Paperless Hospital

Patient Safety Issues

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Patient Safety Review Group
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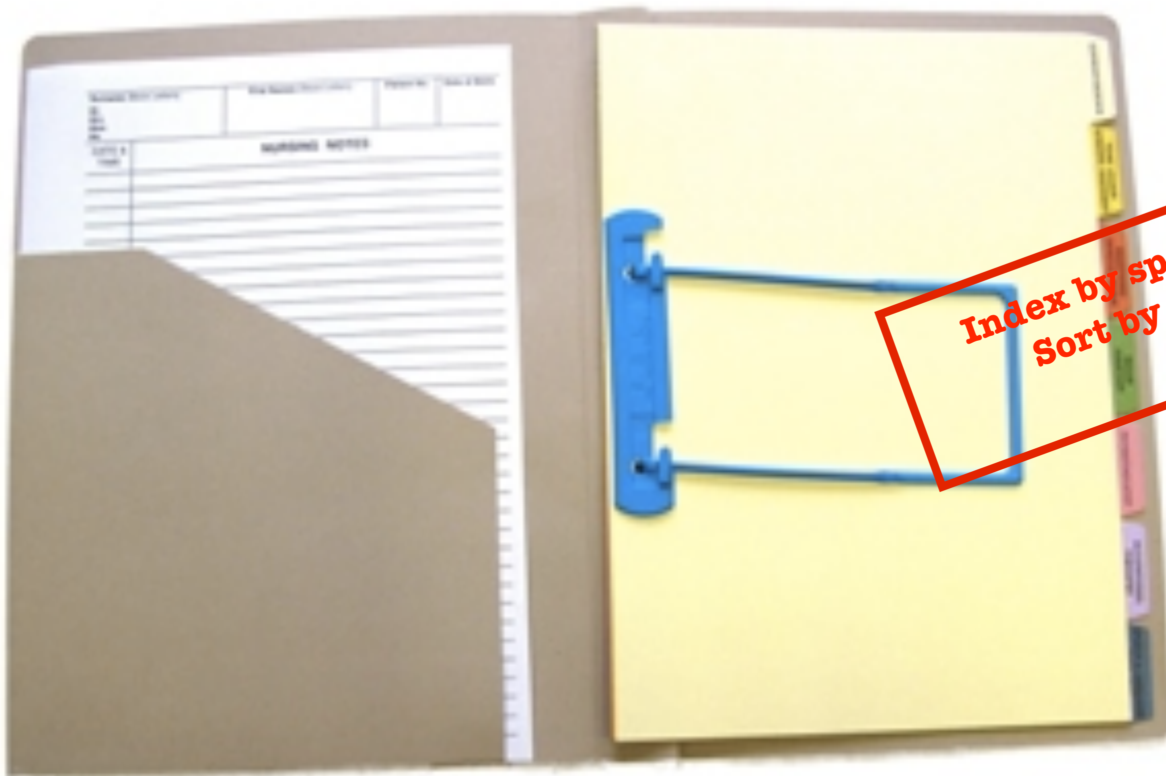
Integrated Paper record



- Referral letters
- Clinic Letters
- Discharge Summaries
- Prescriptions
- Lab results
- Radiology Reports
- ECGs
- Audiograms
- Endoscopy Report
- etc

