



Fujitsu Scanners/Perceptive Software “Best Practices in the Hospital Admissions Process” Webinar

Kevin Neal

Product Manager – Production Scanners
Fujitsu Computer Products of America, Inc.
Imaging Products Group (IPG)

February 1, 2007

Agenda



- Introductions of Fujitsu and Perceptive Software
 - Kevin Neal, Fujitsu presenter
 - Megan Fowler, Fujitsu moderator
 - Amie Smith, Perceptive presenter
- Fujitsu, Hospital Admission Facts & Figures
 - Document types
 - Form processing
 - Planning for scanning requirements
 - Forms design
- Perceptive, ImageNow Overview
 - ImageNow Overview
 - ImageNow for Healthcare Admissions
 - ImageNow Capture
 - ImageNow Workflow
- Questions and Answers

Hospital Admissions Facts & Figures

“Medication errors at the time of hospital admission and discharge are common and can lead to preventable adverse drug events”

Summary:

- Sixty randomly selected patients were enrolled
- At admission, medication orders compared with pre-admission medication
- At discharge, pre-admission medications were compared with discharge orders

Conclusion:

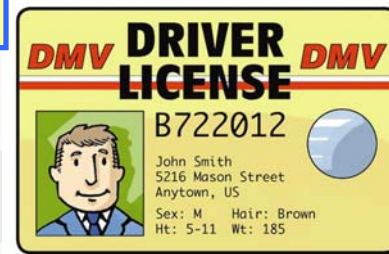
- Overall, 60% of patients had at least one unintended variance and 18% had at least one clinically important unintended variance

* Source: <http://qshc.bmj.com/cgi/content/abstract/15/2/122>

Who: Quality & Safety in Health Care (formerly Quality in Health Care) is a leading international peer review journal in this growing area of quality and safety improvement.

