

The EHR Journey in the UK: Change in Direction?

**EPJ-Observatoriets
Årskonference 2002**

Nyborg, Denmark

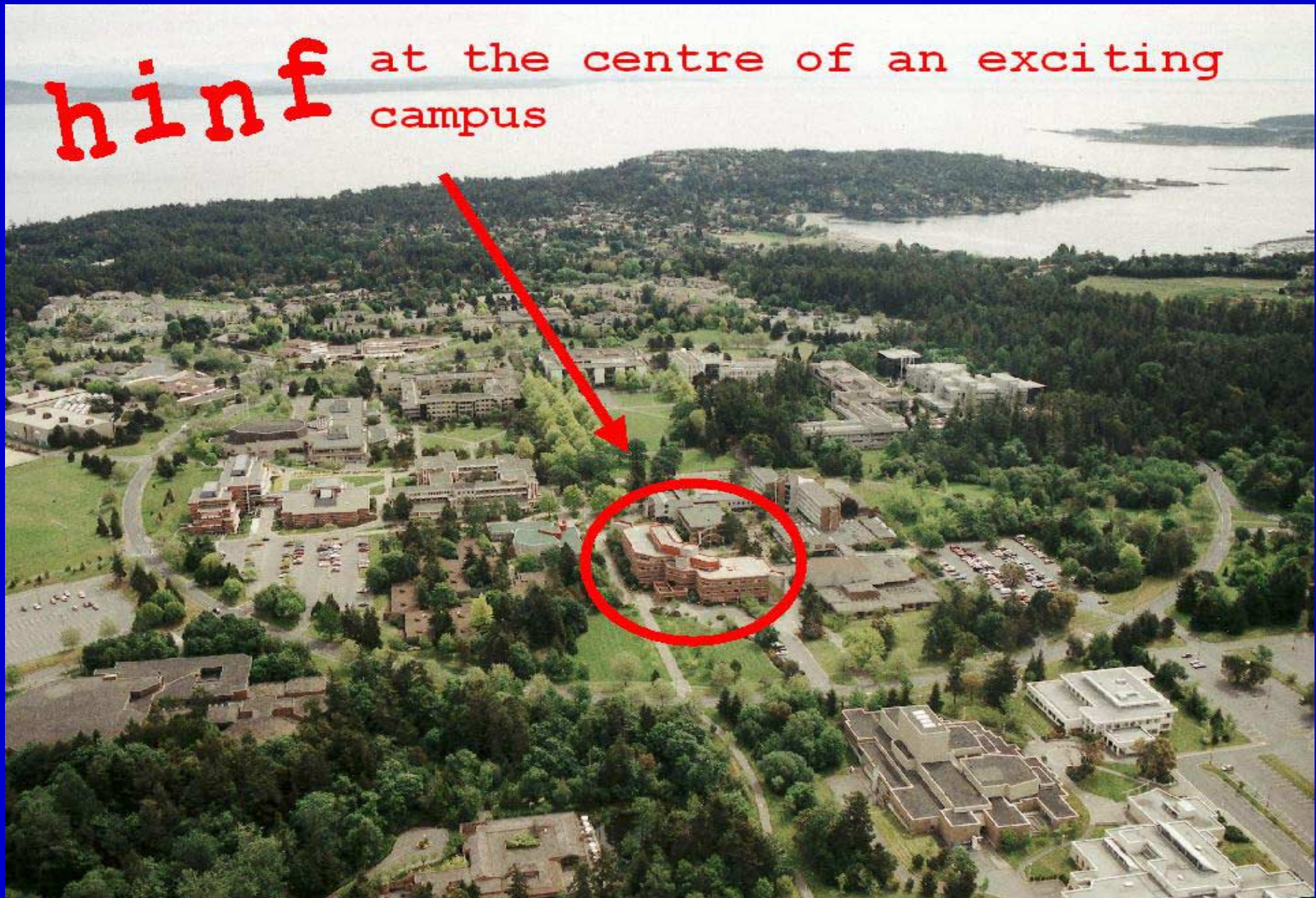
October 29, 2002

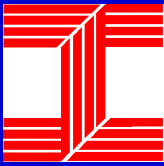
Victoria British Columbia



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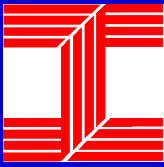
at the centre of an exciting
campus





Outline

- 1. EHR - a semantically challenged topic**
- 2. The British view of the EHR**
- 3. Rising expectations in Britain**
- 4. The British experiment with the EHR**
- 5. What the British scouts are bringing back**
- 6. Concluding comments**
- 7. Discussion**

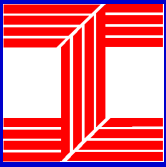


The semantic challenge

- **Computer-based Patient Record System (CPR)**
- **Electronic Medical Record (EMR)**

- **Electronic Patient Record (EPR)**
- **Electronic Health Record (EHR)**

- **Consumer Health Record (CHR)**
- **Longitudinal Health Record (LHR)**
- **Patient Medical Record (PMR)**
- **Personal Health Record (PHR)**
- **Etc..**



The EHR Journey From HIS to HERS?

As per Moehr

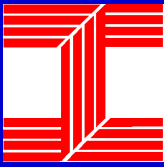
From: HIS = Hospital Information System

To: HERS = HEalth Record System

As per Protti

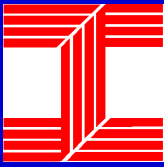
From: HIS = Passive systems (pull)

To: HERS = Active systems (push)



Early EHR Efforts

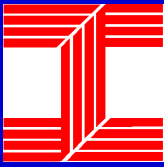
- **1960s**
 - **Larry Weed's Problem Oriented Medical Record**
 - **PROMIS project in Vermont**
 - **EMR @ Mayo Clinic in Rochester**
- **1970-80s**
 - **El Camino Technicon HIS**
 - **COSTAR @ Harvard**
 - **HELP @ LDS in Utah**
 - **TMR @ Duke**
 - **The Regenstrief Record in Indiana**



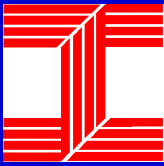
The Formal Start to the EHR Journey

- **A Computer-based Patient Record (CPR) is an electronic patient record that resides in a system specifically designed to support users through availability of complete and accurate data, practitioner reminders and alerts, clinical decision support systems, links to bodies of medical knowledge and other aids**

Institute of Medicine (IOM), 1991

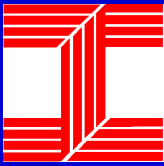


IOM gold standards for a CPR system



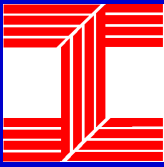
IOM Gold Standards

- 1. Offers a problem list**
- 2. Is able to measure health status and functional levels**
- 3. Can document clinical reasoning and rationale**
- 4. *Provides a longitudinal CPR and has timely linkages with other patient records***
- 5. Guarantees confidentiality, privacy and audit trails**
- 6. Offers continuous access for authorized users**



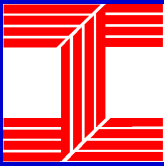
IOM Gold Standards

- 7. Supports simultaneous multiple user views into the CPR**
- 8. Supports timely access to local and remote information resources**
- 9. *Facilitates clinical problem solving***
- 10. *Supports direct entry by physicians***
- 11. Supports practitioners in measuring or managing costs and improving quality**
- 12. Has flexibility to support existing or evolving needs of clinical specialties**



Concept of a CPR system

- **Has evolved to include 5 important ingredients characteristic of functional needs of its end-users:**
 - 1. Integrated view of patient data**
 - 2. *Physician order entry and clinician data entry***
 - 3. Integrated communications support**
 - 4. *Clinical decision support (drug interaction and abnormal laboratory test alerts, trend analysis, matching to clinical practice guidelines, critiquing systems)***
 - 5. *Access to knowledge resources (guidelines, rules, regulations, medical literature)***



The Reality About the EHR?

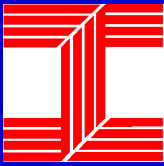
- “In a number of recent surveys healthcare executives have ranked the implementation of electronic medical records (EMR) systems among their top three strategic initiatives.”

Linda Brackett

A Strategic Journey: 10 steps to an ambulatory EMR initiative

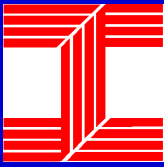
Healthcare Informatics, June 1999

- *But the term is rarely defined*
- *Implication – the EHR is simply an electronic version of the paper chart!*



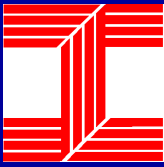
“The EMR is not the electronic form of the old paper record; it is something entirely different and surprisingly more intelligent than what we had imagined.”

**Gamble B
However Can We Convince Our Colleagues
Electronic Healthcare.com, Vol. 1, No. 1, 2001**



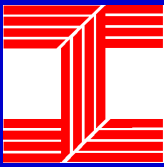
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National Health Service (NHS)

- **Created in 1948**
 - **Serves 60M people (employs ~1M people)**
 - **Annual expenditures - £ 50 billion**
- **NHS Acute Trusts (Hospitals) ~500**
- **NHS Community & Mental Health Trusts ~100**
- **Strategic Health Authorities ~30**
- **Primary Care Groups/Trusts ~ 400**
- **Doctors ~ 68,000**
- **Nurses ~ 360,000**
- **General Practitioners ~31,000**
- **GP Partnerships/Practices ~9,000**
- **Pharmacies ~10,000**



No end of plans

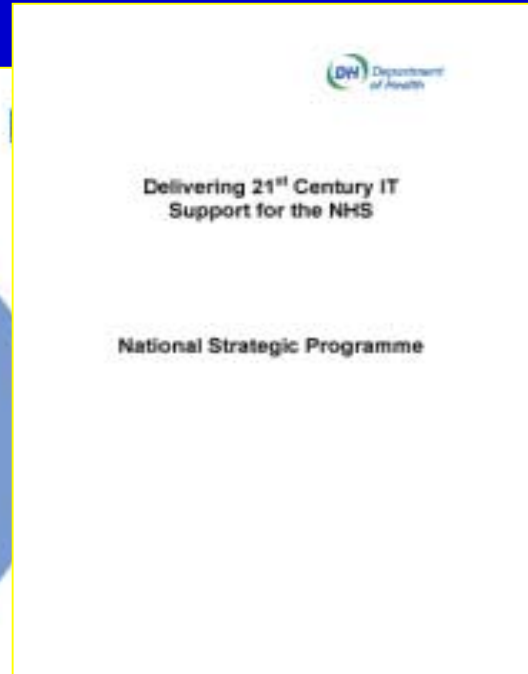
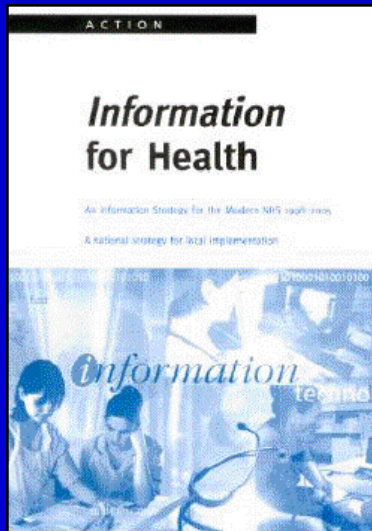
January 2001

