

Leeds Lab Launch

Dr. Tony Shannon

Consultant in Emergency Medicine, Leeds Teaching Hospitals Chief Clinical Information Officer, Leeds TH Chief Clinical Information Officer, Leeds NHS & Social Care

Leeds Lab Intro

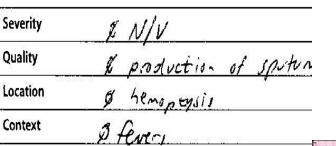
- People
 - How I am & Why I'm here
- Process
 - Whats we've done
 - What we need to do
- Technology
 - Leeds Clinical Portal
 - Leeds Care Record
 - Leeds Lab

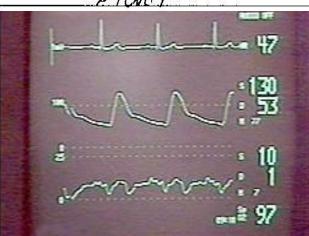
Welcome to Leeds

- Leeds Teaching Hospitals
- Leeds NHS & Social Care
- NHS England/NHS Commissioning Board
- NHS Health & Social Care Information Centre



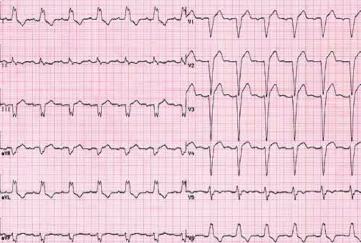
Pb. & JOB, COUSE, Wheezing Medications + watery eyes x 3 days

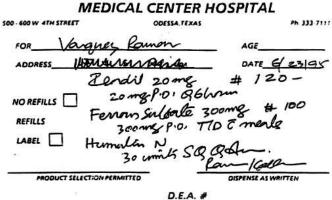














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The Leeds Teaching Hospitals



- 4 sites
- 14,000+ staff
- > 200,000 ED visits per year
- 95% 4 hour ED standard



- Biggest health IT programme in world
- Biggest civil IT programme in world
- Based in Leeds
- From 2004 ...



NHS England



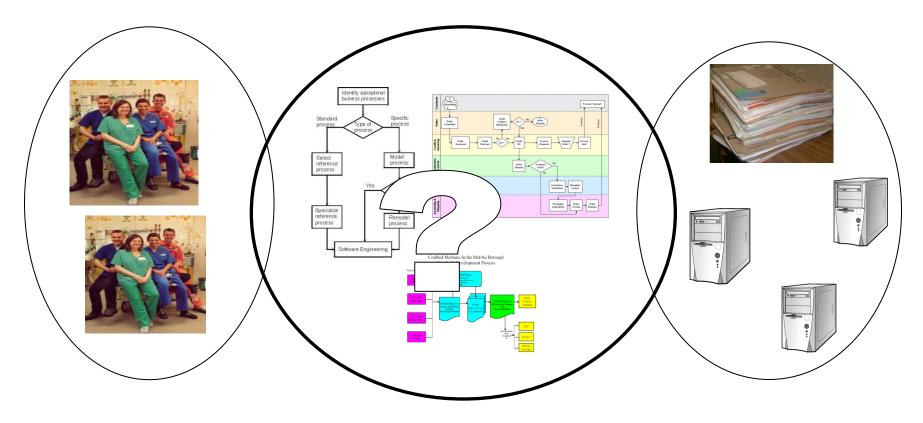
£12BN NHS ... and it's all YOUR money that abour poured down the drain

