

Electronic Medical Records – Is there a problem!! Is there a solution??

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Electronic Medical Records MJS Disclaimer

- I am reasonably IT savvy**
- I was very frustrated by poor solutions offered**
- So I sought to find solutions >>> None evident**
- >> So I created one – my own Electronic Clinical Record**

I therefore have a commercial conflict of interest in this solution that I have created for my own use!!

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The State of the EMR Market in 2017

AAOS 2017 Annual Meeting

San Diego Convention Center

- **30% of US physicians in EMR Burn out**
- **80% of US EMR is copy and paste**
- **US EMR Market - \$28 billion in 2016**
- **1 in 6 medical practices are planning to change vendors**
- **15 percent switch rate**
- **Increasing security risks e.g.**

Ransomware:

Hollywood Presbyterian Medical Center. - February 5, 2016 payed a ransom of \$17,000 to obtain a decryption key to restore its data.

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Issue – New Administration policy - (currently a US Issue, but we are increasingly caught up in it.)

- confusion regarding **meaningful use** and certification of EMR systems
- Stick and carrot – token support but decreasing payment for non-compliance

“New participants who successfully demonstrate meaningful use for this period and satisfy all other program requirements will avoid the payment penalty in 2017.”

Issue – Cybersecurity

- increasing number and severity of security breaches
- does not seem to be getting better
- Multiple portal and workflow challenges
- expect to see fines that are more significant.
- This area continues to be an Achilles heel for the industry.

Issue – Frustrated Physicians.

- Physicians have repeatedly complained that EHRs are difficult to use.
- EHR interfaces are awkward and non-intuitive creating more problems than solutions.
- Physicians are not convinced that EMR's will cut costs or help to provide better and safer care.
- Vendors do not seem to be in touch with need
- EHRs often get in the way and slow users down because of the way they are configured or are not convenient to use.
- Most EHRs are not designed to juggle the simultaneous actions

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The State of the EMR Market in 2017

The players

1. Cerner

- Big acquisition, but recently lost Mayo Clinic contract (55,000 doctors!)
- Department of Defense EMR contract will also help to move Cerner forward.

2. McKesson

3. Epic

- vendor for Kaiser Permanente and many other large corporations

4. Allscripts Healthcare Solutions

- top five position for several years
- EPAS

Others,

including GE Healthcare, Athenahealth's Intersystems, QSI/NextGen, MEDITECH, Greenway, **eClinicalWorks** plus at least 600 others

Recently fined for doubling licence fees to a hospital and blocking access until they paid up.

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EMR in Australia

Well funded by Government and growing rapidly

- NeHTA - \$1B on PCEHR > "My Health Record"
- Radiology Standards – Standards Australia
 - Defined but not mandated so ignored by Radiologists
- *HISA - Health Informatics Society of Australia.*
 - HIC - AUSTRALIA'S PREMIER DIGITAL HEALTH, HEALTH INFORMATICS AND E-HEALTH CONFERENCE
 - Brisbane August 2017 >>> **Opening address!!!**

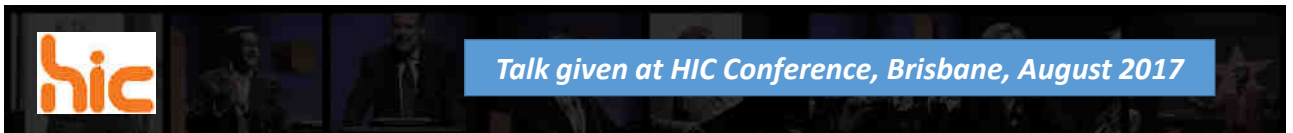
***"Everything is just great!
We just can not get the doctors on board!!!"***

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Recognised issues

- Frustrated Physicians
- Hospitals Switching EMR Vendors
- (US issues) A New President and New Healthcare Policy Leaders
- Ransomware Attacks and Cyber Breaches Causing a PR Downside
- "Dashboarding," Blockchain and Other Product Trends
- Hundreds of Competitors
- No Vendor With Even 1/5th of the Market
- Interoperability Mandates
- IT Staff Shortages

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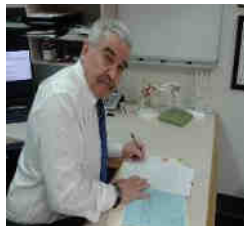
End user driven electronic clinical record development – *Critical Integrative Centrality* in the health care axis

Michael Sandow FRACS
Orthopaedic Surgeon
Wakefield Orthopaedic Clinic
Adelaide

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Michael Sandow BMBS FRACS

- Orthopaedic Surgeon
- Wakefield Orthopaedic Clinic, Adelaide
- 13 surgeons
- Electronic practice records >20 years - Appointments / accounts / letters
- Until recently, only one still kept paper clinical notes
- Yes that would be me!!