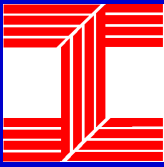
June 2002

July 2000

April 2000

September 1998



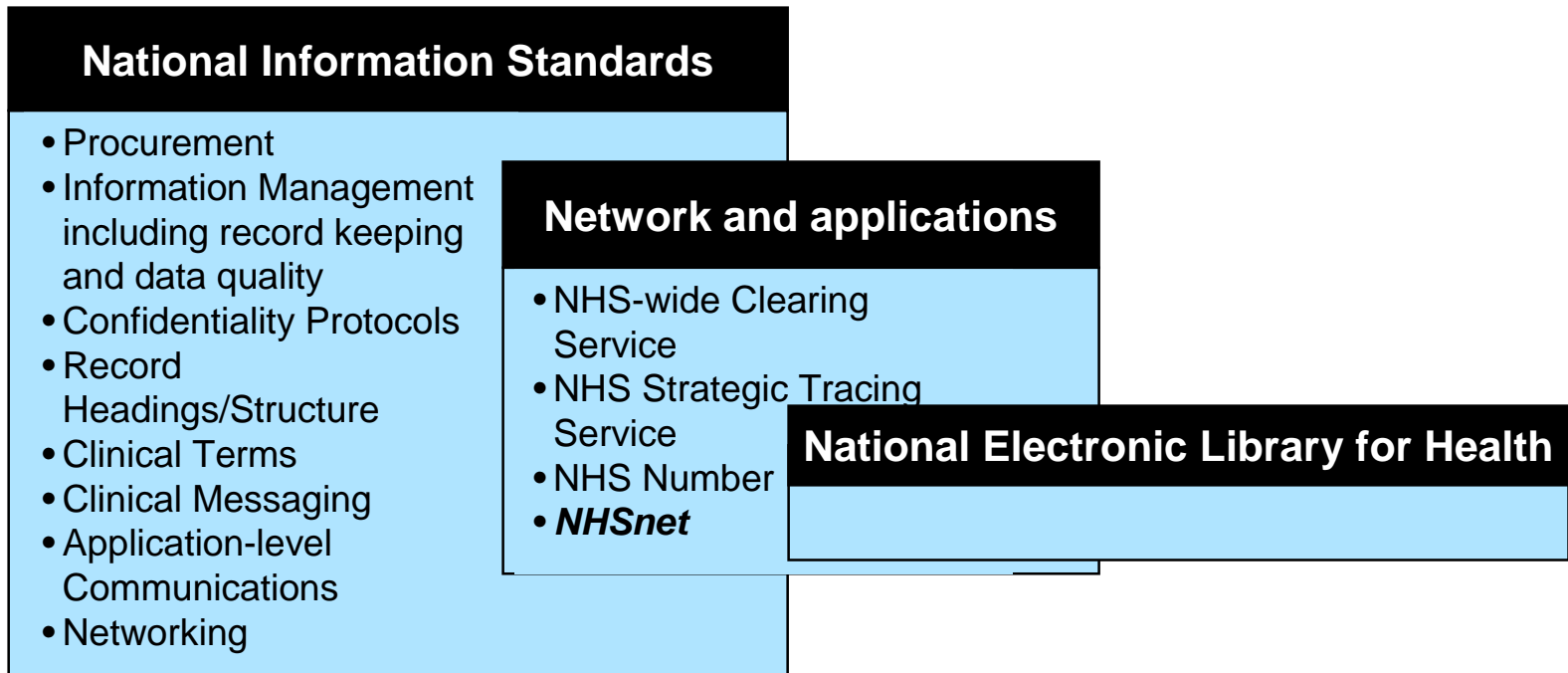


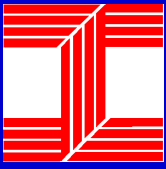
1992 IM&T Strategy: Principles

- **Information will be person based**
- **Systems should be integrated**
- **Information will be derived from operational systems**
- **Information must be secure and confidential**
- ***Information will be shared across the NHS***



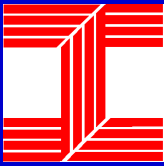
1992 - National Information Infrastructure Intentions





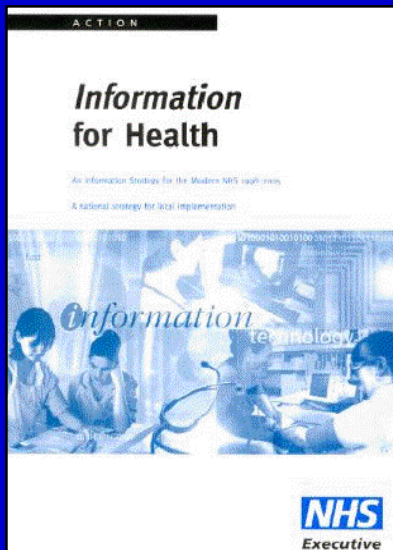
1992 National infrastructure developments

- *New NHS Number*
- **Clinical Terms Version 3 (Read Codes)**
- **NHS-wide networking and standards**
- **NHS-wide Clearing Service**
- *Agreements with the clinical community on security and confidentiality of patient data*
- **Agreement on message standards in a number of administrative and clinical areas.**



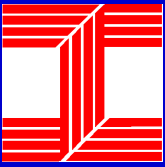
Information for Health (IfH) An Information Strategy for the Modern NHS 1998 - 2005

- **Released September 24, 1998**
 - written by Frank Burns, CEO, Wirral NHS Trust



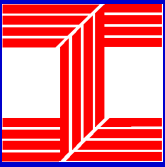
- **“The challenge for the NHS is to harness the information revolution and use it to benefit patients”**

Rt. Hon. Tony Blair



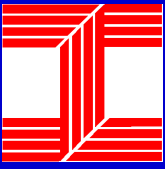
“If I live in Bradford and fall ill in Birmingham then I want the doctor treating me to have access to the information he needs to treat me.”

**Prime Minister Tony Blair
NHS 50th conference speech
1998**



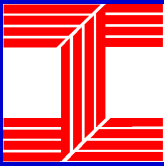
“The new Strategy will be based on the fundamental premise that good clinical and service performance management information will only flow if the strategy is focused on delivering the information required to support day-to-day clinical practice.”

section 1.32



“Over the lifetime of the strategy, the Government will support implementation of Information for Health with an investment in excess of *one billion pounds*”.

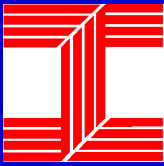
Section 7.9



IfH Targets

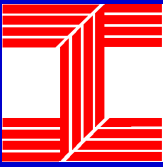
(as of Sept. 98)

- **By 2002**
 - **Use of NHSnet for appointment booking, referrals, radiology and laboratory requests/results in all parts of the country**
 - **35% of all NHS Trusts at level 3 EPR**
 - **Community prescribing with electronic links to GPs and the Prescription Pricing Authority**
- **By 2005**
 - **Full implementation at primary care level of first generation person-based EHR**
 - **100% of all NHS Trusts at level 3 EPR**
 - **The electronic transfer of patient records between GPs**



“The arguments for a move towards an electronic record are compelling. Such records are more likely to be legible, accurate, safe, secure, and available when required, and they can be more readily and rapidly retrieved and communicated.”

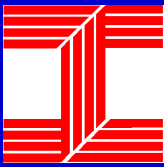
Section 2.7



Electronic Patient Record

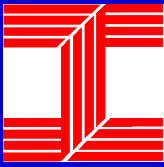
- **The record about the periodic care provided mainly by one institution.**
- **Typically will relate to the healthcare provided to a patient by an acute hospital (NHS trust).**
- **EPRs may also be held by other healthcare providers, for example - specialist units or mental health NHS Trusts.**

**Information for Health, 1998
Section 2.10**



The six levels of EPRs

Level 6	Advanced multi-media and telematics Level 5 <i>plus</i> telemedicine, other multi-media applications (eg. picture archiving and communications systems)
Level 5	Specialty specific support Level 4 <i>plus</i> special clinical modules, document imaging
Level 4	Clinical knowledge and decision support Level 3 <i>plus</i> electronic access to knowledge bases, embedded guidelines, rules, electronic alerts, expert system support
Level 3	Clinical activity support Level 2 <i>plus</i> electronic clinical orders, results reporting, prescribing, multi-professional care pathways
Level 2	Integrated clinical diagnosis and treatment support Level 1 <i>plus</i> integrated master patient index, departmental systems
Level 1	Clinical administrative data Patient administration and independent departmental systems

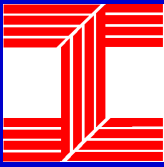


EPR Level 3 (UK NHS)

Clinical Activity Support & Noting

- ***Inpatient & Outpatient Order Entry and Results/Report Viewing***
- ***Electronic Prescribing & Administration***
- ***Integrated Care Pathways (Phase 1)***