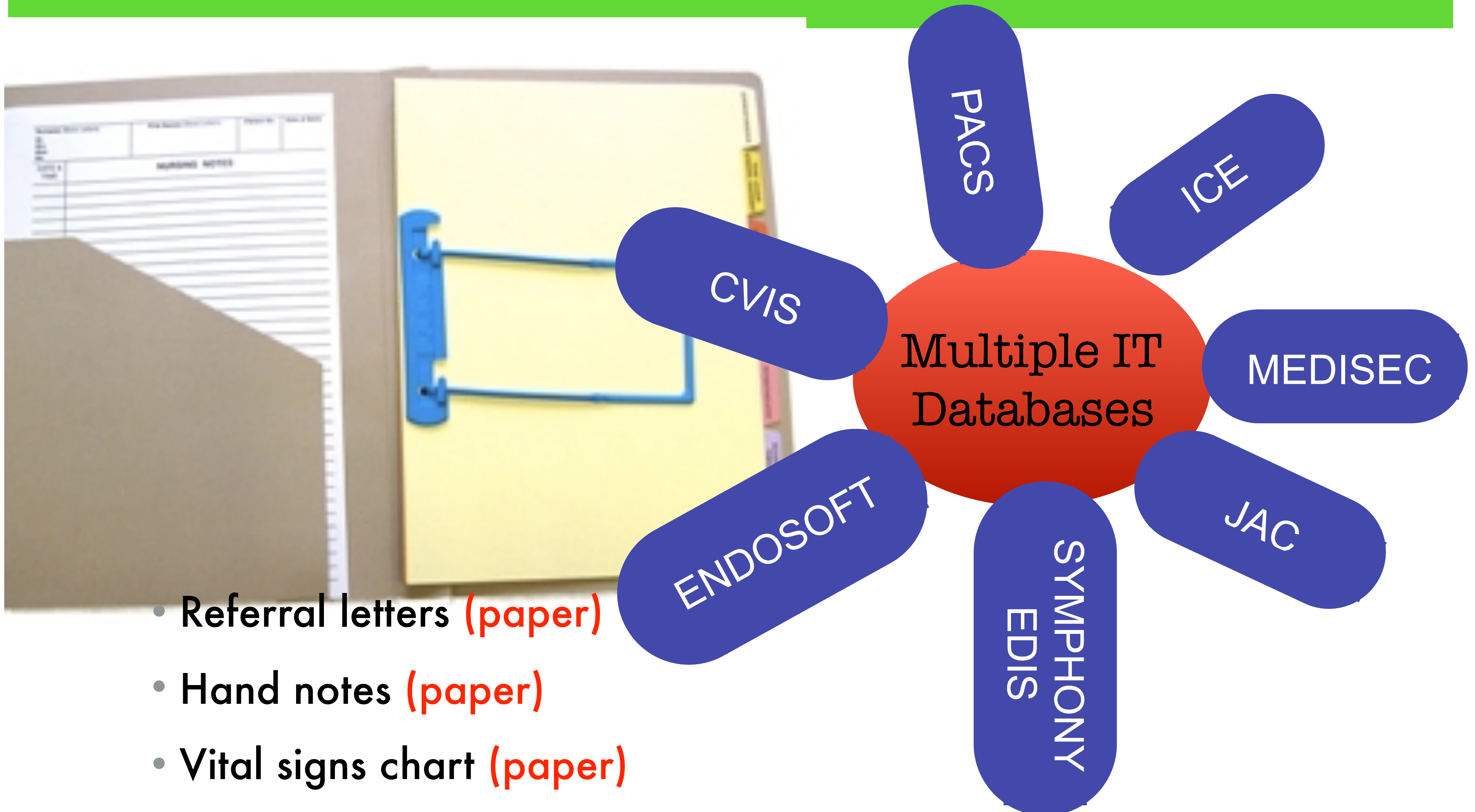
Integrated Paper record

- Single point of access
- Efficient review
- Comprehensive
- Patient Safety

Integrated Paper Record

- Referral letters (paper)
- Hand notes/forms (paper)
- Clinic Letters (Medisec)
- Discharge Summaries (JAC)
- Prescriptions (JAC)
- Lab results (ICE/ISS)
- Radiology Reports (RIS/PACS)
- ECGs (CVIS)
- Audiograms (Otobase)
- Endoscopy (Endosoft)