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Wakefield Orthopaedic Clinic EMR status

- WOC Surgeons uses one predominant Medical records system
- Why paperless – *“largely office space / secretarial work load driven”*
- WOC Surgeon 1 – *“slower, but the secretaries love it. I was going to toss it in, but too late now, and I cope, but I’m not that happy.”*
- WOC Surgeon 2 *“harder and slower to see patients, but I’m not carrying around piles of notes – like you!”*

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Why do I need to go paperless

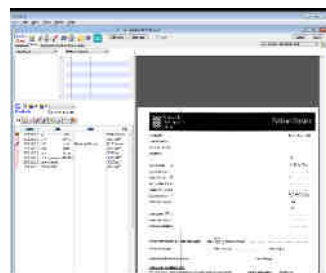
- Managing patient appointments ✓
- Managing the billing ✓
- Storing the data ✓
- Paperless clinical records !



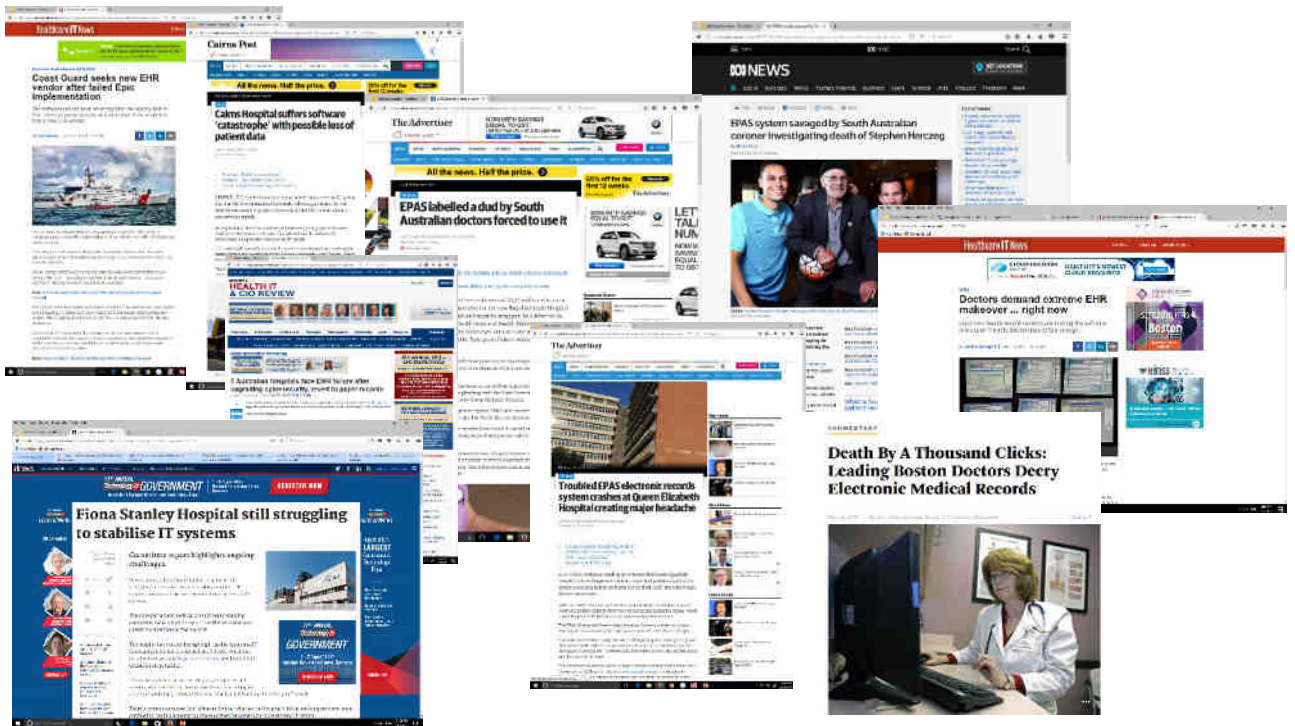
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Wakefield Orthopaedic Clinic EMR status

- Records quality has fallen – most only use the GP letter
- More legible, but less complete – SLOWER!
- Sometimes 3-4 line typed note for consults, and some scans
- Multiple individual files – may need 20 files open to review a case



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SA Health / RAH experience

- Hand Clinic Outpatient template reduced from 25 → 7 patients per hour
- Planning to employ scribes



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SA Health / RAH experience

- Hand Clinic Outpatient template reduced from 25 → 7 patients per hour
- Planning to employ scribes
- Unable to go paperless for the nRAH move



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Is EMR delivering what is needed?

