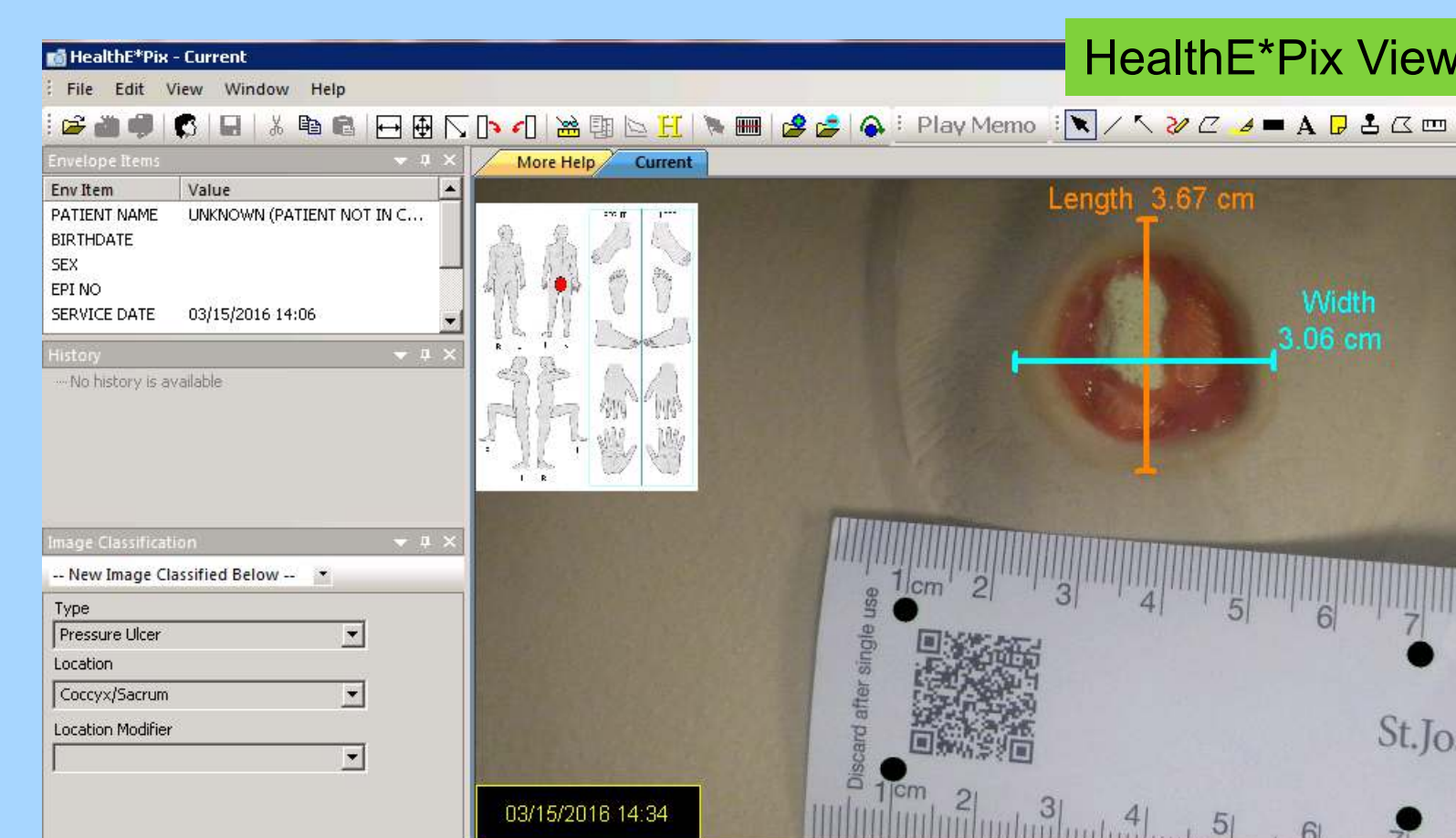
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