TERS are to ase EXCLUSIVE

2011



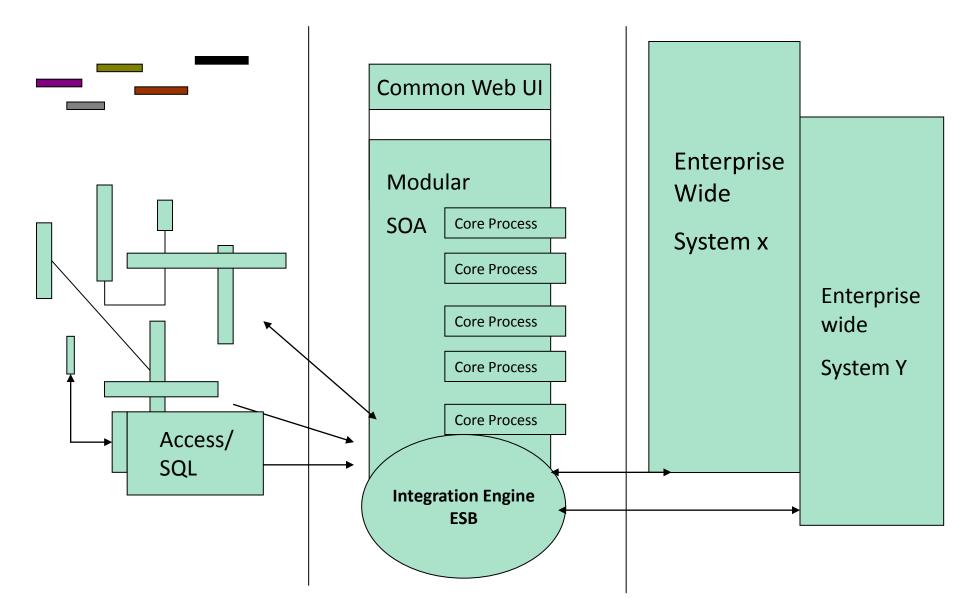
Healthcare Change: People + Process + Technology



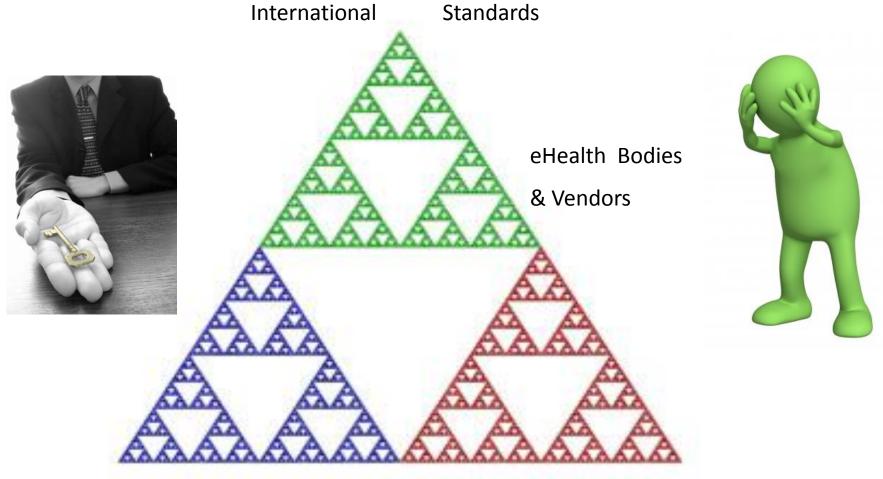
Thinking in silos

Process Variation Information Isolation

State of the Market



Standards: Vendors: Innovators: Disconnect

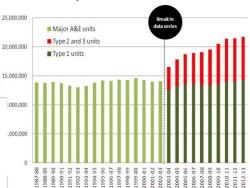


Innovators

Transforming Emergency Care in England

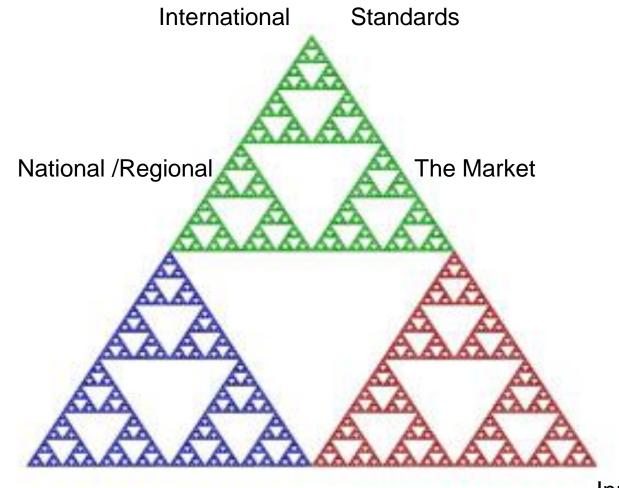
A report by Professor Sir George Alberti