Fragmented Record



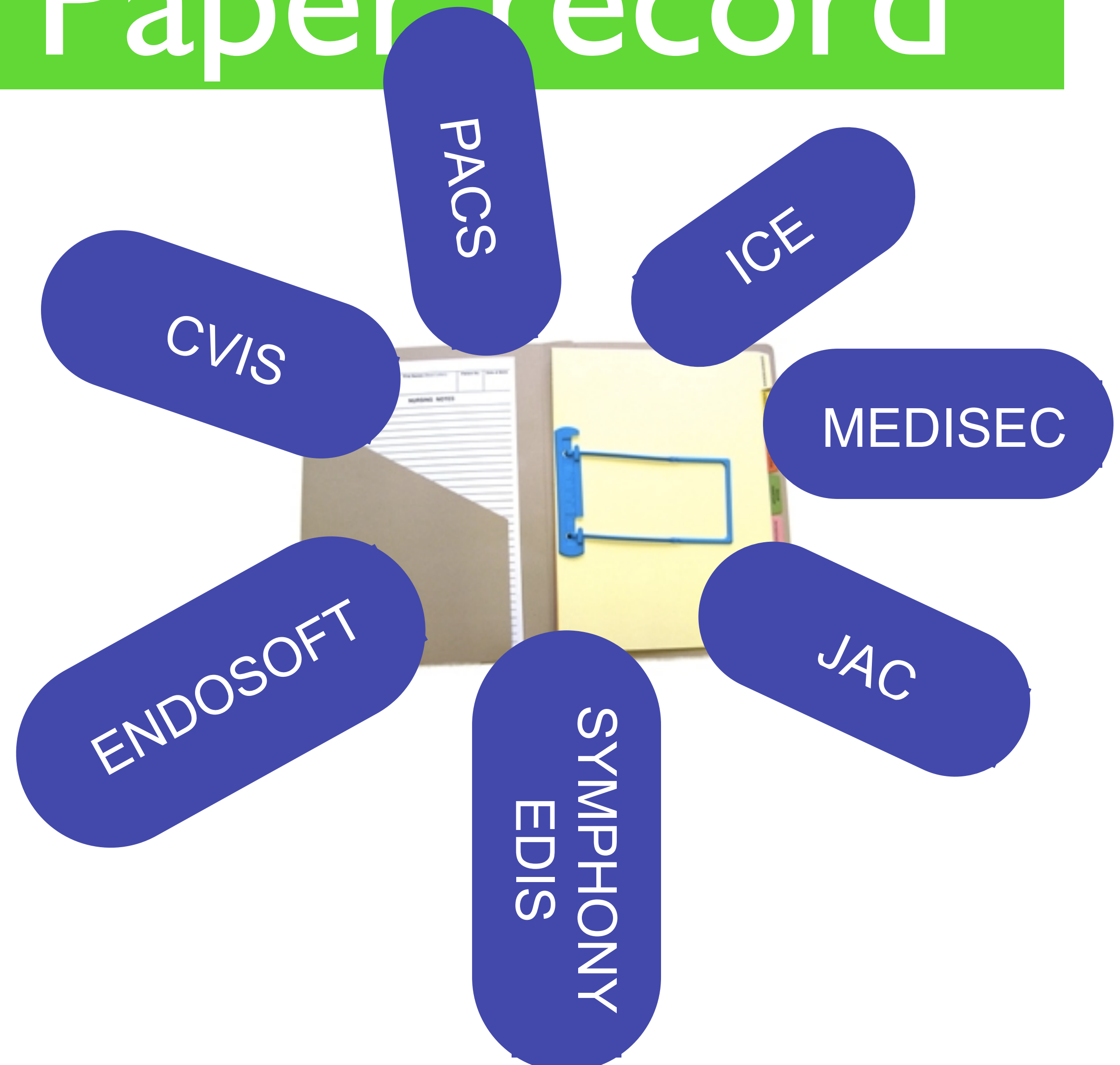
- Referral letters (paper)
- Hand notes (paper)
- Vital signs chart (paper)

Integrated Paper Record

- Referral letters (paper)
- Hand notes (paper)
- Vital signs chart (paper)

Fragmented IT Record Vs Integrated Paper record

- Referral letters
- Hand notes
- Clinic Letters
- Discharge Summaries
- Prescriptions
- Lab results
- Radiology Reports
- ECGs
- Audiograms
- Endoscopy



RISKS-Multiple Data Silos

1. Multiple Log-in frustrations—time consuming

2. Multiple passwords—time consuming

3. Inefficient for front-line doctors

4. Not portable (not available by bedside)

4. Safety—risk of results, medical documents not being reviewed during clinical decision making

INTEGRATED IT RECORD

Search by Name, Medical Record Number or Visit Number.

Click Advanced Search for more search options.

Mouse over a tab to access specific views.