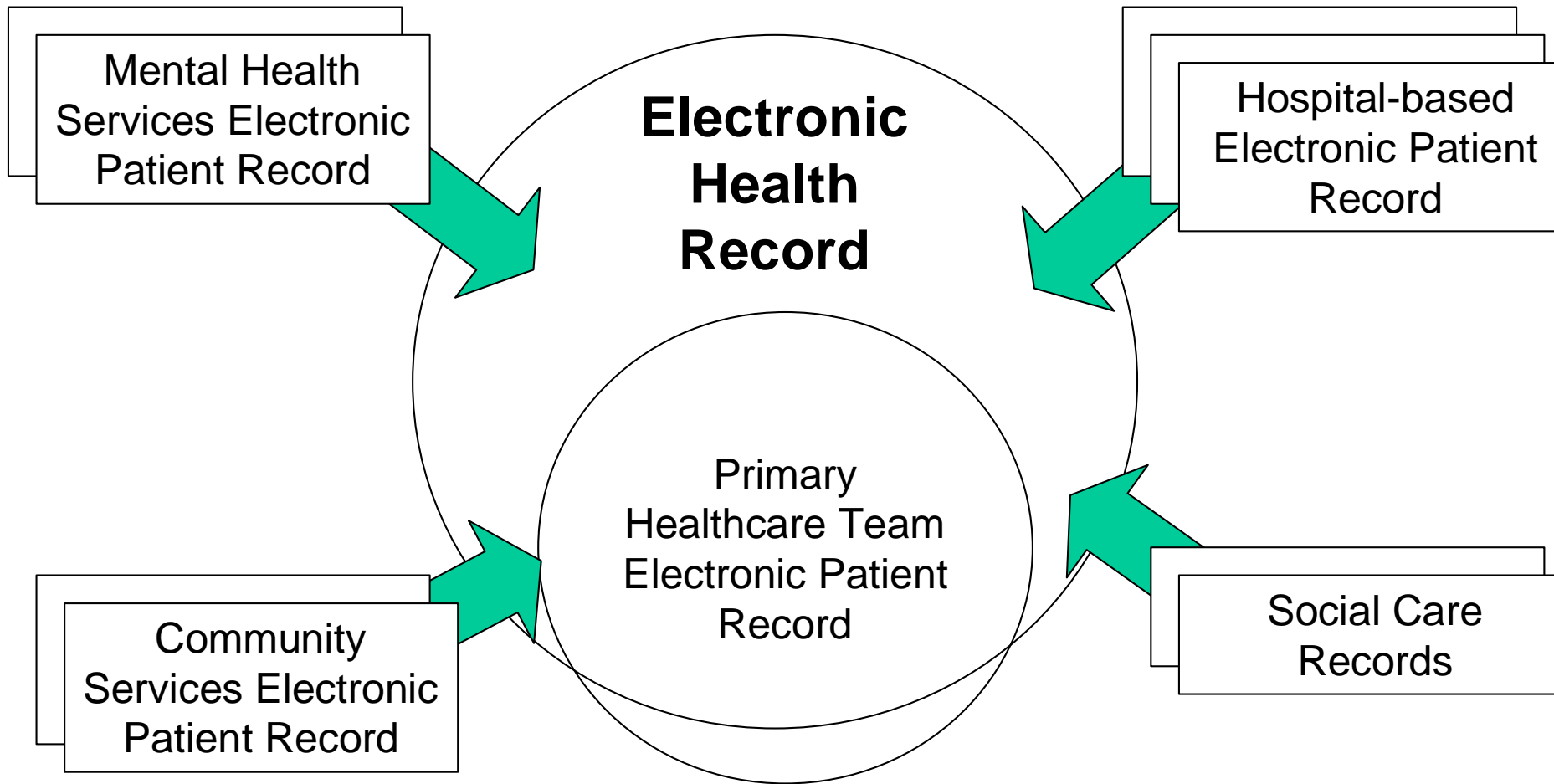
- **Clinician Noting – Single discipline**
- **Clinical Documents, Correspondence Viewable across the Hospital**



Electronic Health Record

- **Describes the concept of a longitudinal record of patient's health and healthcare - from cradle to grave.**
- **It combines both the information about patient contacts with primary healthcare as well as subsets of information associated with the outcomes of periodic care held in the EPRs.**

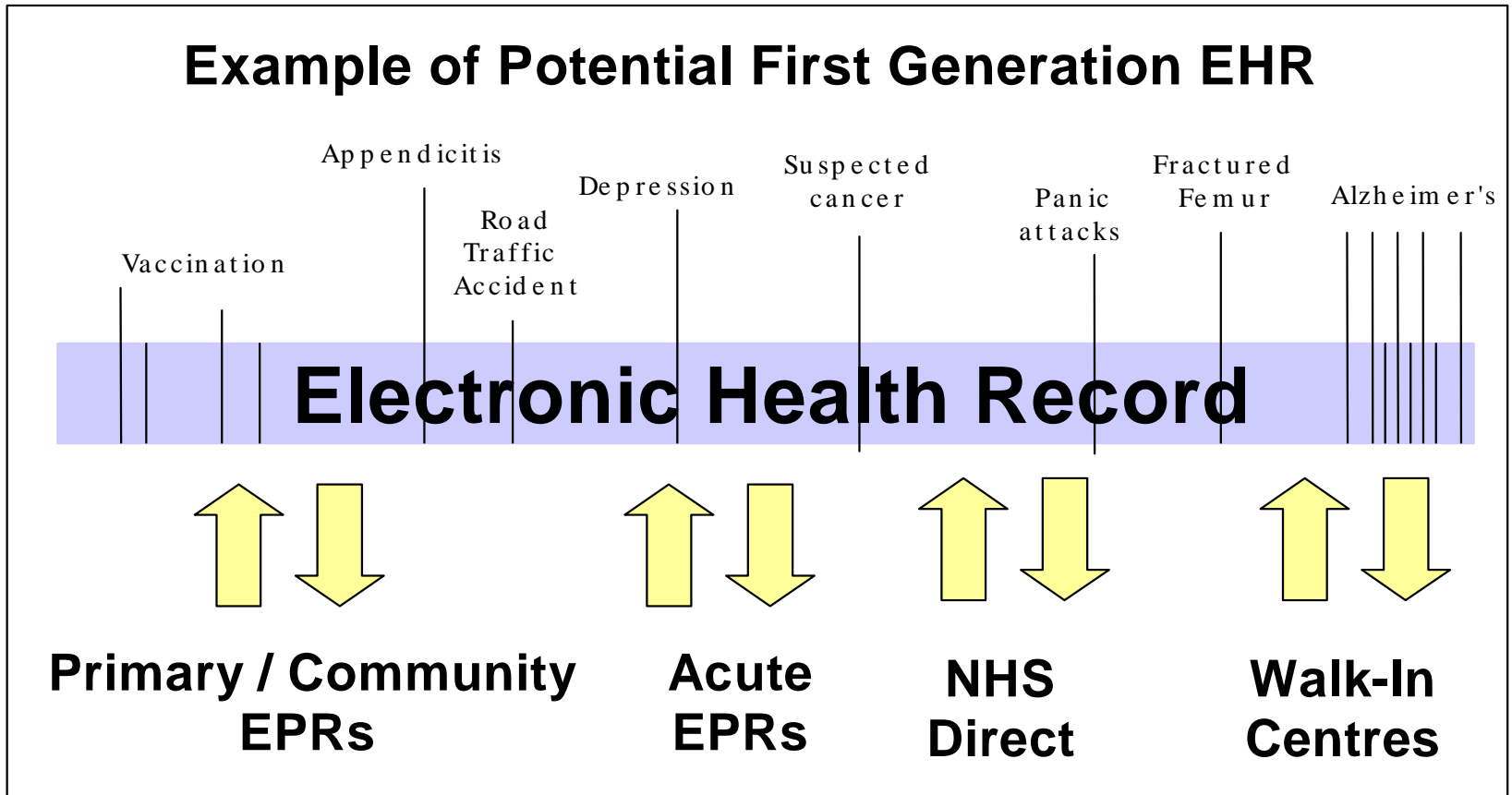
Creating the Electronic Health Record

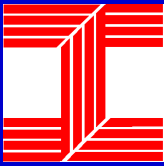




Deja Vue – the LHR of the '60s?

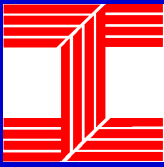
Example of Potential First Generation EHR





View of IfH by 1999

- **Garnered significant national attention**
- **Early optimism quickly turned to doubt that the aggressive objectives could be attained due to:**
 - **Existing infrastructure**
 - **Existing capabilities**
 - **Procurement issues**
 - ***Policy and culture changes***



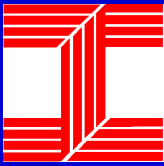
e-Government Strategy

(April 2000)

“New technology offers unprecedented opportunities for modernisation throughout our society ...

Electronic access to government services will become increasingly important to citizens and by 2005 we plan to have all of our services available this way.”





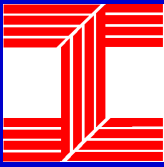
The NHS Plan

A plan for investment

A plan for reform

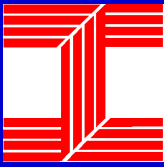


July 2000



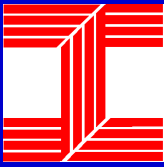
Blair's Promises in NHS Plan

- **To raise total (public and private) healthcare spending to match the European Union average (9.0% in 1997) as a proportion of GDP by 2006**
- **UK currently at 6.6% of GDP**



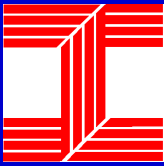
NHS Plan - Highlights

- **20,000 more nurses**
- **7,500 more consultants (i.e. specialists)**
- **6,500 extra therapists**
- **2,000 more GPs**
- **1,000 more medical school places**



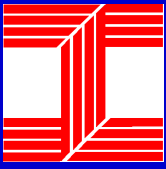
NHS Plan - Highlights

- **7,000 more beds** (hospitals & intermediate)
- **500 new one-stop primary care centres**
- **250 new scanners**
- **100 new hospitals by 2010**
- ***Modern IT systems in every hospital and GP surgery (office/practice)***
- **Bedside *TVs (digital)* & telephones for every patient**