Emergency care in crisis admits NHS regulator





eHealth Ecosystem

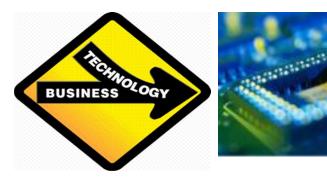


Innovation





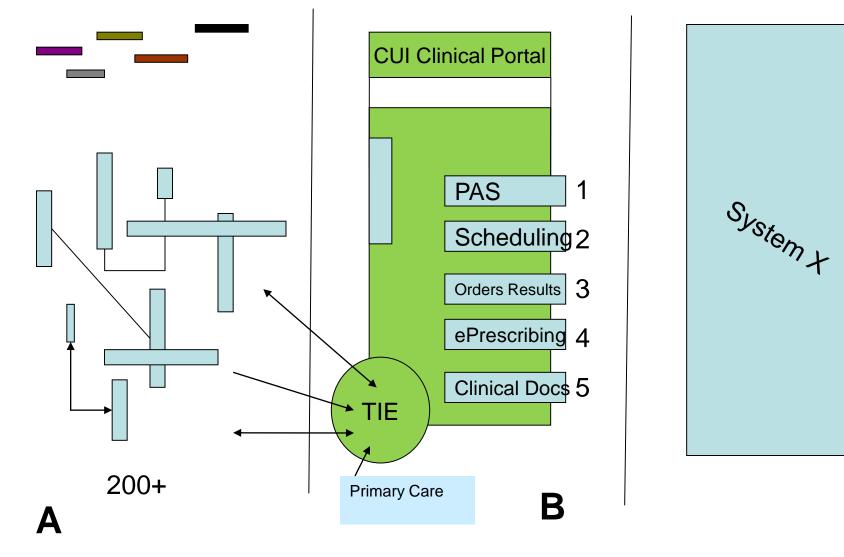




Leeds Clinical Portal



Informatics Strategy



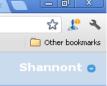


OS Portal- Patient View

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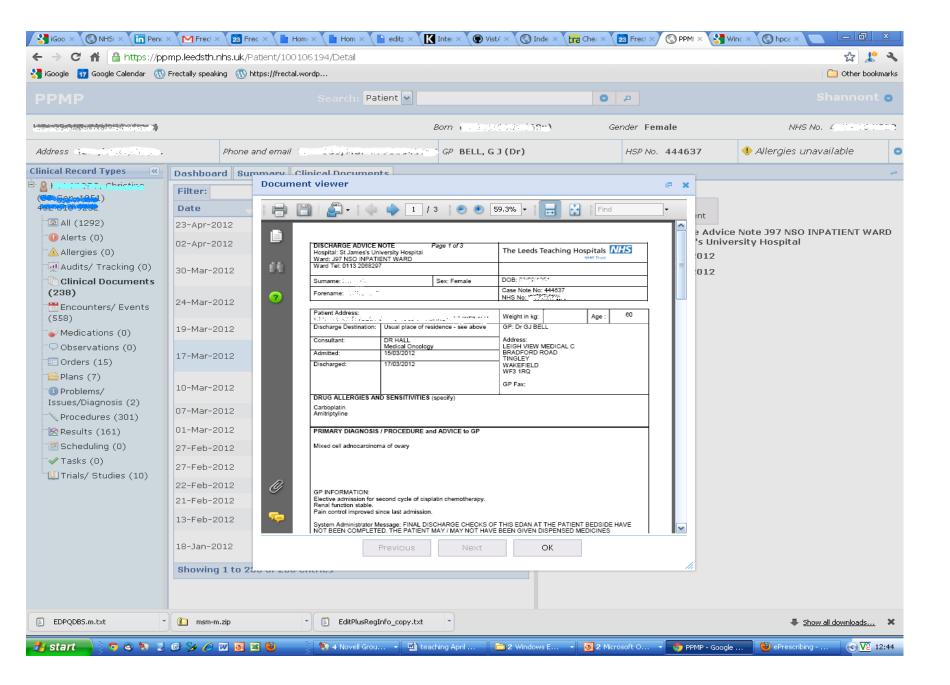
Interestion