- “...what doctors want most is an EHR that *fits with their workflow, not disrupts it.*” HealthcareITNews April 2017
- “....that EMRs have *not been designed by their end users.*
... a *clinician-driven EMR* may be an *opportunity to innovate.*”!!!!
US National Innovation Summit 2014

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Transition from Hard to Soft

- EMRs are designed for coding and billing,
- not efficient patient care

What they should do:

- emulate efficient, entrenched workflows
- designed around the end-users' needs

What current EMR technology actually does:

- significant workflow disruption
- decreased eye-eye contact with the patient
- increased time to document a record

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Move to paperless eMR / eCR

- Same work flow or better
- Same data input or better
- Increased IT functionality



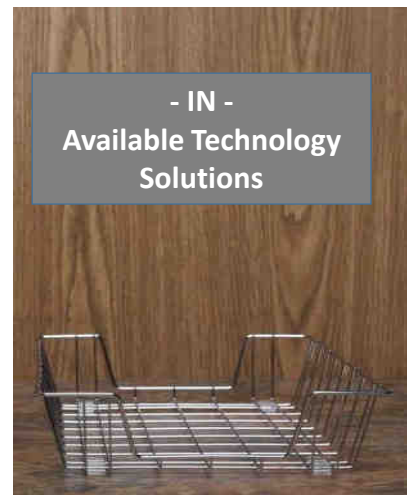
- *What is done well in hard – emulate it in soft*
- *What is done badly in hard – replace it in soft*

Hardly a unique situation – so where is the solution?

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MJS Technology IN-Basket test

- Define the specifications
- Check the IN Basket
- If nothing there
 - consider doing it yourself



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1. Storing and organising the Medical / Health data

- Primary role of most EMR – does it well.

2. Getting data into the system

- Typing faster is not the answer
- Touch typing has lower cognition and retention than hand writing

The Pen Is Mightier Than the Keyboard – Advantages of Longhand Over Laptop Note Taking

Pam A. Mueller, Daniel M. Oppenheimer April 2014

3. Getting data out of the system

- Multiple separate files can be an issues

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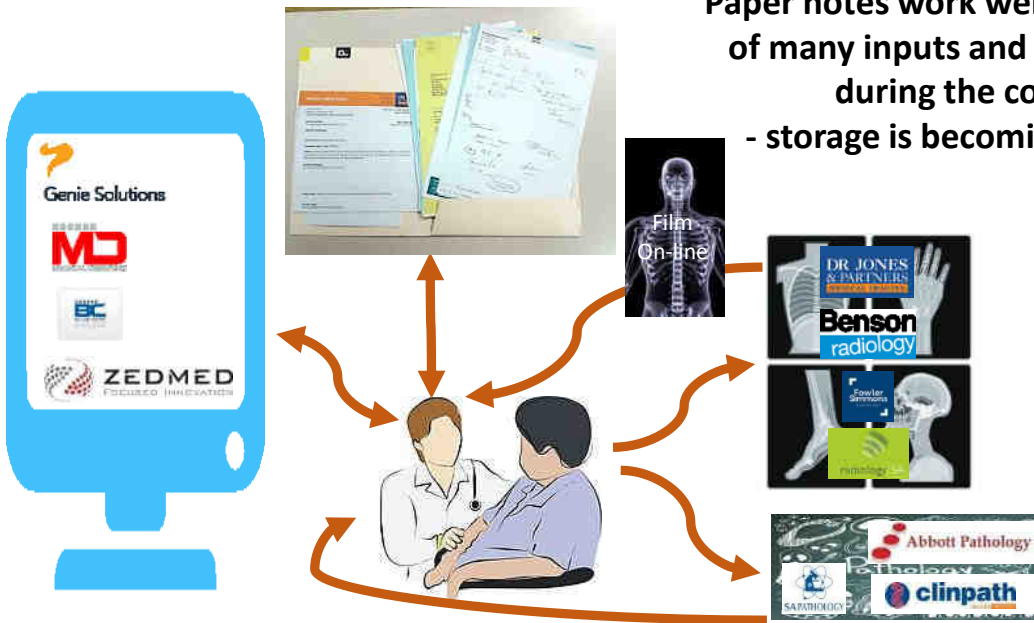


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"I don't know what's worse - trying to read a doctor's handwriting in charts or their typing errors in the EMR."