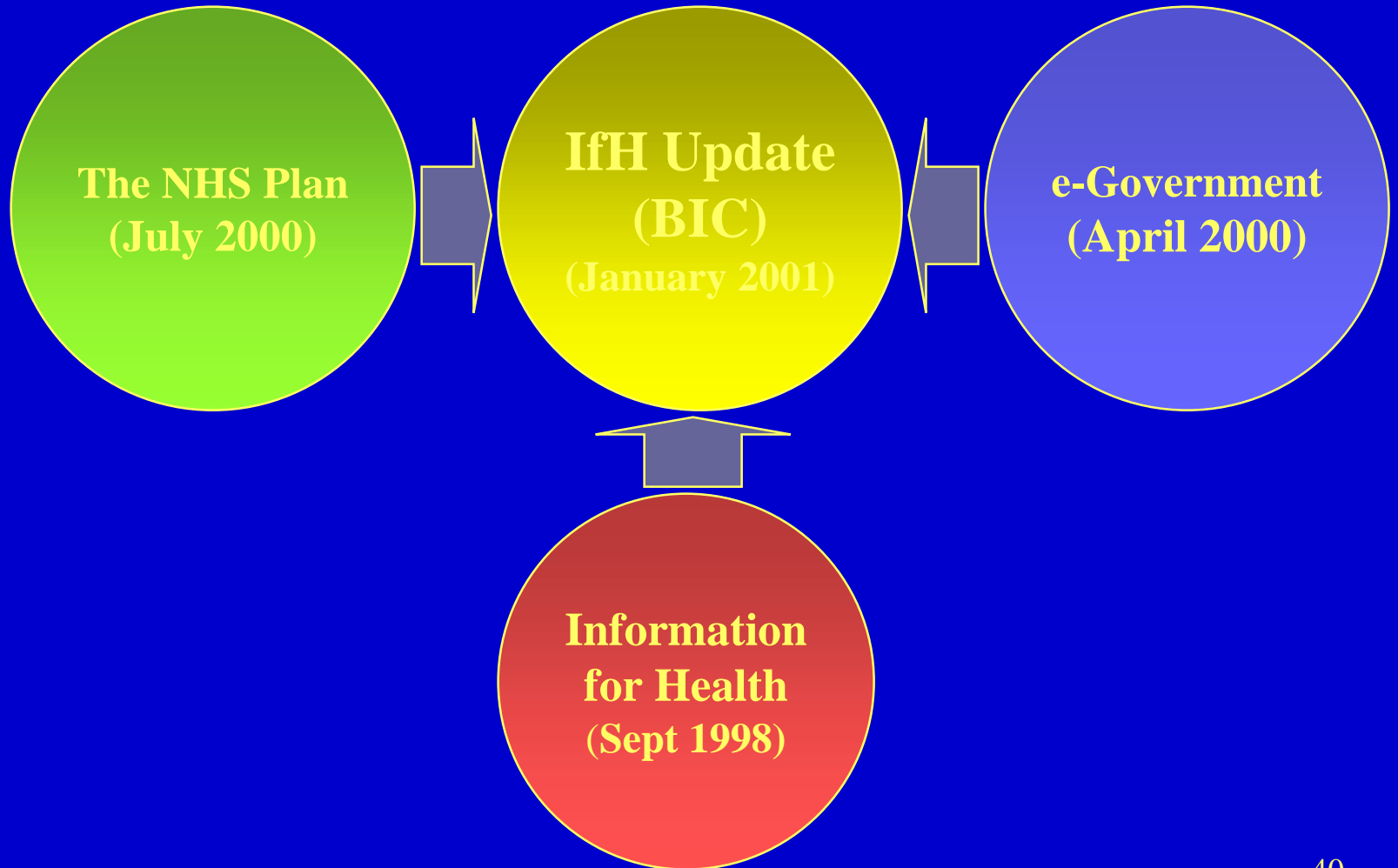


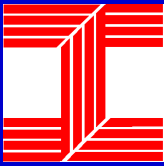
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The New World as of 2001



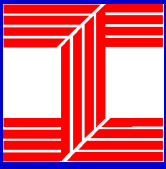


*Updating the 1998
Information for Health Strategy*

**Building the Information Core -
Implementing the NHS Plan**



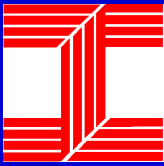
January 2001



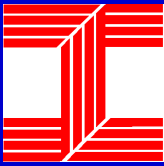
BIC tried to make sure everything was covered



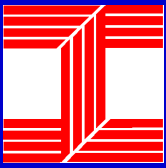
AFTER 50,000 GALLONS OF WHISKY
LEAKED INTO THE SEA, NO TERN
WAS LEFT UNSTONED



“IfH proved to be heading in the right direction but, whilst the central programme addressed some key national projects, the strategy lacked the priority, resources and organization for the NHS to implement quickly what was needed.”



- **Building the Information Core gave more prominence to providing information directly for patients than the original IfH document - patient held data, electronic support for self care, preventive care (screening recalls), etc.**



EHR: WHAT?

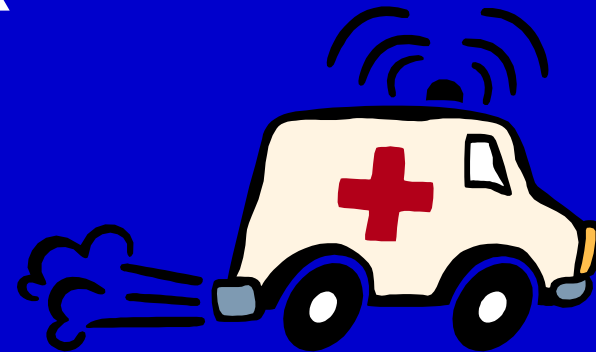
IfH: Cradle to Grave Record

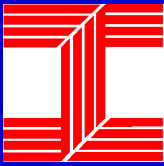
- Implementation: When?
 - My Lifetime?
- Cost?



BIC: Emergency Care EHR

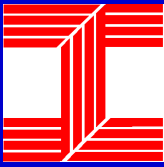
- When Used/Needed?
- In Emergency?
- After?





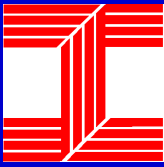
Revised Targets (as of Jan '01)

- **March 2002**
 - **All GP Practices to be computerised with LANs connected to NHSnet i.e. desktop access and with NHSnet Connections**
 - **Desk top access to basic e-mail, browsing and directory services for all clinical and support staff in NHS Trusts**
 - **35% of Acute Trusts (Hospitals) with EPR Level 3**
 - **60% of all biochemistry, hematology and microbiology test results to be by electronic transfer**
- **December 2002**
 - **100% of all biochemistry, hematology and microbiology test results to be by electronic transfer**



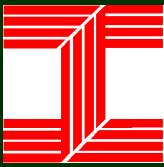
Revised Targets (cont'd)

- **March 2003**
 - **25% of Integrated Primary and Community Trusts to have an EPR**
 - **Electronic transfer of all radiology reports and discharge summaries between hospital and GP's**
 - ***All clinical information systems start to use the SNOMED Clinical Terms***



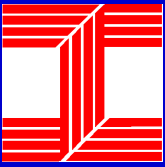
Revised Targets (cont'd)

- **December 2004**
 - *Patient access to electronic personal medical records*
- **March 2005**
 - **100% of Acute Trusts with EPR Level 3**
 - **100% of Integrated Primary & Community Trusts to have EPR**
 - **Full implementation of 1st generation primary care EHR**
 - **24 hour emergency access to patient records**
 - **All bookings from GPs to outpatients or from outpatients to daycase or inpatients to be made electronically**



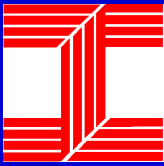
New funding for health ICT 1999 - 2004 ('000 £)

	99/00	00/01	01/02	02/03	03/04	Total
One-off ring fenced	70					70
HA Allocations		79	79	79	79	316
Budget 2000 distributed to HAs		26.5	26.5	26.5	26.5	106
Budget 2000 discretionary distribution by ROs		26.5	26.5	26.5	26.5	106
HA Baseline		132	132	132	132	528
Additional hypothecated HA IM&T funds			113	210	210	533
Total for NHS	70	132	245	342	342	1131
Additional funds for national initiatives		12	49	54	56	171
Total additional money	70	144	294	396	398	1302



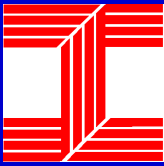
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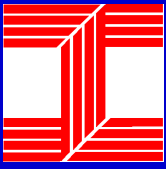
The Brits want to be at the cutting edge





The Experiment





ERDIP – 4 parts

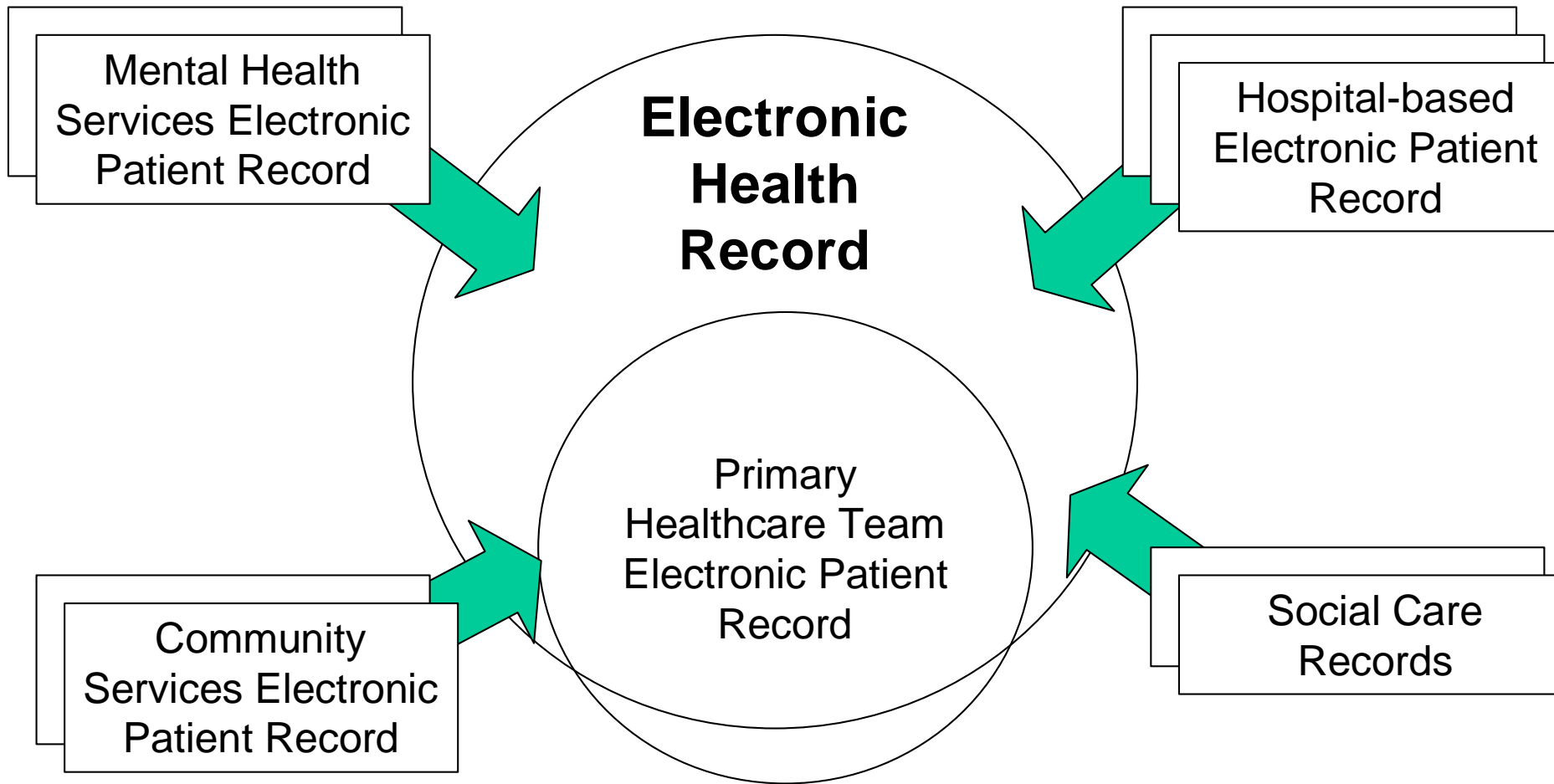
- 1. 17 demonstrator sites on EHR models**
 - **April 2000 - £2.4M for 4 pilot schemes**
 - **June 2000 - £5.8M for 14 more pilots**
 - **To be completed by December 2002**