Click a magnifying glass to expand a section.

Displays a list of visits for this patient.

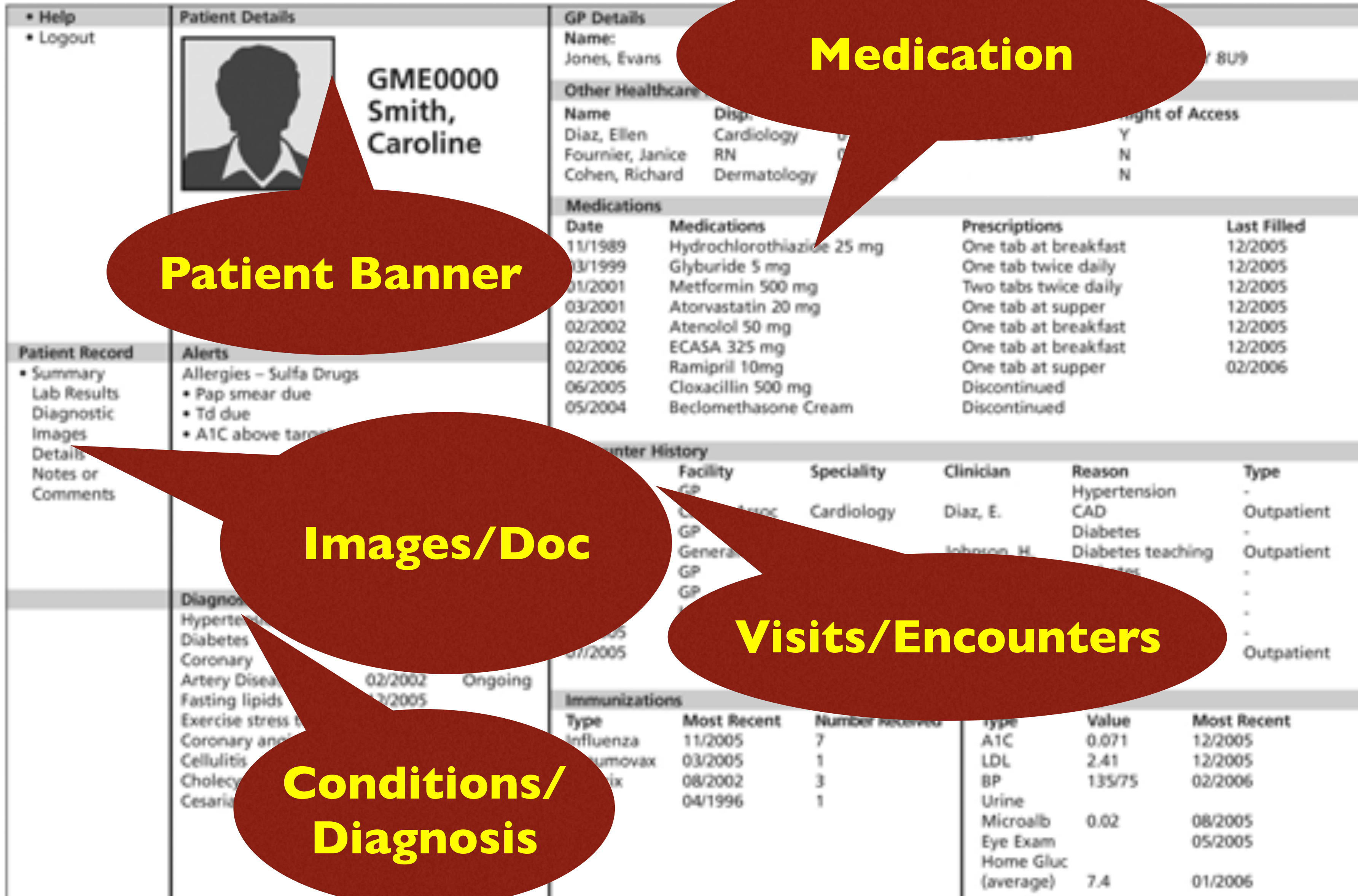
ChartMaxx and Mediscribe documents.

Displays results from the last 10 Laboratory, Radiology and Pathology orders.