Hospital Admissions Document Types

Plastic Cards



Long Documents



Bar Code

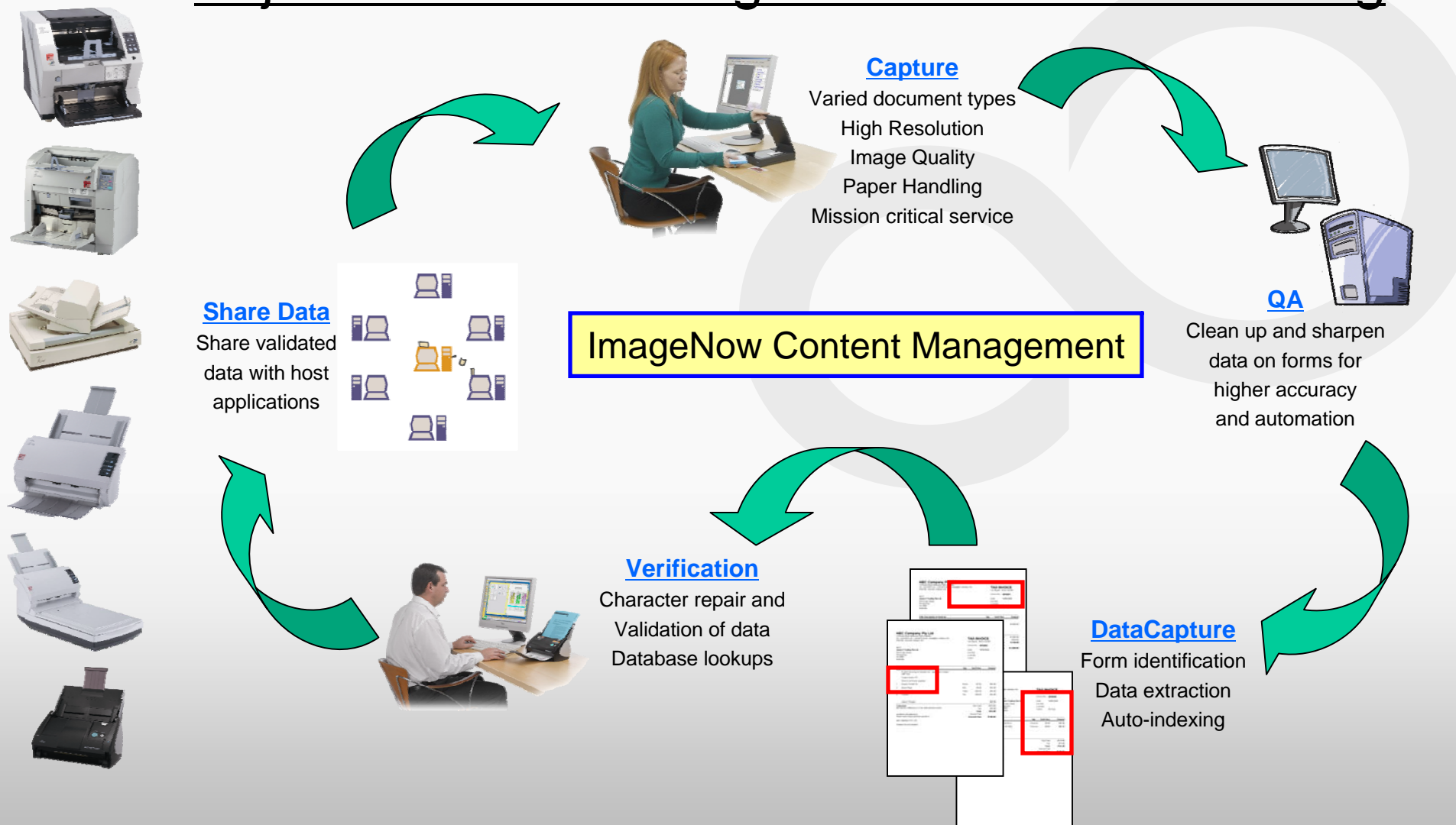


- Plastic Identification Cards
 - Driver's License
 - Employer ID
 - Insurance Cards
- Insurance Documents
- Admission Forms
- Documents with Barcode Stickers
- Long Documents
- Double-Sided (Duplex)
- Colored Forms and Backgrounds
- Mixed Size Batches

Hospital Admissions are more than paper documents

Versatility * Reliability * Performance * Functionality

Fujitsu Scanners/ImageNow Forms Processing



Back-File Conversion vs. Day-Forward



	Pros	Cons
Back-File	Electronic access to all paper files Document sharing, reduce lost files High level of customer satisfaction	Time-consuming Storage costs Bandwidth considerations
Day-Forward	Quicker implementation Clear-cut process for scanning	Inconsistent access to information Possible lack of compliance
As Needed	Build your repository over time Only relevant information in system	Poor disaster recovery Lack of automation and access

Hospital Admissions Facts & Figures

“Medication errors are common at the time of hospital admission and some have the potential to be harmful, according to the February 28 issue of Archives of Internal Medicine, one of the JAMA/Archives journals”

Summary:

- One hundred and fifty-one patients were included in the study
- Allowed 48 hours for clarification and correction of problems in their normal course of care...then conduct a thorough history of their regular medication use

Conclusion:

- Eighty-one patients (53.6 percent) had at least one unintended discrepancy
- 38.6 percent of the discrepancies had the potential to cause moderate to severe discomfort or clinical deterioration

"The data presented herein suggest that the processes for recording medication histories on admission to the hospital are inadequate, potentially dangerous, and in need of improvement," the authors conclude. "To improve patient care and minimize the potential costs of preventable adverse drug events, the health care system should explore ways to improve the accuracy of the hospital admission medication history."

* Source: <http://www.sciencedaily.com/releases/2005/03/050308093452.htm>

Who: JAMA, published continuously since 1883, is an international peer-reviewed general medical journal published 48 times per year. JAMA is the most widely circulated medical journal in the world.