NHS No. 153 818 3223

Phone and email Control (CONTROL OF CONTROL OF BELL, G J (Dr) ! Allergies unavailable Address 40 0,15 ks, Hold ... HSP No. 444637 0 Clinical Record Types Dashboard Summary Encounters/Events 🖻 🧟 HOLCROFT, Christine Appointment Time: 13:30 Filter: Ţ (06-Sep-1951) Attendance Status: Hnknown 452 016 9232 Description 7 Type **T**Source Date Cancer Status: Hnknown 🗠 🗋 📶 (1292) Cancelled : Gynae Oncology Clinics (Mon CHM Appointment Type: "🕕 Alerts (0) & Fri) (Gynae 30-Apr-2012 Outpatient PPM 🔼 Allergies (0) Oncology) 13:30 -Clinic Definition Name: Gynae Oncology Clinics (Mon & Fri) Patient Cancelled Clinic Definition Detail: Gynae Oncology Clinics (Mon & Fri) (AM/PM, 💷 Audits/ Tracking (0) Appointment Bexley wing) Clinical Documents 23-Apr-2012 Consultation PPM Craven A Appointment Date: 23-Apr-2012 (238)Booked : Gynae - Gynaecology MDT (GYNAEMDT) 📅 Encounters/ Events Consultant: Oncology Clinics (Mon St James' University Hospital 23-Apr-2012 Outpatient PPM (558)& Fri) (Gynae **Beckett Street** Oncology) 13:30 🧉 Medications (0) Leeds Discharged LS9 7TF 🖓 Observations (0) 20-Apr-2012 PPM Admission 21/04/2012, Perren T. (0113) 2433144 🔚 Orders (15) 97 (St James's Institute of Oncology), Ward Stay PPM 🔁 Plans (7) 20-Apr-2012 Perren T, 20/04/2012 🔟 Problems/ to 21/04/2012 Issues/Diagnosis (2) Discharged 12-Apr-2012 PPM Admission 14/04/2012, Hall G, 🔪 Procedures (301) 97 (St James's 🖄 Results (161) Institute of Oncology), Ward Stay PPM 12-Apr-2012 📰 Scheduling (0) Hall G, 12/04/2012 to 14/04/2012 💜 Tasks (0) Discharged 05-Apr-2012 PPM Admission 🛄 Trials/ Studies (10) 07/04/2012, Hall G, 97 (St James's Institute of Oncology), Ward Stay PPM 05-Apr-2012 Hall G, 05/04/2012 to 07/04/2012 Gynae Oncology Clinics (Mon & Fri) (Gynae 02-Apr-2012 Outpatient PPM Oncology) 16:30 -Y Patient Attended Showing 1 to 558 of 558 entries EDPQDBS.m.txt nsm-m.zip EditPlusRegInfo_copy.txt Show all downloads... X 🛃 start 💿 🖄 🧏 🕑 🌽 🖉 🐷 💆 🖉 🦄 4 Novell Gro... 👻 🛄 teaching April... 👘 2 Windows ... 👻 🐻 2 Microsoft ... 👻 🧔 PPMP - Gooal.. 🙋 ePrescribing -... C Z S V2 12:50