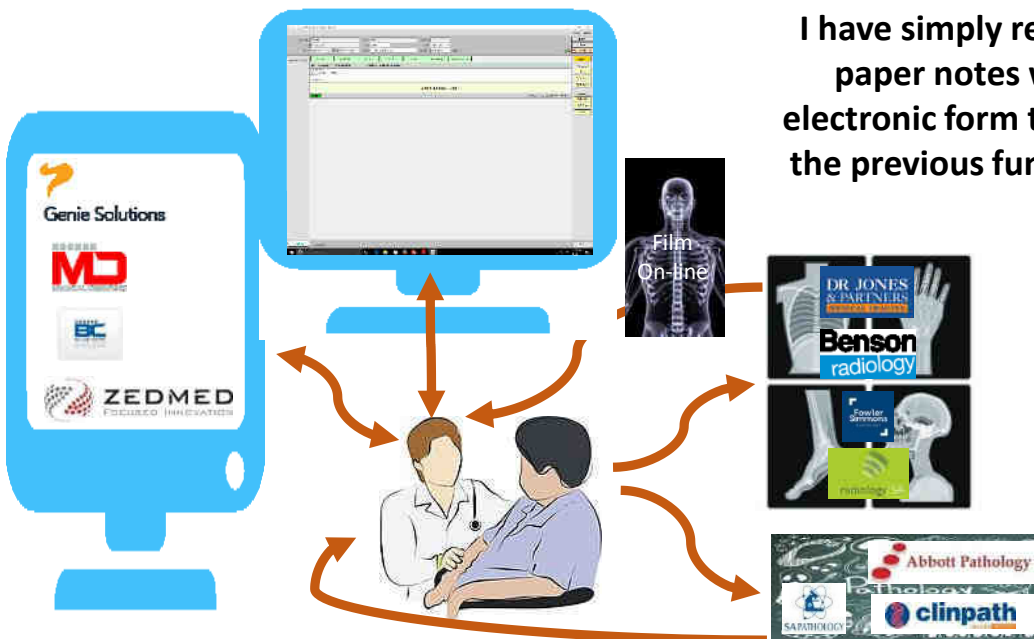
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I use Genie to run my practice, and Paper notes work well, but are one of many inputs and connections during the consult
- storage is becoming an issue