Filter visits by Inpatient, Outpatient or All Visits.

Courtsey: http://medda.com/portal-applications.htm

INTEGRATED IT RECORD



2 Separate Issues

1. Provide an **integrated summary information** of the patient—**Role of a clinical portal**
2. Allow a doctor, nurse or healthcare professional to do specific tasks on patients by providing a work list and updating statuses when tasks are completed.—**Task management Worklists**

Task Management Worklist

Allow a doctor, nurse or healthcare professional to do specific tasks on patients

TASKS

e.g
Schedule an visit
Perform a lab test
Create reports
Administer
Handover

IT systems for task management:

e.g. RIS, LIMs, PAS, EPR, Ordercomms, e-precribing, Ward management system, OP clinic management system, patient handover system, results reporting etc

Clinical Portal

PURPOSE:

1. Integrate relevant/summary information from various sources —i.e departmental systems and image/document archives
e.g. images, documents, departmental visits, medication, results etc with context link to source system
2. Provide context integration for departmental systems or other task management system—to enable tasks to be completed with a good integrated summary information provided.

Clinical Portal (components)

PATIENT BANNER

Demographics *(name, DOB, Sex, Address, Phone & email, PAS ID, NHS no)*

GP details

Current Location *{Inpatient(Ward name) or community}*

Current Consultant *(If Inpatient)*

Allergies

Active **Conditions**

Ambulatory status *(no limitations, assistance, wheelchair, stretcher, unresponsive)*

MAIN TABS/Segments

Encounters/Visits *(sch, triaged/vetted, arr, in-pro,finished, cancelled)*

Results *(prov, final ,amended)*

Documents & Images *(current, superceded)*

Medications *(active, completed)*

Conditions *(active, resolved)*

Context Links

Misc

Clinical Portal Display

STRUCTURED DATA ***(FHIR Resources)***

UNSTRUCTURED DATA ***(Doc and Images-XDS)***

Structured Data

PATIENT BANNER

Demographics *(name, DOB, Sex, Address, Phone, PAS ID, NHS no)*

GP details

Current Location *(Inpatient or community)*

Current Consultant *(If Inpatient)*

Allergies

Active **Conditions**

Ambulatory status

MAIN TABS/Segments

Encounters/Visits *(sch, are, in-pro, com)*

Results *(prov, final ,amended)*

Medications *(active, completed)*

Conditions *(active, resolved)*

Context Links

Unstructured Data

Documents & Images *(current, superceded)*

- Referral letters (paper to PDF)
- Hand notes (paper to PDF)
- Vital signs chart (paper to PDF)
- Images
- Other PDF doc

Patient Banner

Demographics *(name, DOB, Sex, Address, Phone & email, PAS ID, NHS no)*
GP details
Current Location {*Inpatient(Ward name) OR community*}
Current Consultant *(Only if Inpatient)*
Allergies
***Active* Conditions**
Ambulatory status (*no limitations, assistance, wheelchair, stretcher, unresponsive etc*)

Clinical Portal Tabs

Encounters (Visits)—*FHIR resource with context link to scheduling systems*
Medication-*FHIR resource*
Results—*FHIR resource*
Conditions*—FHIR resource*
Images and documents-*FHIR and XDS resource*

Encounter

Provider Specialty *(NHS Main Specialty/Treatment Function Code)*

Responsible Consultant/Clinician (GMC no / Name / Job-role / `institution)

Location Type *(NHS Activity Location Type Code-NHS Data Dictionary— Oupatient clinic, Ward, Day hospital, Physiotherapy, Occupational therapy, Diagnostic Imaging)*

Referring Specialty *(Main specialty/Treatment Function code-NHS)*

Reference ID ***(for a context link to RIS, VNA, CAMIS, Medic etc)***

Start Date and time (date of admission, date of visit etc)

End Date and time (date of discharge etc)

Status {scheduled(planned) / arrived / vetted(triaged) / in progress / finished / cancelled / entered in error / cancelled}

Event Codes (where appropriate)—e.g. Radiology exam codes, operation codes

Results

DATA ITEMS (as columns)