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(fridden: 2500): 452:02:02:03	Date	- Description -	🍸 Туре 🔶	7 Source		Dictated Da	ate:	23-Apr-2012			
🛯 🖾 All (1292)	23-Apr-2012	Urgent Admission	Annotation	PPM		Note:					
™O Alerts (0) ™A Allergies (0)	02-Apr-2012	Current Episode: Outpatient Review	Clinician Letter	PPM			by Collect	inia permenini inte	۰.		
Audits/ Tracking (0)	30-Mar-2012	Please refer to my consultation entry made earlier today	Annotation	PPM		back and t	ooth legs,	effecting mobility.	erienced increased pa nanged with difficulty		
(238) Encounters/ Events (558)	24-Mar-2012	Discharge Advice Note J97 NSO INPATIENT WARD St James's University Hospital	File Link	PPM		the toilet	during the	e night and passed			-
• Medications (0)	19-Mar-2012	Clinician Letter	Clinician Letter	PPM		Normally t		medications this m cetamol 1 gram QD	orning, S ,Fentanyl patches -	and oxynorm	
∽ Observations (0) 	17-Mar-2012	Discharge Advice Note J97 NSO INPATIENT WARD St James's University Hospital	File Link	PPM		PRN. Christine has always been reluctant to take Oxynorm and has only taken 2 x 2mls in the past 12 hrs.					
" Plans (7) " (1) Problems/ Issues/Diagnosis (2)	10-Mar-2012	Discharge Advice Note J97 NSO INPATIENT WARD St James's University Hospital	File Link	PPM		Oxynorm 2 Encourage	mls at 2h d 19457	rly intervals up to 6 - to try and take t	unity macmillan nurse 5 x a day. he liquid, which will b trickle the liquid slow	e easier to	;e
Procedures (301)	07-Mar-2012	Ward round notes 07/03/12 -	Annotation	PPM		mouth.					
Results (161)	01-Mar-2012	Letter to Mr Cartledge	Clinician Letter	PPM				cmillan nurse feels t leed to be ruled out	his maybe Muscle spa :.	asm, but	
🐨 📰 Scheduling (0)	27-Feb-2012	treatment arrangement	Annotation	PPM		For admiss	ion by am	nbulance (witin in 1	-2 hrs) to ward 96.		
✓ Tasks (0) Ш Trials/ Studies (10)	27-Feb-2012	Clinic review and planning of further treatment	Clinician Letter	PPM		Admissions	s clerk Nic	ola informed at 09.	30 hrs.		
	22-Feb-2012	CVC insertion booking form	File Link	PPM		ciulta a		ו aware of above p	lan.		
	21-Feb-2012	provisional appointments	Annotation	PPM		Author:		+ Mrs Alison Cr	aven		
	13-Feb-2012	Current Episode: Outpatient Review	Clinician Letter	PPM		Contact Pe	rson:	+ Mrs Alison Cr			
	18-Jan-2012	Please refer to my consultation entry made earlier today	Annotation	PPM	~	Addressee: Consultant:		+ Dr G J Bell (G + Dr Geoff Hall	-		
	Showing 1 to	238 of 238 entries				Typed Date	97	23-Apr-2012			
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OS Portal (inc. Order Comms)

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Actions Audits/Tracking (82) Clinical Documents Encounters/Events Medications Observations Observations Orders Plans Problems/Issues/ Diagnoses Procedures (2) Results Scheduling Tasks Trials/Studies Interops HealthView Leeds Care Record Order Comms ICE Report		Acute Biochemistr Haematology Microbiology Immunology InbornMetal Neonatal Pa Search	y Blood Scie y Blood Scie y Blood Scie Urea ai Amylas Chlorid Chlorid Blood C Calcium Magnes Uric Ac Phosph Tropon	nces and Spe nces and Spe nces and Spe nd Electrolyte unction Tests se e (Plasma) le and Bicarbe tive Protein () Gases - For la n-Bone Profili sium (MG) cid (URATE,UA bate (PO4) in I(TNI) SALICYLAT	cialist Laboratory Med science (UE) (LFT) onate CRP) b test only e	ICE100 999 99 Inmunity Ithcare	 B 9 9786 GP Radiology Full Blood Cc INR (for War APTT (for he APTT (for he INR / APTT f Coagulation DDimer Leve Plasma Visco Erythrocyte Infectious M Malaria Paraa Add On Requ 	farin) parin) or Heparin and Screen (CS) I (FDP) osity (PV) Sedimentation ononucleosis S site Screen	Rate (ESR	Telephone	Ultrasound Microbiolo CSF an Clostri MRSA Wound	RI nalysis idium diffici Screening d swab	DOD CULTURES	Endos	User: Powered by	kE - LGI huntride Dietetics
External Systems			⊥ Most re	cent requests	s made for this patient	:				To view reco	ords of the te		ew all requests fo anel only made fo			
Summary Care Record			Request				Inve	stigations					Priority		Ordered	
Order Comms				6:10:01 HLA B57									As Soon As Possible		calvertc	REQ
				6:10:01 TSH (on		NCA (noutracht)	utaclasmis (h)	Anthody (ACDA)	Complanati	2/CA Immunaciatid	ing (CAM) (T-C		As Soon As Possible	OP CAH	calvertc	REQ
More >			30 Oct 2013 16		lear Antibody Screen (ANA), Ai toid Factor (RF)	NCA (neutrophil c	cytoplasmic Ab), CCF	Antibody (ACPA),	Complement C	3/C4, Immunoglobuli	ins (GAM) (IgG,	, IgA, IgM),	As Soon As Possible	OP CAH	calvertc	REQ
Done		Castier		and the second	spholipid Ab (cardiolipin/B2GPI)							8	As Soon As Possible	OP CAH	calvertc	REQ
		Continue	30 Oct 2013 16	6:10:00 Erythroc	yte Sedimentation Rate (ESR),	Lupus Anticoagu	ilant Screen, C Reac	tive Protein (CRP),	Full Blood Cou	int (FBC), Liver Funct	tion Tests(LFT),	, Thyroid	As Soon As Possible	OP CAH	calverto	REO