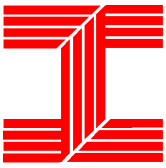
- 2. Evaluation – not only of the 18 demonstrator sites, but also of all 98 local health communities**

- 3. Achieving the Level 3 EPR targets**

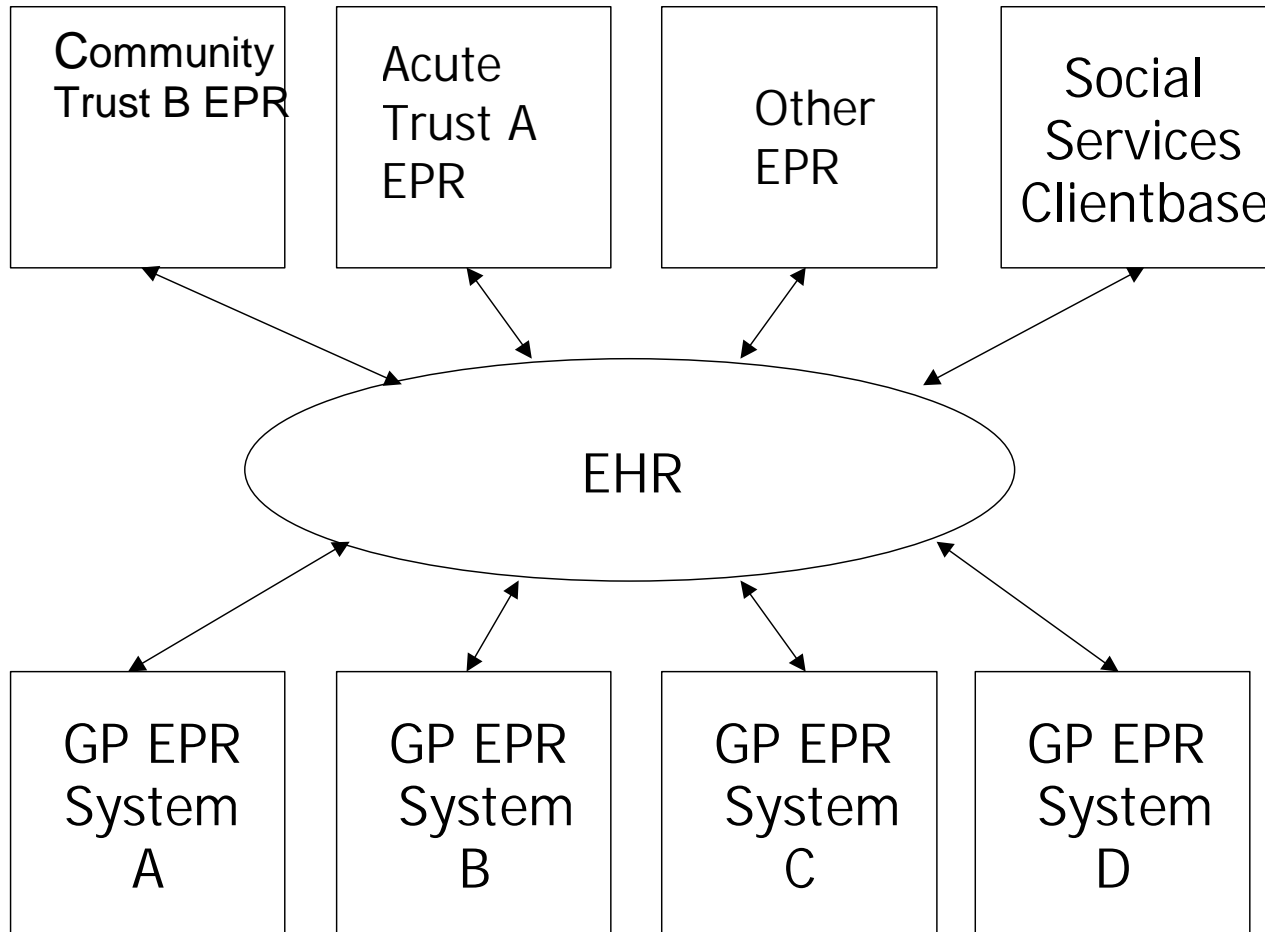
- 4. The so-called “Brain” – the on-going learning process and formal definition of the EHR**

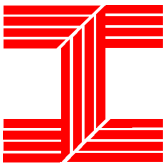
Creating the Electronic Health Record



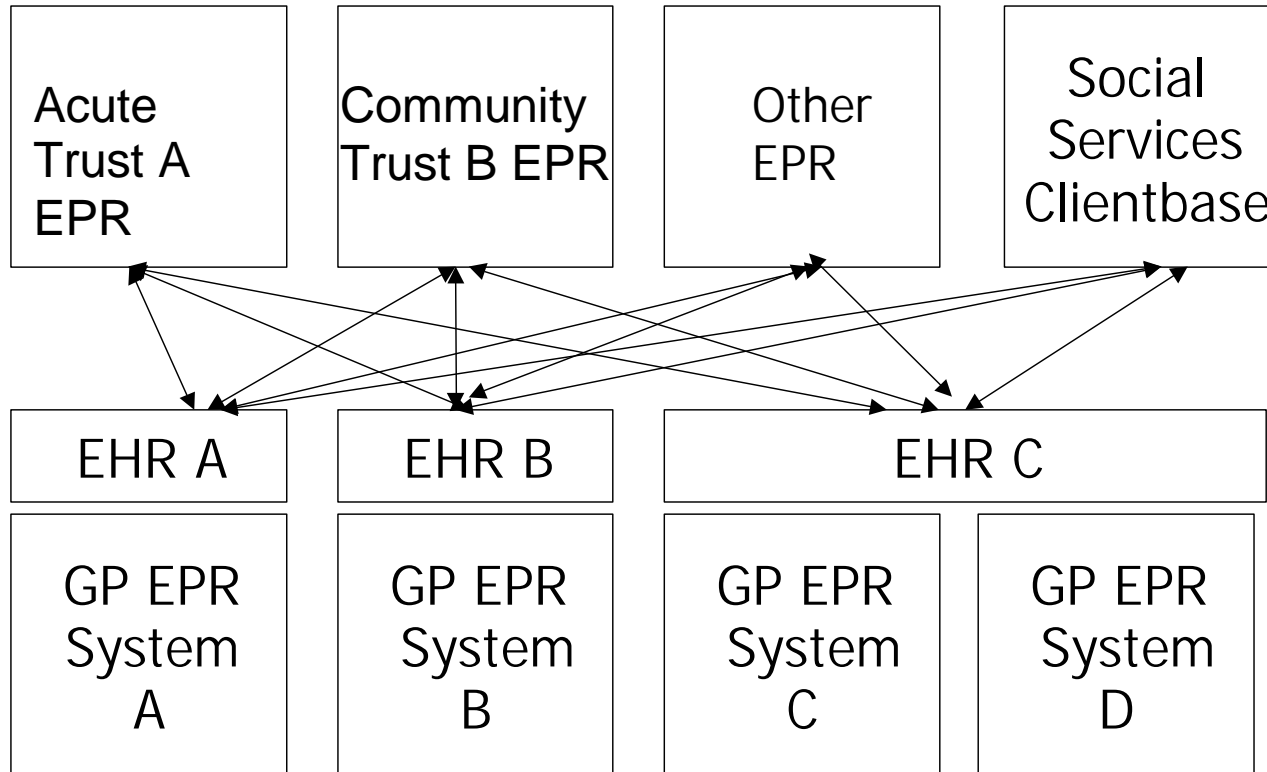


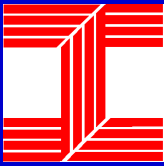
Centralised EHR





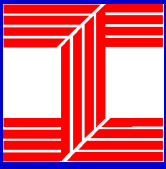
Distributed EHR





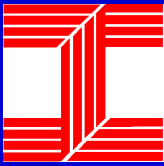
Outline

- 1. A semantically challenged topic**
- 2. The British view of the electronic record**
- 3. Rising expectations in Britain**
- 4. The British experiment with the EHR**
- 5. What the British scouts (ERDIP) are bringing back**
- 6. Concluding comments**
- 7. Discussion**



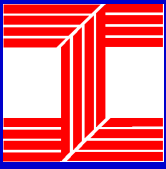
The early reports are a bit scary





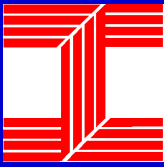
What has been learnt to-date?

- **Have all the questions been answered?**
- **NO**
- **Has the perfect national EHR been designed?**
- **NO**
- **Has a tremendous amount has been learned regarding policy, privacy, patient involvement, working together, etc. – those critical “cultural” issues?**
- **YES**



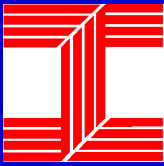
The scouts are bringing back messages about

- **Infrastructure**
- **The EHR's 'location'**
- **Impending policy issues**
- **Etc.**



Infrastructure for an EHR

- **An NHS networking infrastructure - including digital radio communications for ambulance systems - directory Services, security services & gateways etc.**
- **Users connected to the NHS networking infrastructure to access the EHR.**
- **An EHR system or systems accessible via the network.**
- ***The National Strategic Tracing Service - a facility to find the NHS Number for any patient registered with a general practitioner.***

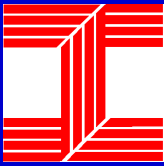


Uncertainty about the EHR 'location'

(Interview of 33 ERDIP representatives)

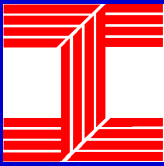
**“Where do you think the EHR will
likely reside by 2005?”**

- Don't Know – 8**
- In Primary Care – 7**
- In a Regional Setting – 7**
- In a Health Information Bank – 5**
- Nationally – 4**
- With the Patient - 2**



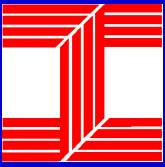
Resolution of the following policy issues (amongst many)

- **Family records**
 - **Should there be a method by which a "family" can develop a network of linked records - for example parents allowed to "manage" children's records for them?**
 - **What will be the protocols and mechanisms to ensure that children calling NHS Direct for confidential advice, could be assured that the information would not find its way into records that could be seen by their parents?**
 - **What about elderly patients – do they have to give right of access to their children, carers, etc .?**