Status {scheduled(planned) / arrived / vetted(triaged) / in progress / finished / cancelled / entered in error / cancelled}

Provider Specialty *(Main Specialty/Treatment Function Code-NHS Data Dictionary)*

Location Type (*Activity Location Type Code-NHS Data Dictionary—Pathology labs/Diagnostic Imaging)*

Referring Specialty *(Main specialty/Treatment Function code-NHS)*

Reference IDs ***(for a context link-e.g accession/lab no to PACS, ICE, RIS)***

Start Date and time (date of sample collection, scheduled date / time etc)

End Date and time (date of results)

Medications

DATA ITEMS (as columns)

Medication (SNOMED-CT terms)

Device(used for administration)

Status *(in progress/on-hold/completed/entered-in-error/stopped)*

Dosage Quantity

Dosage instruction (scheduled with frequency / as-needed)

Start Date and time (date of start of medication)

End Date and time (date of end of medication)

Route of Administration-(oral, topical, subcut, IV etc)

Reference IDs ***(for a context link to JACS etc)***

Conditions

Conditions/Problem/Diagnosis *(SNOMED-CTterms)*
Clinical Status—*(active/ recurrence/inactive/remission/resolved)*
Verification Status*—(provisional/differential/confirmed/refuted/entered -in-error/unknown)*
Onset Date/Time
Abatement Date/Time- *(If in remission/resolved)*
Reference IDs*—For context link to CAMIS visit etc*

Doc & Images

Document Type (e.g. Radiology report, radiology request etc)

Event codes (e.g. Exam codes, operation code)

Author (ID, Name, job-role Specialty, Employing institution)

Intended Recipient (ID, Name, job-role Specialty, Employing institution)

Reference IDs of the document **(for context link to VNA, Medisec etc)**

Document creation date/time

Encounter Start Date/time

Encounter End Date/Time

Document Status-preliminary, final, corrected/ammended, appended or deleted/withdrawn

Context Links

Context link from Portal entry to the source system for detailed information—via a unique ref ID (e.g accession no)

SOURCE IT SYSTEMs

Medisec

PACS

RIS

ICE / LIMs

JAC

Wound Care

CAMIS

etc

Patient Banner

Demographics, Allergies, Active Conditions, Ambulatory Status

Doc/Image
(current/superceded)

Medication
(active/completed)

Encounter
(sch/arr/in-pro/compl)

Condition
(active/resolved/remission)

Results
(final/amended/etc

TEST, AARON DOB: 01/01/2000

Summary | Documents | Results

Displays a list of visits for this patient.

May 23, 2002 (0d)
Fx Radius w Ulna Nos Cl

Apr 20, 2002 (0d)
Fx Radius w Ulna Nos Cl

Sep 01, 2000 (1d)
bronchospasm

Filter visits by Inpatient, Outpatient or All Visits.

All Visits

09/01/2000 bronchos...

MR Principal Dx

10/28/2002	SPECIAL SCREENING FOR OTHER SP
10/23/2002	Urin Tract Infection Nos
05/22/2002	Fx Radius w Ulna Nos-Cl
05/06/2002	Fx Radius w Ulna Nos-Cl

ChartMaxx and Mediscribe documents.

Documents

Authored	Arrived	Name
04/25/2002	04/27/2002	Orthopedic Clinic Notes
04/20/2002	04/20/2002	Consultation Report

Displays results from the last 10 Laboratory, Radiology and Pathology orders.

Recent Results (51)

Item	Value	Range
10/22/2002 11:52 US Renal		
US Renal		
Renal ultrasound- ... (more)		
10/19/2002 02:15 Culture Urine		
Specimen Description	URINE CLEAN VOID	
Special Requests	NONE	
Culture	>100,000 CFU/ML ESCHERICHIA COLI	
Report Status	10/21/2002	
Organism	>100,000 CFU/ML ESCHERICHIA COLI	

Courtsey: http://medda.com/portal-applications.htm

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Structured Data

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Results *(prov, final ,amended)*

Medications *(active, completed)*

Conditions *(active, resolved)*

Context Links

Unstructured Data Archive

Documents & Images *(current, superceded)*

Integrated Patient Record…

Essential for PATIENT Safety