OS Portal- Many Patient View

Dashboard Multi Patient Ward View

Filter:							
Ward	Bed 🔶	Patient		LOS	🔺 EDD	A MFFD	Waiting For
22	+	8	AJD	89 mins	+	+	+
2	+	2	AJD	104 mins	+	+	+
2	+	8	AJD	169 mins	+	+	+
2	+	8	AJD	212 mins	+	+	+
2	+	8	AJD	4 hours	+	+	+
2	+	2	AJD	5 hours	+	+	+
	+	8	AJD	7 hours	+	+	+
	+	2	AJD	7 hours	+	+	+
	+	8	AJD	8 hours	+	+	+
	+	2	AJD	9 hours	+	+	+
	+	8	AJD	9 hours	+	+	+
	+	2	AJD	10 hours	+	+	+
2	+	8	AJD	13 hours	+	+	+

OS Portal- Reporting View

-	Patient	
8	TEST PATIENT. Mavis (26-Feb-1965)	
-	TESTPATIENT, Patch (01-Jan-2004) 999 999 9468	
8	-1 NIE 921	
0		Shabir
8	TTT In Adverse	
8		
8	tite er, bese state -	204
8	witten 11	
2		
8	24-10 1-10	
3		

+ Clinic + M.D.T + Report

36 start

Done

elect Report Group	Group by ICD10		Select Report Type	ICD Only	View Report
elect MDTs to report	Gynae	M	Select ICD10 to report	Cervix Uteri - Mal.Neoplasm, C M	
elect Additional Details to Return	None	~	Select Age Grouping	No Age Grouping	
elect Period Start Date	01/01/2005		Select Period End Date	01/01/2012	

Selected MDTs: Gynae

· ·

Selected Report Parameters: ICD Only, None, Group by ICD10 with No Age Grouping between 01/01/2005 and 01/01/2012

Created By: Martin Waugh

Strata	Total 3	Events	Censored	Surv Day7	Surv Day14	Surv Day28	Surv Day30	Surv Day60	Surv Day90	Surv Year1	Surv Year2	Surv Year5
Gynae - Cervix Uteri - Mal Neoplasm	850	240	610	99.64%	99.52%	99.03%	99.03%	97.52%	95.97%	86.07%	73.33%	58.37%
Gynae - Corpus Uteri - Mal.Neoplasm	1876	452	1424	99.89%	99.83%	99.39%	99.39%	98.07%	97.13%	\$8.44%	77.80%	\$9.07%
Gynae - Ovary - Mal.Neoplasm	1234	570	664	99.59%	98.93%	97.42%	97.25%	94,70%	92.58%	79.57%	62.16%	35.22%
Gynae - Placenta - Mal.Neoplasm	10	0	1	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%			
Gynae - Unspec Female Gental Organs - Mal Neoplasm	53	30	23	100.00%	100.00%	96.00%	96.00%	90.00%	88.00%	73.56%	56.75%	25.78%
Gynae - Uterus Unspec - Mal.Neoplasm	84	53	31	100.00%	98.80%	96.36%	95.14%	88.97%	83.94%	54.95%	35,74%	21.53%
Gynae - Vagina - Mal.Neoplasm	87	43	44	98.85%	98.85%	98.85%	98.85%	96.52%	94.20%	68.83%	58.43%	43,78%
Gynae - Vulva - Mal Neoplasm	294	99	195	100.00%	99.65%	98.94%	98.59%	96.40%	94.17%	80.72%	71.35%	50.23%