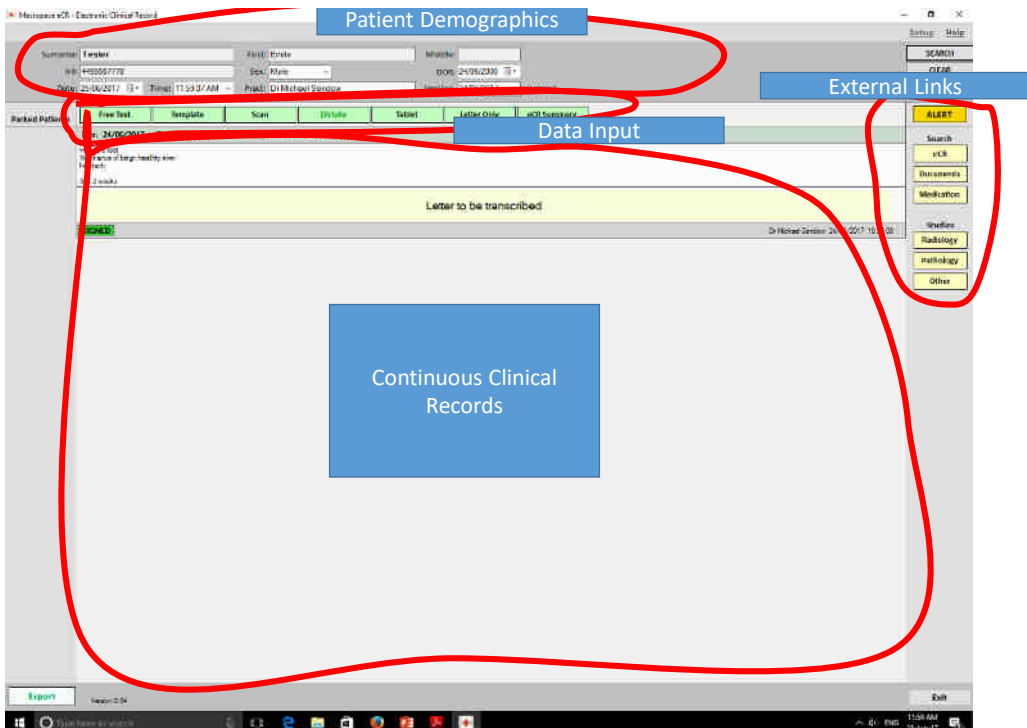


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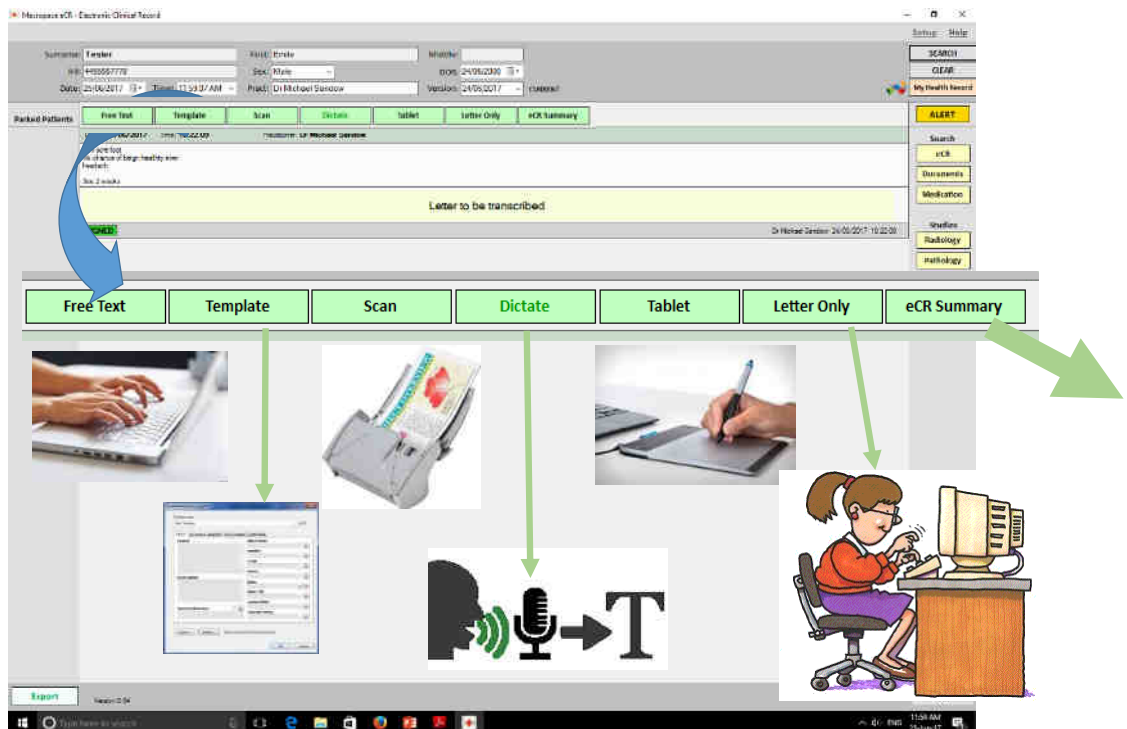
I have simply replace my paper notes with an electronic form that match the previous functionality