Forms Design Recommendations

If you have the luxury of designing your own forms, take advantage of this to increase accuracy and automation

Patient Information (PLEASE PRINT)						
PATIENT NAME	Last	First	Middle Initial	Date of Birth	Age	Sex
Social Security No.	Race	Marital Status	Mother's Maiden Name	Drivers License No.	Birthplace	
PATIENT ADDRESS		City	State	Zip Code		
Area Code/Home Phone No.		Area Code/Work Phone No.				
Church	Religion		Primary Language			
Patient's Employer	Occupation	Employer's Address	City	State	Zip Code	Length of Employment
SPOUSE OR NEAREST RELATIVE	Relation to Patient	Address	City	State	Zip Code	
Area Code/Home Phone No.		Area Code/Work Phone No.				
Spouse or Nearest Relative Employer	Employer's Address	City	State	Zip Code	Length of Employment	
Insurance Information (PLEASE INCLUDE A COPY OF YOUR INSURANCE CARD)						
Primary Insurance Company/Medical Group	Address	City	State	Zip Code	Area Code/Phone No.	

Poor Form Structure for Scanning

- No consistent dropout color
- Lack of constrained areas for zonal data extraction
- No distinguishing anchor points for forms identification
- Pixels possibly inadvertently connected by black on black ink

Red Form for Color Dropout

Constrained Boxes for OMR

HEALTH INS

1. MEDICARE MEDICAID CHAMPUS CHAMPVA GROUP HEALTH PLAN FECA BLK LUNG OTHER
(Medicare #) (Medicaid #) (Sponsor's SSN) (VA File #) (SSN or ID) (SSN) (ID)

2. PATIENT'S NAME (Last Name, First Name, Middle Initial)

3. PATIENT'S BIRTH DATE
MM DD YY M SEX F

5. PATIENT'S ADDRESS (No., Street)

6. PATIENT RELATIONSHIP TO INSURED
Self Spouse Child Other

CITY STATE PATIENT STATUS
Single Married Other

Employed Unemployed Part-Time Student

9. OTHER INSURED'S NAME (Last Name, First Name, Middle Initial)

10. IS PATIENT'S CONDITION RELATED TO:

Optical Character Recognition for typed information (OCR)

Intelligent Character Recognition for handwritten information (ICR)

24. A. DATE(S) OF SERVICE From To Place of Service Type of Service PROCEDURES, SERVICES, OR SUPPLIES (Explain Unusual Circumstances) DIAGNOSIS CODE S C
MM DD YY MM DD YY OPTINGPCS MODIFIER

1

2

3

25. FEDERAL TAX I.D. NUMBER SSN EIN 26. PATIENT'S ACCOUNT NO. 27. ACCEPT ASSIGNMENT? (For gov't. claims, see back) YES NO 28. TOTAL \$

31. SIGNATURE OF PHYSICIAN OR SUPPLIER INCLUDING DEGREES OR CREDENTIALS (I certify that the statements on the reverse apply to this bill and are made a part thereof.) 32. NAME AND ADDRESS OF FACILITY WHERE SERVICES WERE RENDERED (If other than home or office) 33. PHYSICIAN'S NAME & PHONE

Excellent Form Structure

Forms Dropout Color Example



457319 05 03 05

Neal Kevin M 04/01/05 Neal Kevin M
1255 E. Arques Avenue 1255 E. Arques Avenue
Sunnyvale CA CA
94086 408-746-7265 408-746-7265 94086
San Jose Allstate 555-12-3789
554320

Martinez Achilles L 76329556 Dental Kaiser
133 Main St. San Jose CA 95125
408-555-1212 amartinez@yahoo.com 408-997-3321 05/03/05

04/15/05 05/03/05
Chipped tooth 2 1 2 2

amartinez@mountain 05/03/05

- Sample claim form with excellent form structure including red constraint areas to be eliminated

Deskewed Image

Dynamic Color Dropout

Image Enhanced

- After Dynamic Color Dropout only the relevant form data is exposed for ImageNow Forms Processing