Analysis includes all confirmed definitive cancers between the selected period which are known to the user's PPM instance e.g. all cases that have been through LTHT, for discussion, treatment (first definitive or subsequent)

Selected ICD10 Codes: Cervix Uteri - Mal Neoplasm, Corpus Uteri - Mal Neoplasm, Ovary - Mal Neoplasm, Placenta - Mal Neoplasm, Unspec Female Genital Organs - Mal Neoplasm, Uterus Unspec - Mal Neoplasm, Vagina - Mal Neoplasm, Vulva - Mal Neoplasm

The Leeds Teaching Hospitals

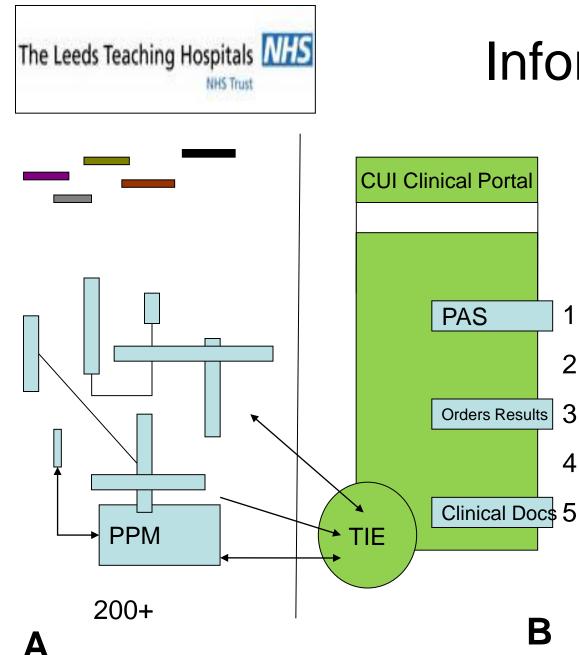
Generated from PPM:	23/04/2012

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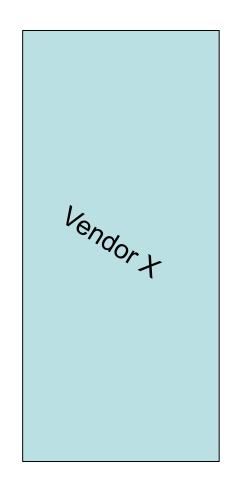
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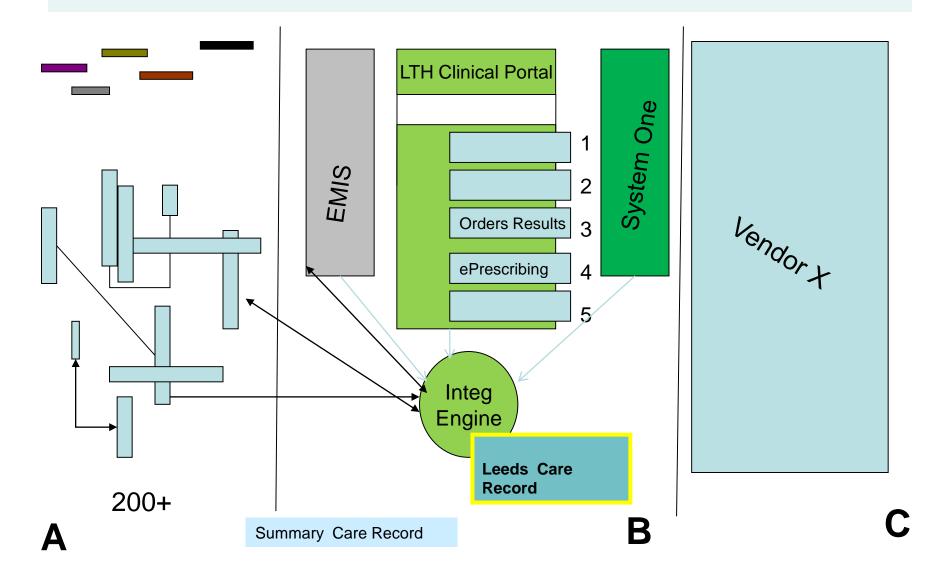