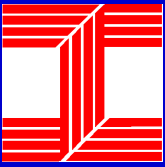
- **Over-ride**

- **An override facility will be needed - often in the context of professionals having access when a patient is unable to give their permission, e.g. when unconscious.**
- **If records are held in encrypted format, then will this over-ride require access to the decrypt key which will depend on some method of positive authentication of the patient, but equally will increase risk of compromise?**

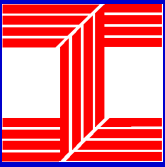


- **Fraud**

- **Would having both NHS Number and name in human – readable form on a card increase the chance of a third party being able to impersonate that patient at an NHS access point?**
- **The application of passwords and PINs does reduce that threat, but will users need to sign up to controlled use of these as they would with a bank card or similar?**
- **What about the cross-government initiatives on citizen authentication?**

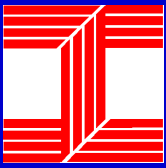


- **Consent**
 - **Should an on-line application service consider using the Internet style 'I Agree' type click-on button both at initial registration and on subsequent use to ensure positive acceptance of the patient responsibilities**
 - **Will this require having an attributable digital signature?**



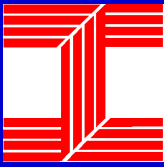
- **Patient Access**

- **Patients currently cannot have unrestricted access to all health data about them as a matter of law.**
- **Does this mean that if/when they have access to the record then parts of the record must already have been flagged as not to be seen by the patient?**



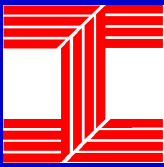
Everything in life is relative (It could be worse)



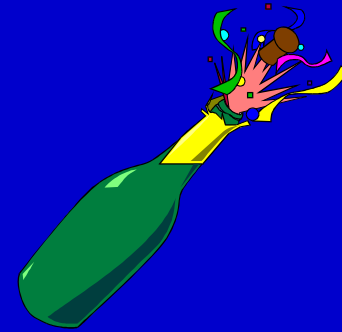


What Has Worked?

- **Clear national IM&T strategy to support clinical practice**
- **Infrastructure development. e.g. clinician connect**
- **Local Implementation Strategy Teams**
- **Direct booking for specialist treatment**

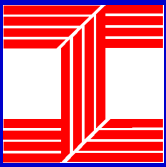


Infrastructure



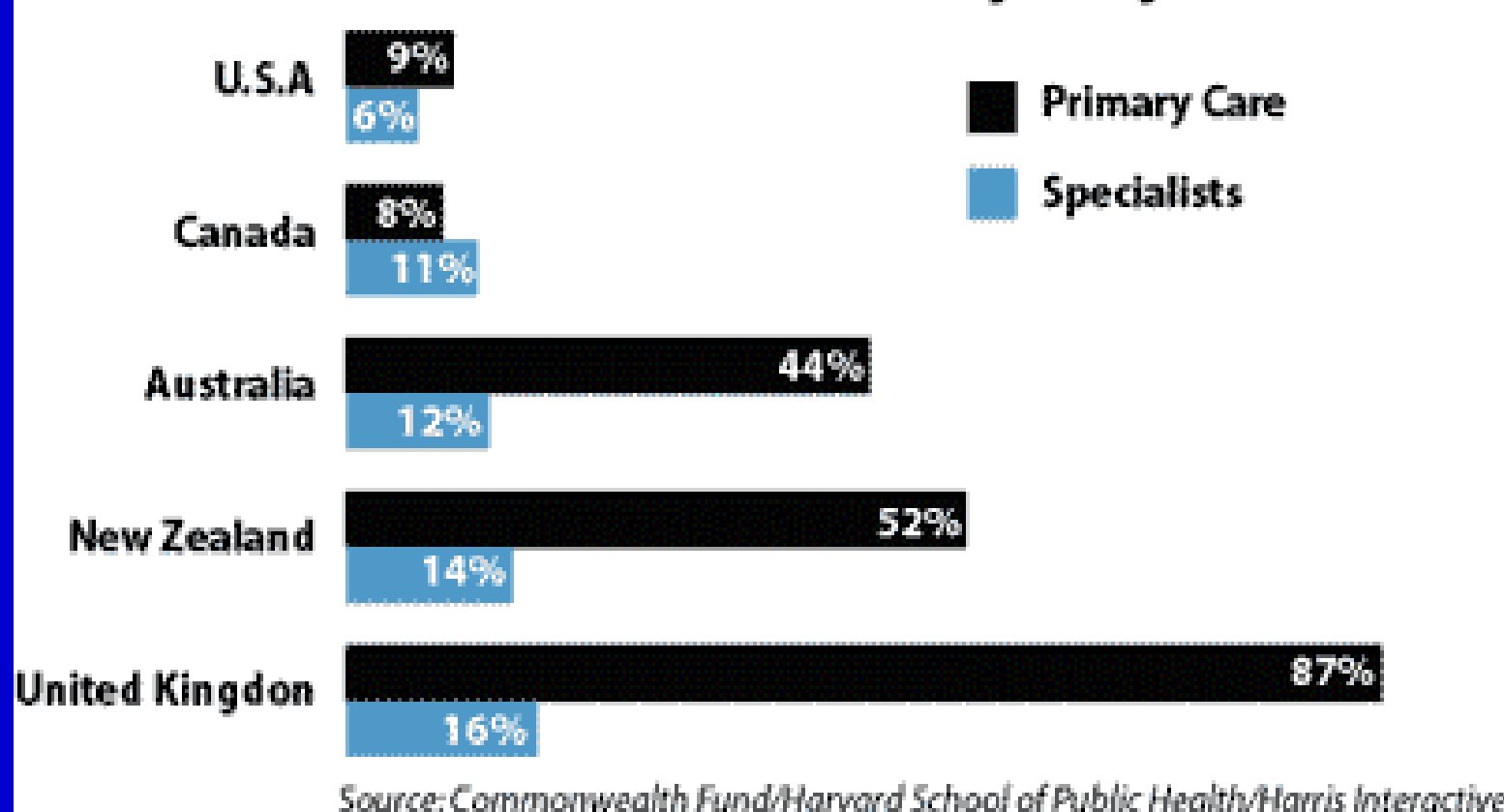
A Major Success

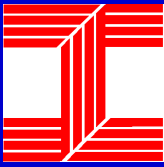
- **National applications and services - in place and part of the accepted infrastructure e.g NHS net, NHS Clearing Service, NHS number Tracing Service, Primary Care Administration Systems.**
- **Connectivity - All GPs currently “on line” all hospital consultants by September 2002, all (yes all) NHS staff by March 2003**
- **Local Implementation Strategies evaluation as per “Protti Scores”**



The Brits are right up there with the Danes in some regards

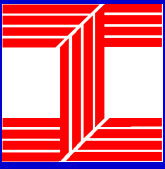
Doctors in 5 countries Who Use Electronic Prescribing of Drugs "Often"





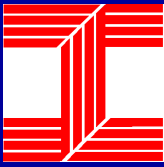
By 13 September 2001, England had

- **GP practices (~9000)**
 - **97% with an NHSnet line installed**
 - **98% with an Acceptable Use Policy signed, which represents practices committed to the NHSnet security policy and therefore committed to joining the network**
 - **92% with an e-mail system installed**



What Has Not Worked?

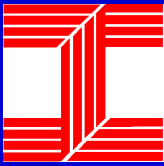
- **National Programme Management - linking pilots to national roll out of EPR/EHR**
- **Fragmented development and procurement of EPR systems**
- **Slow progress on standards**
- ***IT managed separately from main modernisation agenda***
- **Diversion of hypothecated funds**



Electronic Records

A significant disappointment

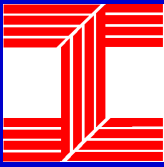
- Poor progress against current metrics
- Level 3 - mixed response at best
(Order Communications/Results Reporting vs Integrated Care Pathways/Electronic Prescribing)
- Severe funding difficulties - pressures from other shorter term priorities
- Complexities of choice
- Procurement process a time consuming barrier



“Implementing Information For Health: Even More Challenging Than Expected”

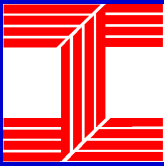
D. Protti
Department of Health, October 2001

<http://www.doh.gov.uk/ipu/whatnew/prottireport.pdf>



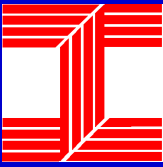
Recommendations

- 1. Harmonise the many performance management targets**
- 2. Bring together all of the EHR-related initiative leaders**
- 3. Revisit the Information for Health targets**
- 4. Revise the level 3 EPR targets**
- 5. Refocus the EPR-EHR model**
- 6. Develop a broker model to address the political need for an 'Emergency' EHR**



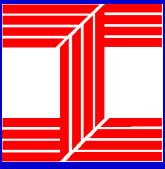
Recommendations (cont'd)

- 7. Advise the field to concentrate on the basics**
- 8. Address the patient consent issue**
- 9. Mandate a standard that all NHS computer systems have an audit trail**
- 10. Develop a Knowledge Management (Learning) Programme**
- 11. Revise the Requirement for Accreditation (RFA)**
- 12. Let NHS Direct get on with their agenda**
- 13. Push for a CIO position in the new Strategic Health Authorities**
- 14. Investigate the appointment of integrated care case managers**



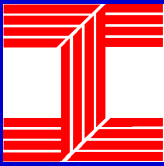
Recommended Actions

- **Revise the level 3 EPR targets.**
 - **Reframe them into unambiguous targets that relate to providing specific functionality across the entire care spectrum of care.**
 - **Consider the following to be the priorities:**
 1. **Results reporting: who needs to know what happened to whom – for consultants, GPs, social workers, nurses, etc.**
 2. **Order Entry: who needs to do what for whom – use of protocols and common order sets**
 3. **Medication Prescribing: with built in alerts and reminders (the old level 4) for both physicians and nurses**
 4. **Enterprise-wide Scheduling: who needs to go where and when – across all existing care and organisational boundaries**
 5. **Integrated Care Pathways: what has to be done for whom**



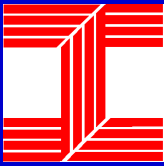
Recommended Actions (cont'd)

- **Refocus the EPR-EHR model.**
 - **The original concept of the EHR being a longitudinal health record is still valid but it has become entangled in organizationally bound thinking.**
 - **There is a grave risk that EPRs and the EHR will be founded on increasingly obsolete concepts of inpatients and outpatients; historic models of face-to-face, hospital-based, consultant-led service delivery; and existing organisational boundaries.**
 - **Develop a true patient-centric model.**

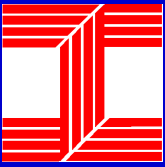


Recommended Actions (cont'd)

- **Speed up infrastructure efforts**
 - **NHS number activation in all NHS systems**
 - **National master client index**
 - **National directory of healthcare professionals**
 - **National directory of sites**
 - **National consent and access management**
 - **Backup and security including audit trails**
 - **Technical standards (e.g. HL7, XML, etc.)**

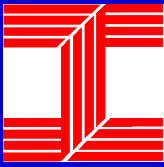


What was on the horizon in April 2002



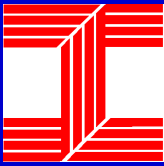
“Just five trusts have complete systems in place, raising serious questions over the target for 100 per cent of trusts to have level-3 EPR in place by 2005 – a central plank of the 1998 NHS IT strategy, Information for Health.”

