THE UNIVERSITY OF TEXAS MDANDERSON CANCERCENTER Making Cancer History[®]

PURPOSE

The goals of this process improvement project were:

- 1. To decrease patient delay and improve throughput by implementing an online requisition system
- 2. To improve patient safety by decreasing the number of handoffs
- 3. To decrease the use of paper

BACKGROUND

Process flow from the moment the patient arrives at the front desk consisted of collecting and printing various paperwork:

- Barcode scan sheet
- Order request
- Patient room identification
- Medication and allergy sheet

• Preliminary report sheet After these were printed and compiled by the Patient Service Coordinator (PSC), the technologist assistants hand-deliver the paperwork to the technologist work area for examination preparation. The technologists will then sort the papers and identify the orders for appropriate scanning. Another hand-off occurs as the technologists discuss their cases with the radiologists. As the clinic workload increases through the day, the radiologists are challenged to identify cases via paper piled on the countertops.

METHODS

Observational Data Collection

A flow diagram was used to map the general ultrasound outpatients. An area of potential improvement was identified.

Baseline data were collected including the following:

- The time it took to gather all paperwork needed before a technologist could begin the ultrasound examination
- The total time from patient arrival to exam completion
- The number of sheets of paper printed

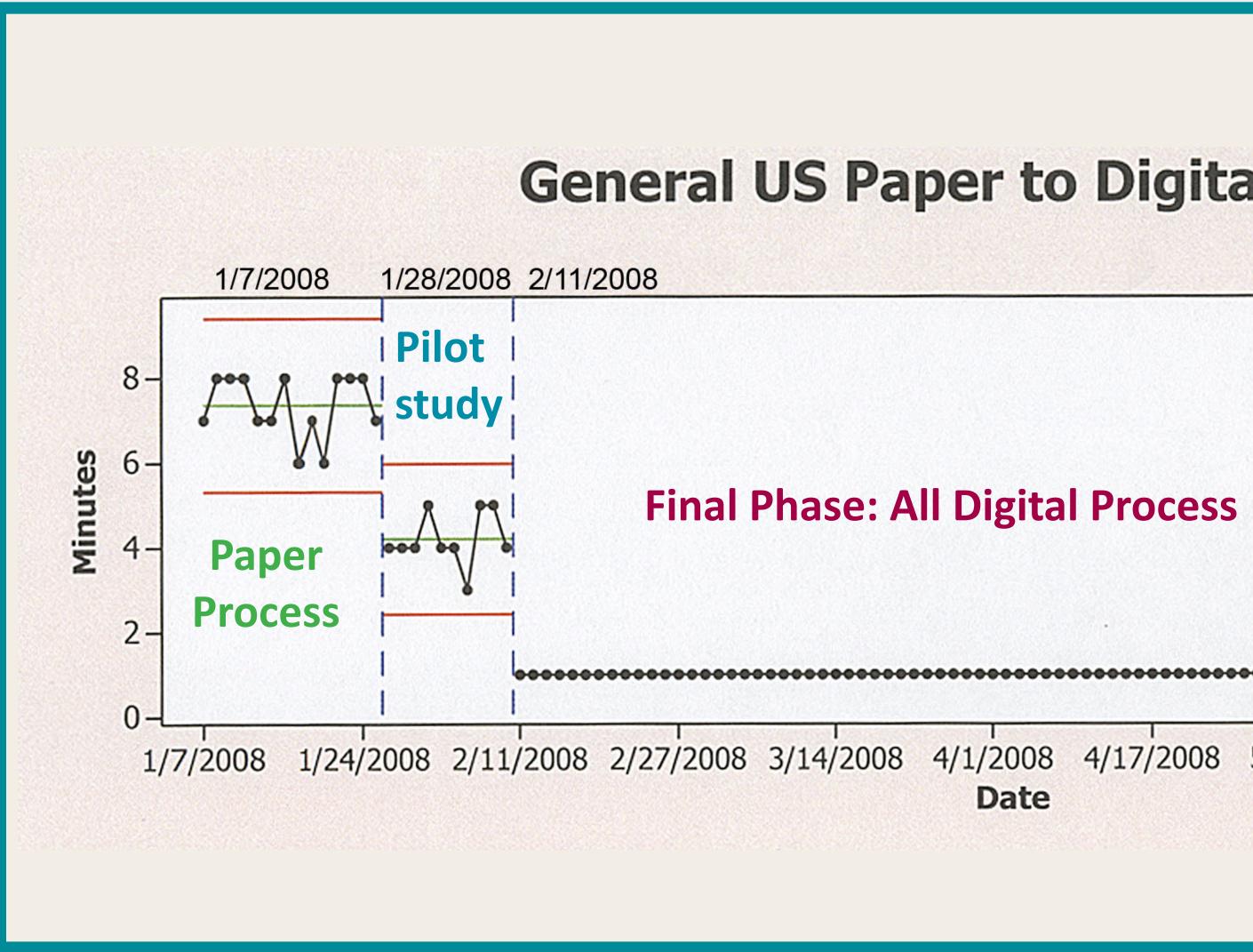
Multidisciplinary Team Collaboration

Ordering Clinics, Patient Service Coordinators (PSCs), Information Technology (IT), Radiologists, and General Ultrasound Team collectively analyzed initial data and implemented the following changes:

- On-line order systems were established and guidelines were outlined
- Ordering clinics were educated on the appropriate and accurate completion of online requisitions
- IT created electronic folders for each reading radiologist in which ultrasound exams in need of interpretation were placed
- The radiologists' dictating process was restructured using the online requisitions and queue folders

ULTRASOUND EXAM REQUISITIONS: CONVERTING FROM PAPER TO DIGITAL Rhoda Reading, BSBA, RDMS, RVT, RT and Deepak G. Bedi, M.D. The University of Texas M. D. Anderson Cancer Center