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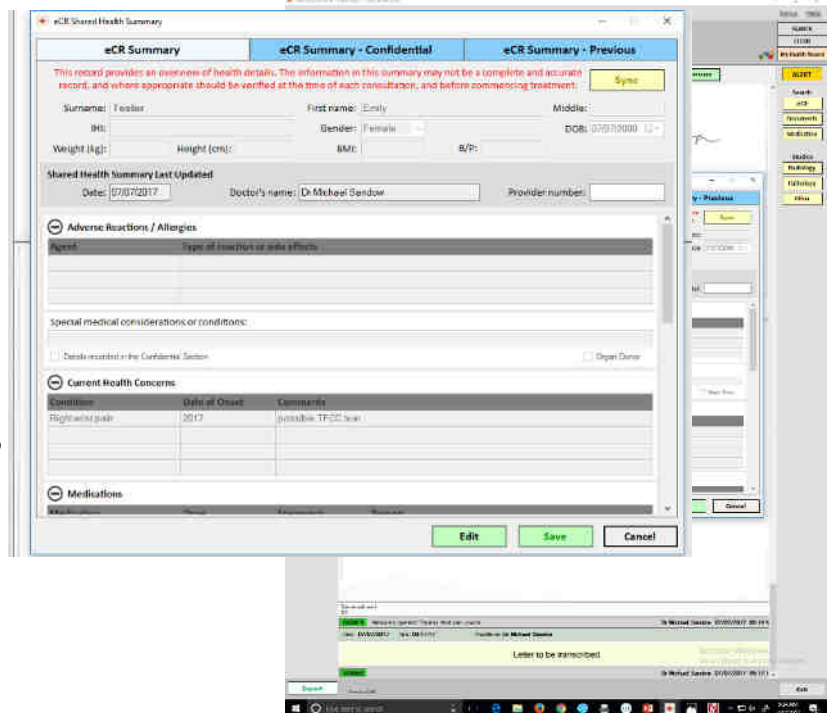
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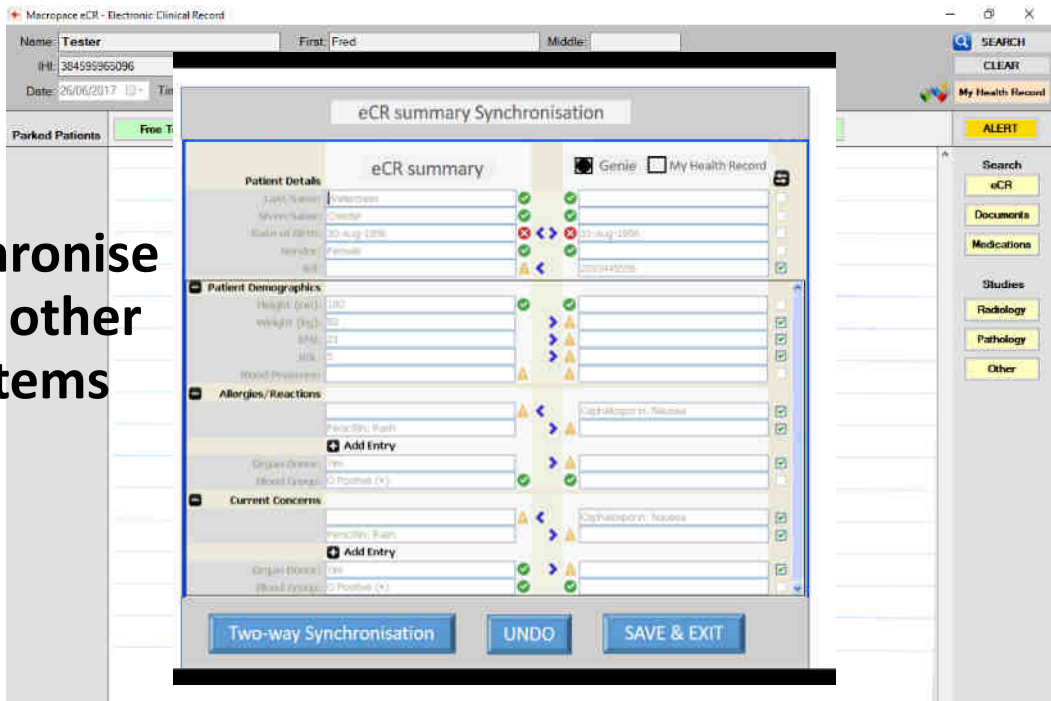
eCR Summary

- eCR Summary
- eCR Confidential Summary
- eCR summary – Previous versions
- Sync



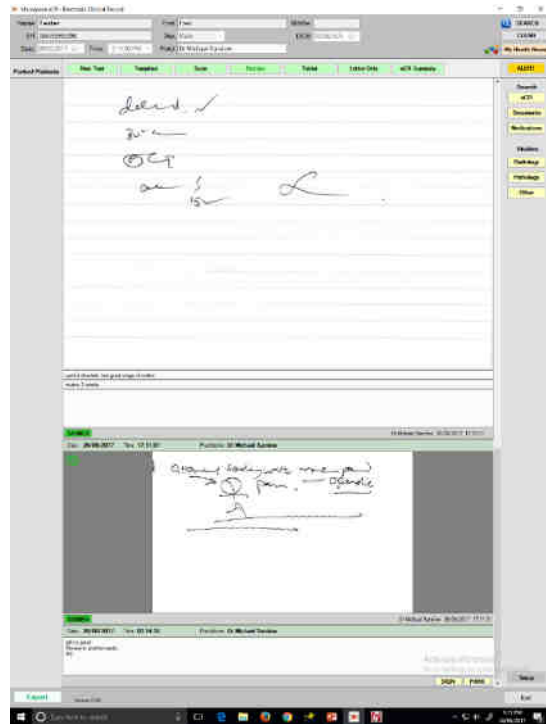
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Synchronise with other systems