OMR on check marks

ICR on handprint

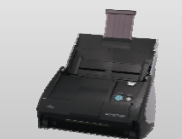
Forms Design Recommendations



- Well defined Forms enable a much higher level of automation
 - Form structure itself can aid in increased productivity
 - Color Dropout eliminates constraint boxes for scanning
 - Background color is unnecessary and not recommended
 - Paper type should be consistent
- Give automation the best possible chance to succeed
 - Higher resolutions (300 dots per inch for OCR/ICR)
 - Image enhancement (Deskew, cropping, auto-orientation, etc.)
 - Paper handling
- Take your forms design seriously
 - Many form types are fine, structure is most important
 - These documents most likely will be needed for years

Hospital Admissions Document Terminology

- **Authorization to Release** Protected Health Information During This Admission
- **Consent for Treatment** and Conditions For Admission
- **Acknowledgement of Receipt** of Notice of Privacy Practices
- **Patient Pre-Admission Form**
- **Picture Identification** in two forms
- **Health Insurance** details
- **General Medical Admission**


A detailed patient pre-admission form with multiple sections for patient information, insurance, and medical history.

A general medical admission form with sections for patient information, medical history, and current medications.

A form from Brainstorm Rehabilitation Hospital with sections for patient information and medical history.

Hospital Admissions Scanner Considerations



Technology

- Color Dropout
- Ultrasonic double-feed detection

Information Technology (IT)

- Interpolation
 - Software compatibility
- Integration

Service and Support

- Daily duty cycle
- Service programs
 - On-site
 - Advance exchange
 - Consumable kits

Performance

- 300dpi scanning speeds
- Color scanning speeds
 - Automatic Color Detection
- Paper handling

Compliance & Regulations

- Pre and Post Imprinting
- 508 compliance
- Bates stamping

Future Considerations

- Product roadmap
- Vendor financial strength
- Industry commitment

Hospital Admissions Facts & Figures

"An average of 195,000 people in the USA died due to potentially preventable, in-hospital medical errors in each of the years 2000, 2001 and 2002, according to a new study of 37 million patient records...(due to the) impact of medical errors..."

"The equivalent of 390 jumbo jets full of people are dying each year due to likely preventable, in-hospital medical errors, making this one of the leading killers in the U.S."

Summary:

- Study of 37 million patient records
- Mortality and economic impact study of medical errors and injuries
- Medicare hospital admissions nationwide from 2000 to 2002

Conclusion:

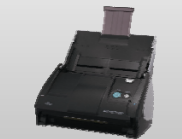
- 195,000 potentially preventable deaths
- Medical errors cost of more than \$6 billion per year

"Hospitals need to act on this, and consumers need to arm themselves with enough information to make quality-oriented health care choices when selecting a hospital."

* Source: <http://www.medicalnewstoday.com/medicalnews.php?newsid=11856>

Who: HealthGrades (Nasdaq:HGRD) is the leading healthcare ratings organization, providing ratings and profiles of hospitals, nursing homes and physicians to consumers, corporations, health plans and hospitals.

Fujitsu IT Products in Healthcare



Security



Biometric Authentication

Productivity



Scanners

Performance



Gigabit Ethernet Switches

Reliability



Disk Drives



Tablets

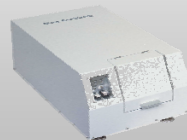


Laptops



Servers

Compliance



Degaussers

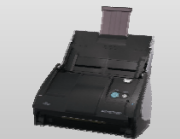
Create

Connect

Utilize

Dispose

More information



- Fujitsu Document Scanners
 - Web Site: <http://www.fcpa.com>
 - E-mail: ecmWebinars@fcpa.fujitsu.com
 - Phone: 888-425-8228

- Perceptive Software, Inc.
 - Web Site: <http://www.imagenow.com>
 - E-mail: info@imagenow.com
 - Phone: 800-941-7460