Dermatology Digital Image Storage

From Polaroids to PACS Dermatology Digital Images
2004 - 2017
Dermatology Information Systems provides support and leadership to the faculty, staff and programs by integrating shared services from UW SMPH, UW DOIT and UWHealth. Services are pooled from SMPH, DOIT and UWHealth.

Locations: 1 S. Park Street, 20 S. Park Street, MSC/SMI, WIMR II, UW Health East, UW Health West
Staff: 1 FTE – Sr. Inform. Proc. Conslt. Provides the following services:

- System Administration (file share, email/calendar, CMS, KB).
- Hardware/software deployment, maintenance, inventory control and purchasing and repair.
- Technology solutions and consulting – Web CMS, project coordination.
- Security compliance and incident response for all managed endpoints.
- Patch management for endpoint.
- Helpdesk services and on-call after hours.
- Administration and documentation, KB maintenance, help documents.

Supported Clients:

SMPH Department Faculty, Staff
- 27 Faculty
- 53 Staff, students, basic researchers
- 12 residents
- 1 Fellows
- 190 Endpoints

Support units:
Conference rooms, laboratories and work at home – 12 locations.

Collaborative Support:
Dermatology is a Clinical, Education, Basic Research and Clinical Research department. 6 Faculty engaged in Basic Research, 5 Faculty engaged in Clinical Research. Home of NIH sponsored Skin Disease Research Center. ACGME Resident and Fellowship training provided by 20 Faculty.
Today’s Acronyms

• **PACS** - Picture Archiving and Communication System

• **HIMS** - Health Imaging Media Standards

• **DICOM** - Digital Imaging and Communication in Medicine

• **NEMA** - National Electrical Manufacturers Association

• **IHE** - Integrating Healthcare Enterprise

• **HIPAA** - The Health Insurance Portability and Accountability Act
The Scenario

• HIPAA created stricter rules to protect a patient’s personal information including their images.
• There arose a need to integrate patient images with an electronic medical record which would then allow the sharing of information between disparate systems.
• This information must have secured access and sufficient storage backup to prevent loss of the information.
• The storage needed to be expandable.
The Solution

- Radiology had already purchased and installed McKesson PACS, so it cost Dermatology nothing to use it.
- McKesson had 25 years of PACS and 40 years of IT experience.
- The expandable storage system had secured access and had excellent backup in three locations.
- The system was able to integrate multiple imaging platforms.
- Web based access would allow the clinicians easier access to the patient information from their own workstations.
Polaroid pictures and 35mm slides

Hard to store and costly.
Picture Disks and Shadow Charts

Extremely messy, difficult to store and a practice that had been discouraged by hospital medical records for years.
High Level Timeline

1930s-Medical photographers and glass plate images for projection.
1982-Polaroid and 35mm SLR cameras.
1985-DICOM is established.
1995-Digital cameras enable images to be easily stored on a computer.
1996-HIPAA affects how images can be stored and used.
2004-Healthlink goes live.
2005-Research into clinical digital image management.
2007-Digital cameras and SD cards.
2008-No more Polaroid film available.
2011-Eye-Fi card.
2013-Pacsgear front end.
2017-Imagemover.
Resistance is futile
• Seek out expert knowledge – In this case, expertise from those familiar with clinical photography, medical records management and clinical workflow.

• Collaborate – Recruit internal and external people and resources to develop and test new ideas and systems. If other’s ideas are good use them; if systems and technology exist that can be leveraged use them.

• Find a champion – All it takes is one person with enough influence to drive for change. Senior leadership buy-in and support allows for the investment in time and resources to explore new systems and technology.

• Documentation – Document your work and create procedures to assist the staff in implementing something new.
An Experiment That Went Awry

- Using PacsScan software the pictures were uploaded into the archive system from a secured Dermatology internet folder on a special drive.
- Pictures had been automatically uploaded via the Eye-Fi camera to the Dermatology internet folder.
- Unlimited memory, the chip clears once pictures are uploaded to the special drive.
- Firmware updates every month required a total remapping of each chip!
A system was created by using existing technologies to:

1.) Capture and securely transfer images.

2.) Assign medical record numbers to images.

3.) Use PACS to safely store the images
ImageMoverMD

- Developed by UW Radiologists
- Currently being used by UW Dermatology
Image Mover Devices

Medical Assistants now upload pictures to the EMR using Android phone devices. After uploading the image data is wiped from memory by the phone’s software.
Epic Will Takeover