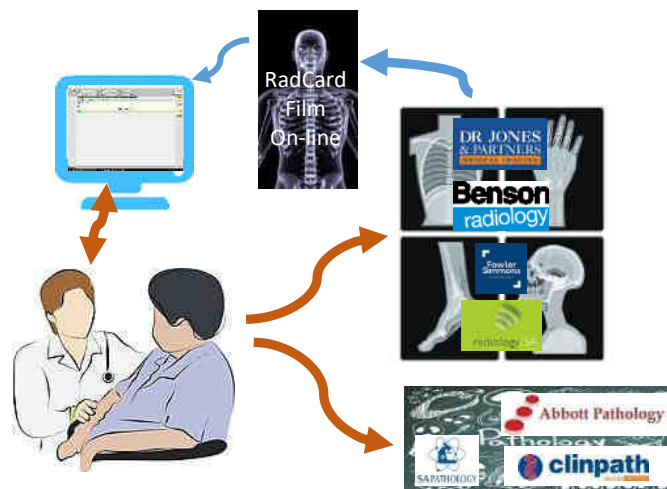
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- Continuous medical record
- Searchable with bookmarks or text etc
- Links to external sources
 - Host Medical Software
 - Radiology
 - Pathology
 - My Health Record
- Alert link
- Exportable as PDF



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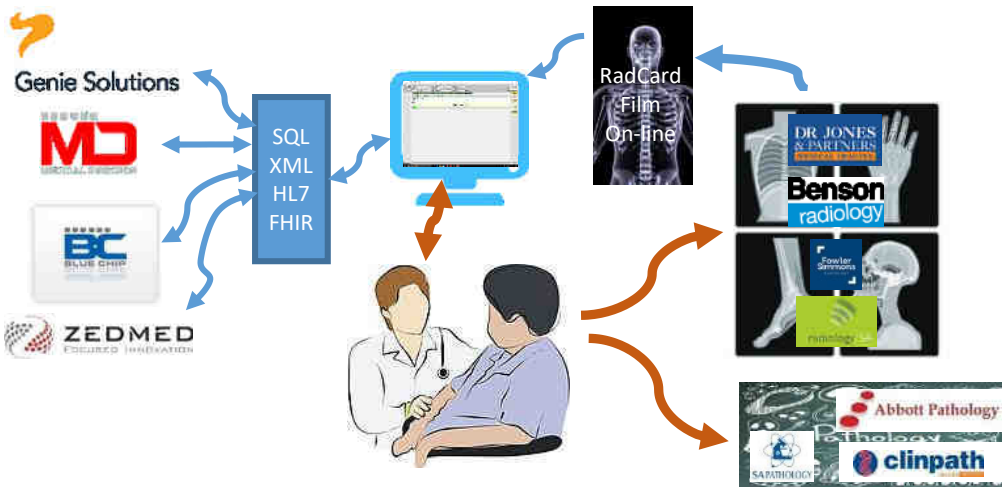
Radiology and Pathology can be linked



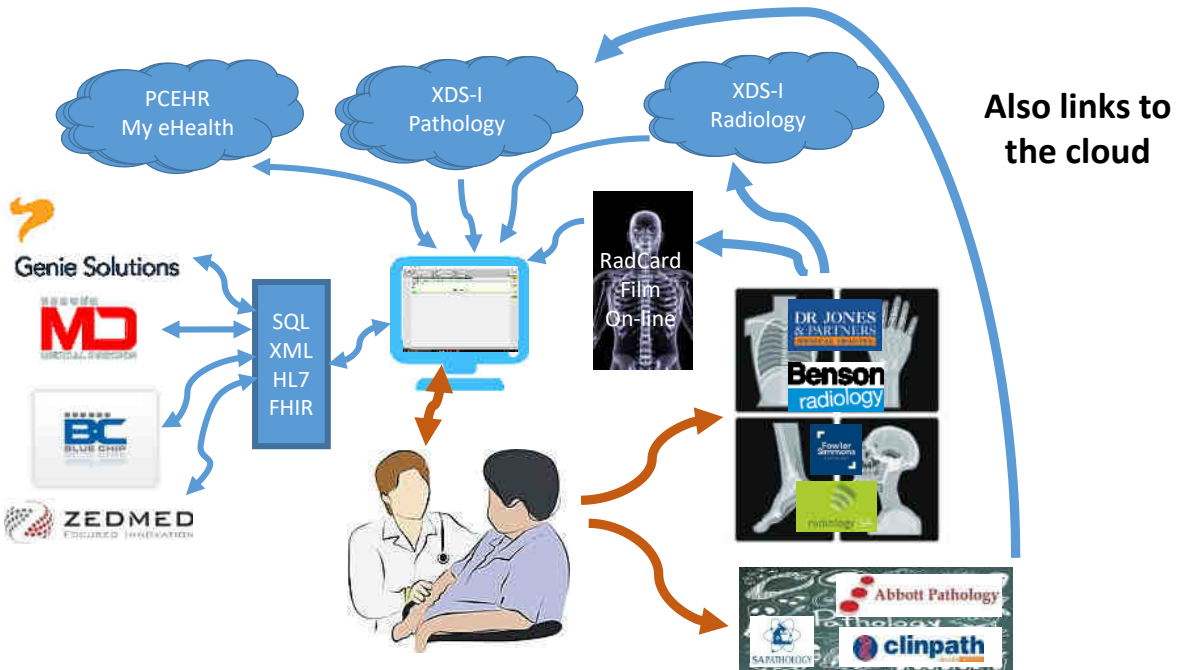
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Because it is an electronic interface, I now have a single conduit to link to the host managements software and radiology/pathology.