**Health Services Journal
April 2002**

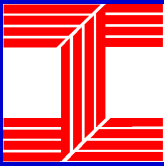


April 2002 Announcement

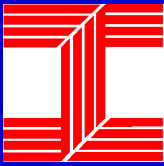
- **To make it possible to share patients' healthcare details nationally the NHS Information Authority has started a new programme of work called the Health Records Infrastructure (HRI).**
- ***HRI will provide new services based on web technology. It will link together existing computer systems, holding patient information.***



- **Details will be retrieved to form a virtual record of the NHS care and treatment each patient receives.**
 - **Information will continue to be stored on many different computers, in disparate locations, but will be available to patients' and NHS staff when and where it is needed.**
- **The new service will integrate locally held data and *keep the amount of information held nationally on central databases to a minimum.***

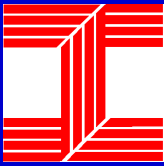


- **The first phase will use NHSnet only.**
- **Patients wishing to view their own data will need to do so initially in agreement with their local health provider, e.g. at their GP's surgery.**
 - **ERDIP pilots at GP practices in Bury Knowle, Oxfordshire, and Hadfield in Derbyshire, have already allowed patients to look at their medical records in this way.**



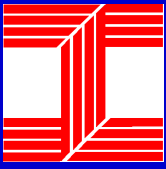
Health Records Infrastructure – the future

- **From 2003 onwards service will expand by:**
 - **Providing a route to other more detailed health record services.**
 - **Linking other, local or national, clinical data sources that are person-based.**
 - **Implementing more detailed patient consent mechanisms, if necessary.**
 - **Patient read-only access.**
 - **Patient maintained health information.**



May 2002 rumors

- **“The Department of Health is bidding for an extra £5bn from the Treasury for NHS IT”**
 - **figure is revealed in a restricted draft implementation strategy document, Delivering 21st Century IT Support for the NHS.**
- **The bid for an extra £5bn – expected to be spread over six years from April 2003 – is broadly in line with the doubling of investment called for in the Wanless report in April.**
- **If approved, the investment would represent the single-biggest and most complex IT programme in the UK.**

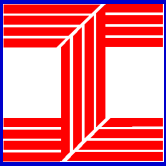


Delivering 21st Century IT Support for the NHS

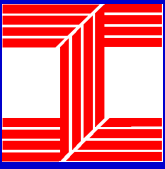
National Specification for Integrated Care Records Service

Consultation Draft

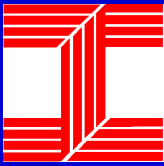
July 23, 2002



- **There are no new targets.**
- **We do not need to have a new information and IT strategy – the principles of *Information for Health* remain sound.**
- **But we do need to change the way in which it is implemented to support *Delivering the NHS Plan*.**
- **We do have a new mandate to ensure that IT will support the reform of the NHS.**
- **We are therefore preparing to support the programme of health and IT spending by refocusing the programme of information and IT priorities.**

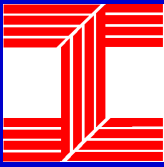


- **The key change of direction is to take *greater central control* (as of April 2003) over:**
 - **Specification**
 - **Procurement**
 - **Resource management**
 - **Performance management and**
 - **Implementation of the information and IT strategy.**



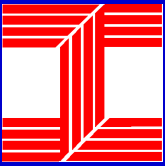
First steps - improve the leadership and direction given to IT

- **Establishing a Ministerial Taskforce under the chairmanship of Lord Hunt to bring together the national programme with representatives of the NHS, a Treasury Minister, the e-envoy and the Chief Executive of the Office of Government Commerce**
- **Appointing a new national IT programme director (IT Czar)**
- **Requiring Strategic Health Authorities to appoint Chief Information Officers, preferably at director level**

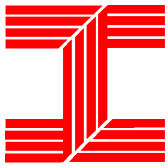


21st Century IT Programme

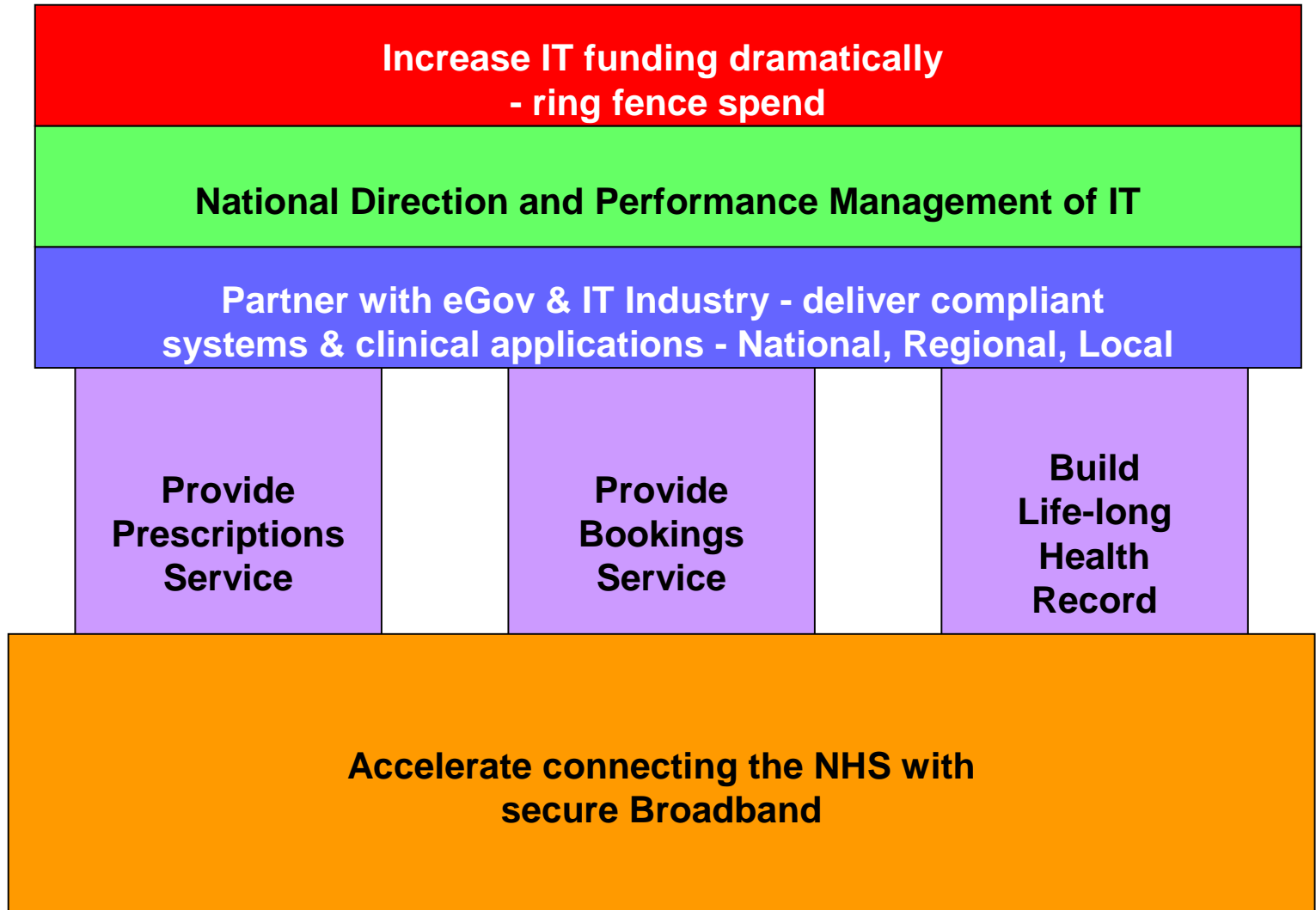
- **Jan 2002 – No 10 NHS IT Seminar**
- **Mar 2002 – Sir John Pattison at Healthcare Computing 2002**
- **Apr/May 2002 – development of 21CIT programme framework**
- **First public announcements 12th June 2002**
 - **<http://www.doh.gov.uk/ipu/whatnew/delivering/index.htm>**
- **Programme structure**
 - **Programme Workstreams**
 - **Programme Executive Group chaired by Sir John Pattison**
 - **New Director General for NHS IT, Richard Granger**

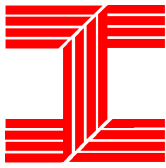


- **key national applications for –**
 - **electronic appointment booking**
 - **electronic prescribing**
 - **electronic records for acute, community and primary care trusts**
 - **a national health record service to cover 24 hour access**
 - **a national patient record analysis service to cover all NHS transactions**
- **improved management and implementation support through –**
 - **a national IT services portfolio**
 - **franchise plans with funding agreed by the national IT programme director and performance management handled at director level in the new health authorities.**