Duration from Patient Arrival to Examination Start



Paper Process:

During this phase, paper requisitions were used and duration (in minutes) from patient arrival to examination start was gathered

Pilot study:

- Selected radiologists were viewing online requisitions
- IT created radiologists online folders for unread cases
- Technologists added a "specialist" step on the exam tracking to appropriately assign the cases to the reading radiologists
- Remaining radiologists continued using paper to view requisitions and dictate examinations

Final Phase: All Digital Process:

Once complete conversion from paper to digital process was implemented, the General Ultrasound team followed these procedures:

- Technologists viewed requisition online and tracked "specialist" to appropriate reading
- Clinics were required to input all requisitions online • PSCs only pre-printed patient room identification sheet
- radiologists' folders
- Radiologists were able to view all performed ultrasound examinations on individual queue folders

General US Paper to Digital Process

1/7/2008 1/24/2008 2/11/2008 2/27/2008 3/14/2008 4/1/2008 4/17/2008 5/5/2008 5/21/2008 6/9/2008 6/25/2008 Date

RESULTS

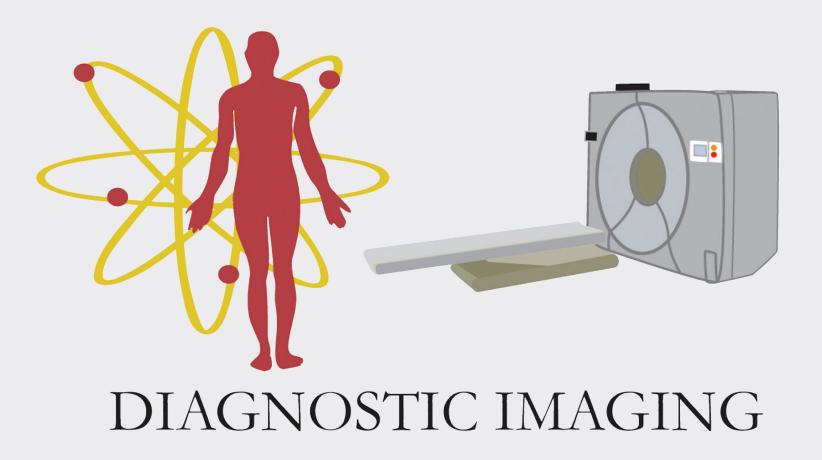
Data analysis was performed using Control Charts and demonstrated the following: • The initial "check —in" process took approximately 8 minutes per patient. • After implementation of the digital requisition process, this was reduced to 1 minute.

- performance of ultrasound examinations.
- dictations.
- cases. Cases were read in a timely manner.

CONCLUSIONS

Implementing a paperless digital exam requisition process resulted in reduced delay and increased productivity. Transition from paper to digital requisitions decreased both time and inefficiency.





• The amount of paper printed was reduced from 150 sheets to zero per day. • Online requisitions were digitally accessible which resulted in timely, accurate, and consistent

• Increased organization and patient safety of section were observed by consistently accessing exam requisition via online. No misplaced requisitions occurred which led to delays or missed

• Specified queue folders accessed by the radiologists decreased the probability of unread