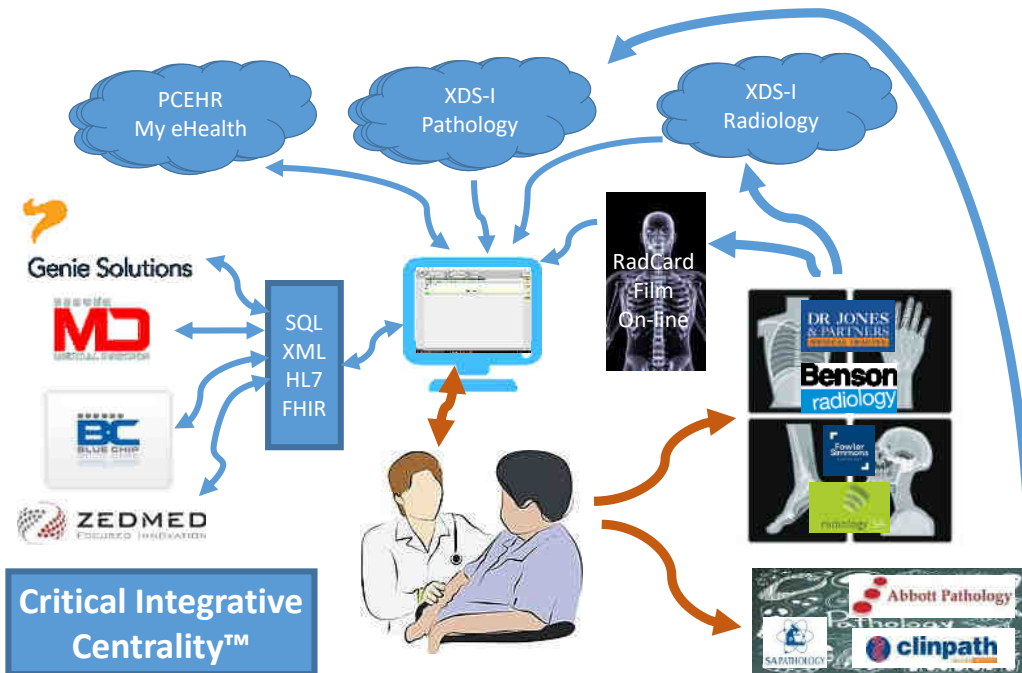
Same data input / Better data access / integrated IT functionality



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Macropace eCR

** The software is not commercially available **

Successful Transition to Paperless

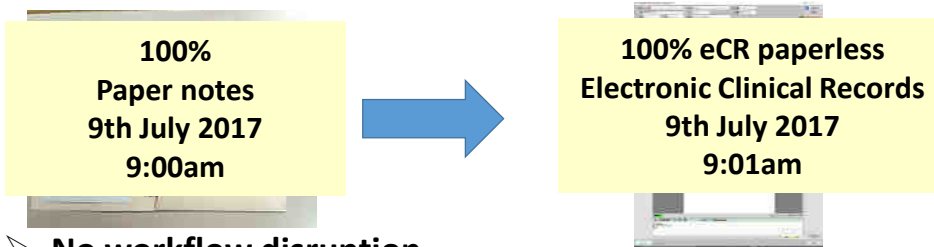
- Managing patient appointment 
- Managing the billing 
- Storing the data 
- Paperless clinical records 



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Successful Transition from Hard to Soft

- emulated my efficient, entrenched workflows
- designed around the end-user's needs
- Achieved a seamless “point in time” transition



- No workflow disruption
- Facilitates eye-eye contact with the patient
- Reduced documentation time
- Medical Defence compliant !!!

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Not that difficult if the specification and functional requirements are defined



The (successful) outcomes are typically achieved for those who sets the design specifications!!

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**End user driven electronic clinical
record development –
Critical Integrative Centrality
in the health care axis**

Macropace eCR
(patents pending)