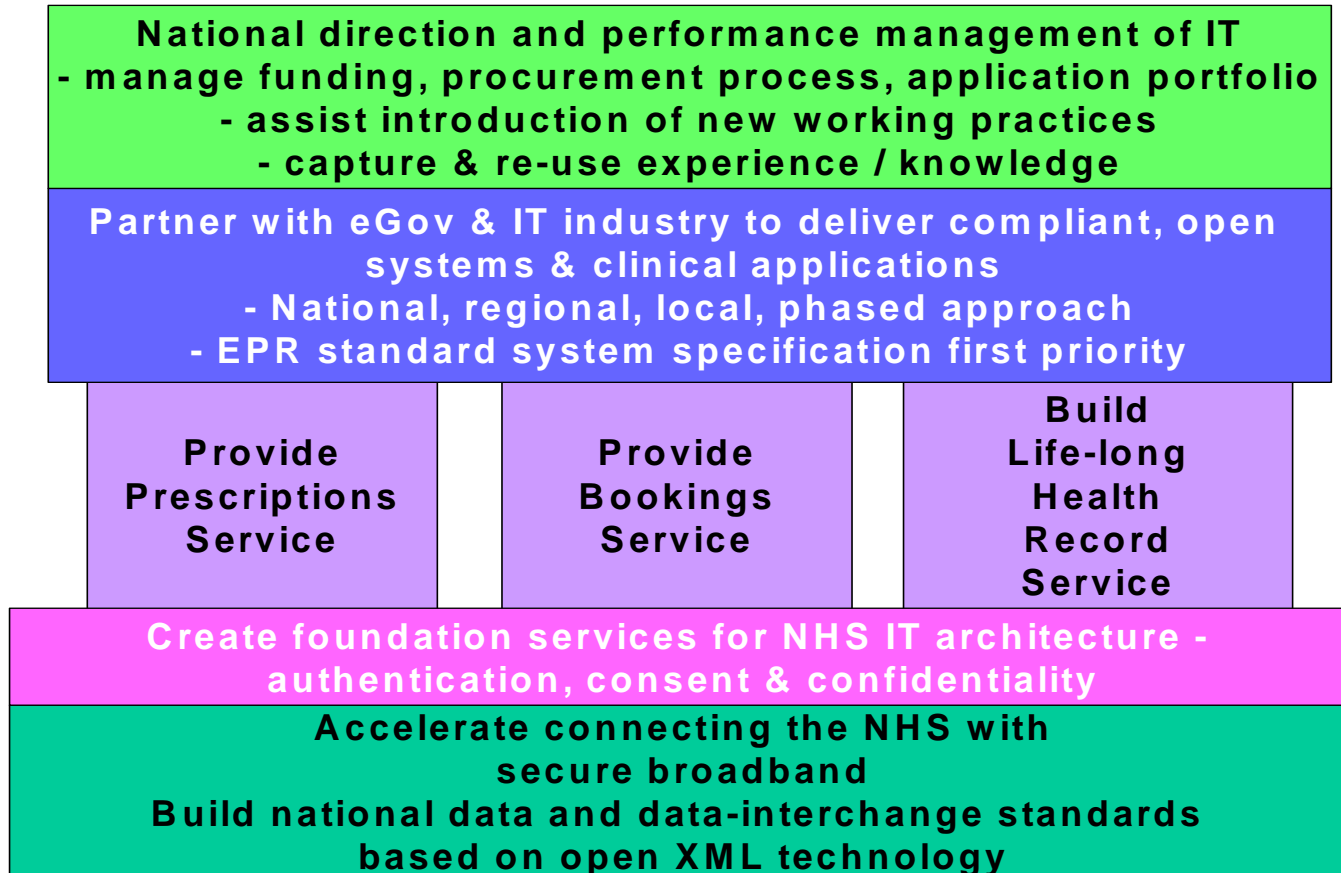
The 21CIT temple - simple

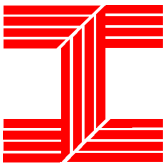




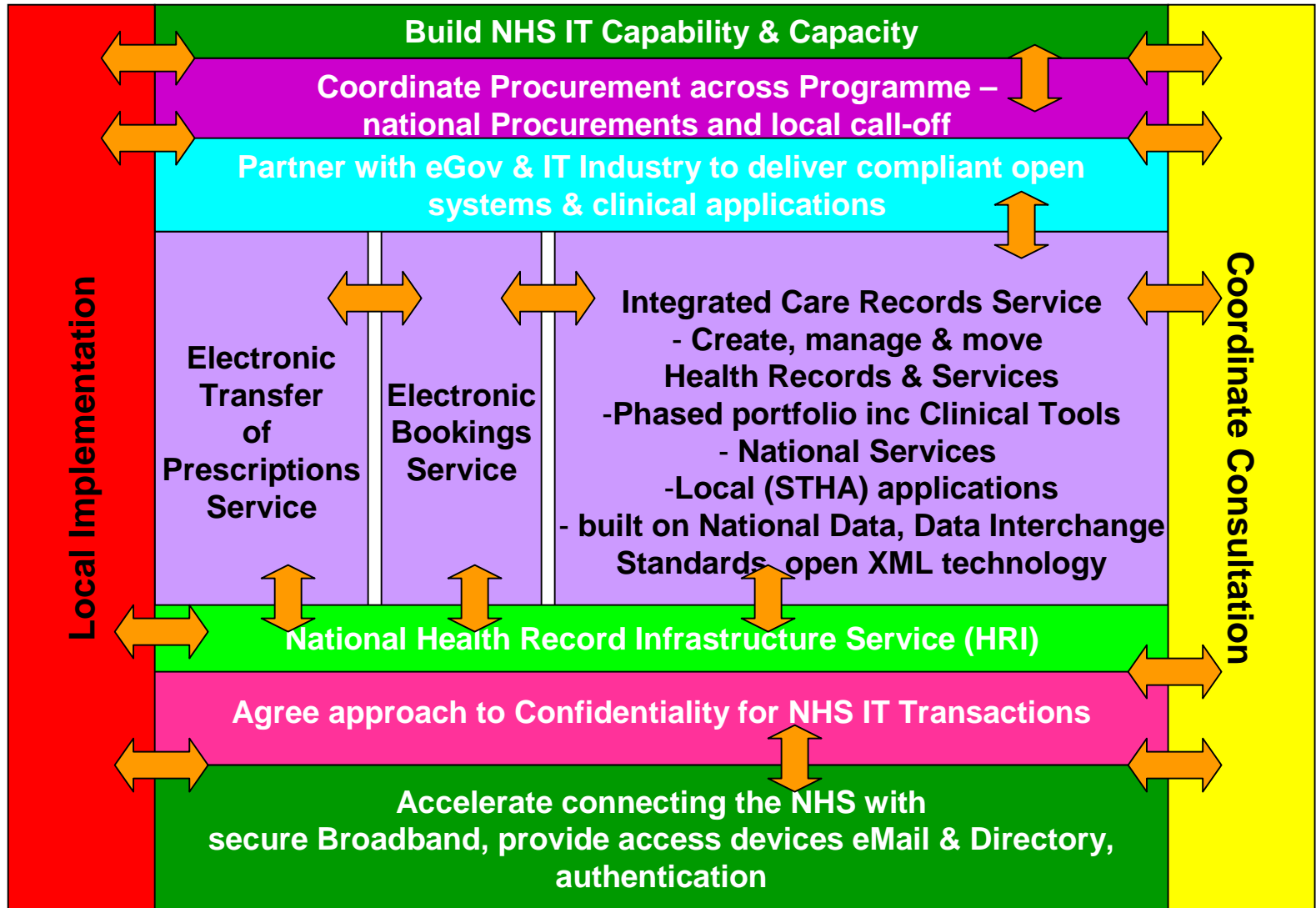
The temple – complex

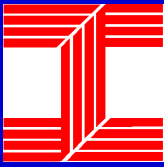
National strategic programme - architecture





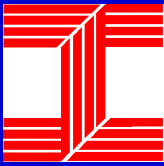
The temple – more complex





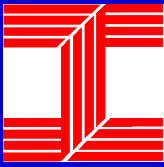
Key targets for 2002/03

- 1. Connect all NHS clinical and management staff to the NHS network to enable email, directory services and web browsing**
- 2. Ensure the electronic transfer of all biochemistry, haematology and microbiology test results**
- 3. Support the information and IT requirements of National Service Frameworks.**



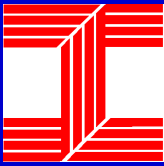
April 2003 to December 2005

- **From April 2003 we will have the significant new levels of funding in place and the priorities for a refocused information strategy to December 2005 are as follows:**
- **an NHS infrastructure that provides –**
 - **broadband access to 128kbs or greater to all clinicians and support staff and an increased bandwidth of a 2Mbps minimum across NHSnet gateways**
 - **a national NHS directory service with access and authentication for all staff**
 - **domain to domain encryption**



Revised expectations

- **Procurements are underway in many places to deliver electronic patient records and other systems and these procurements need to proceed.**
- **Certainly by 2008, as indicated in Delivering the NHS Plan, we expect to see all key applications and functionality of electronic patient records in all PCTs and Trusts.**

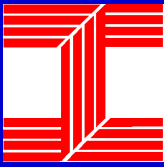


Outline

- 1. EHR - a semantically challenged topic**
- 2. The British view of the EHR**
- 3. Rising expectations in Britain**
- 4. The British experiment with the EHR**
- 5. What the British scouts are bringing back**

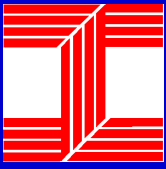
- 6. Concluding comments**

- 7. Discussion**



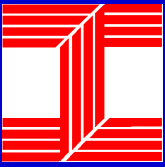
In Closing

“The EHR is definitely a journey, not a destination.”



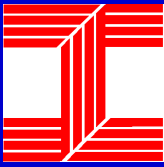
Want to see where this journey may be headed?





The British were one of the leaders in the EHR journey

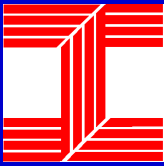
Their recent change in course of direction suggests that the path to the promised land is going to be different than the one they started out on



There are even more unknowns that they have yet to really encounter

- **“Today's population continues to become more mobile, especially in terms of contacts with physicians and care delivery organizations.**
- **While it used to be common for individuals to "grow old" with the family doctor, this is now the exception.**
- **It is difficult to transfer records to physicians of choice and to have even partial access to one's own records.**
- **The personal health record (PHR) can help address these problems.”**

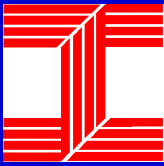
**Handler T
Defining the Personal Health Record
Gartner Group, 06 July 2000**



The lead scouts are journeying through virgin territory

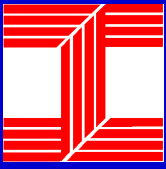
- **“Giving patients control over permissions to view their record - as well as creation, collation, annotation, modification, dissemination, use, and deletion of the record - is key to ensuring patients' access to their own medical information while protecting their privacy.”**

**Mandl KD et al
Public standards and patients' control: how to keep electronic
medical records accessible but private
BMJ 2001;322:283-287 (3 February)**



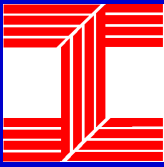
- **“Consumers are managing bank accounts, investments, and purchases on line, and many turn to the Web for gathering information about medical conditions; they will expect this level of control to be extended to online medical portfolios.”**

Mandl KD et al



The EHR journey is passing through terrain more complex than expected

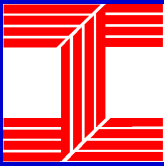
The EHR landscape is more like the mountains of Afghanistan than it is the deserts of Kuwait. One cannot readily see the best route to follow – even from up high.



Final Advice from the British

Festina Lente

Make haste slowly



Tak

Time for discussion