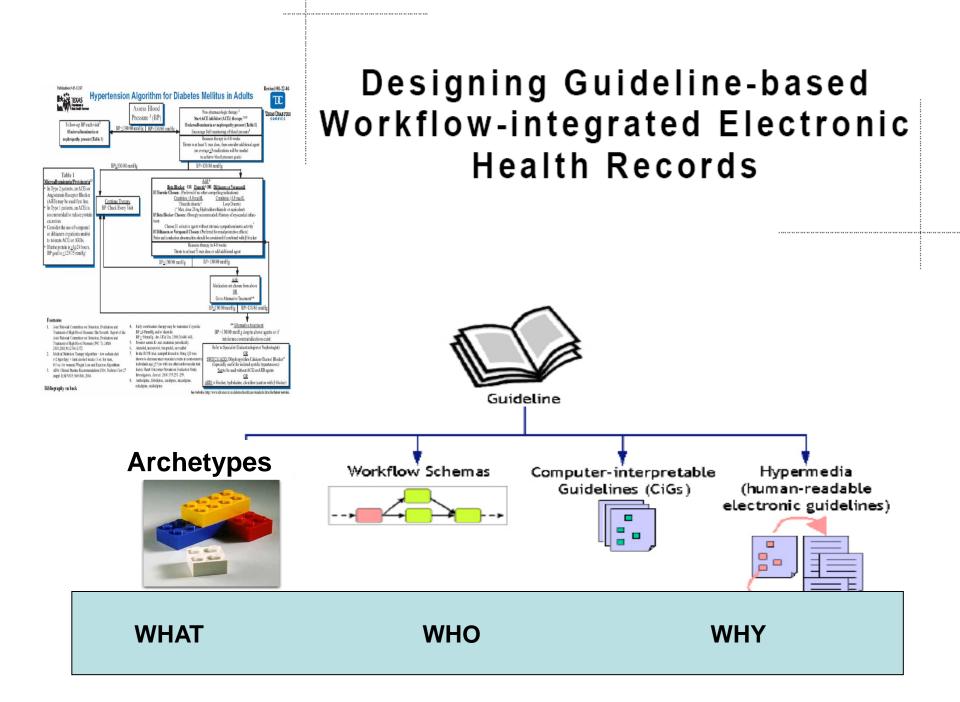
Informatics State



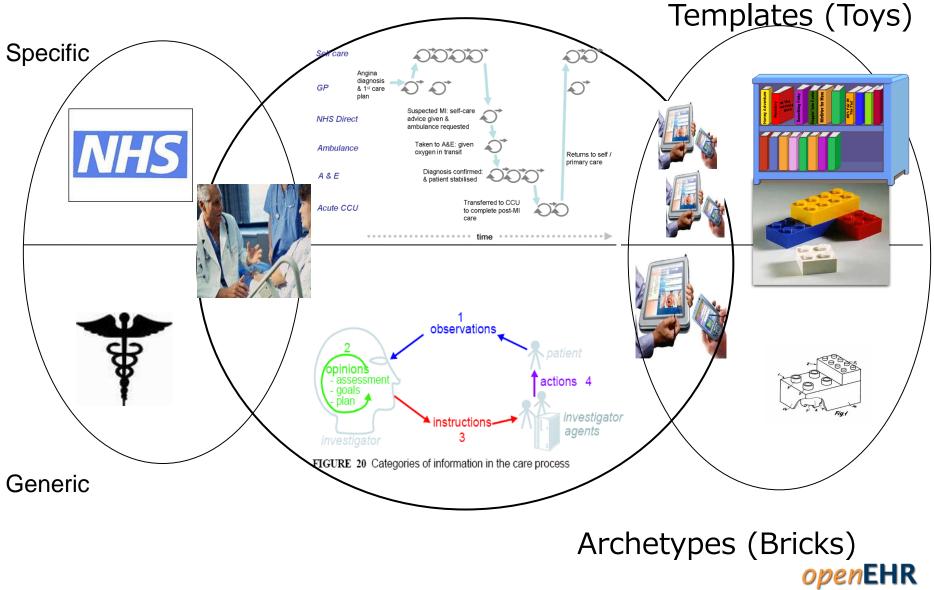
Leeds Care Record

Leeds Care Record- Approach





Standard: Record Architecture



openEHR Archetype

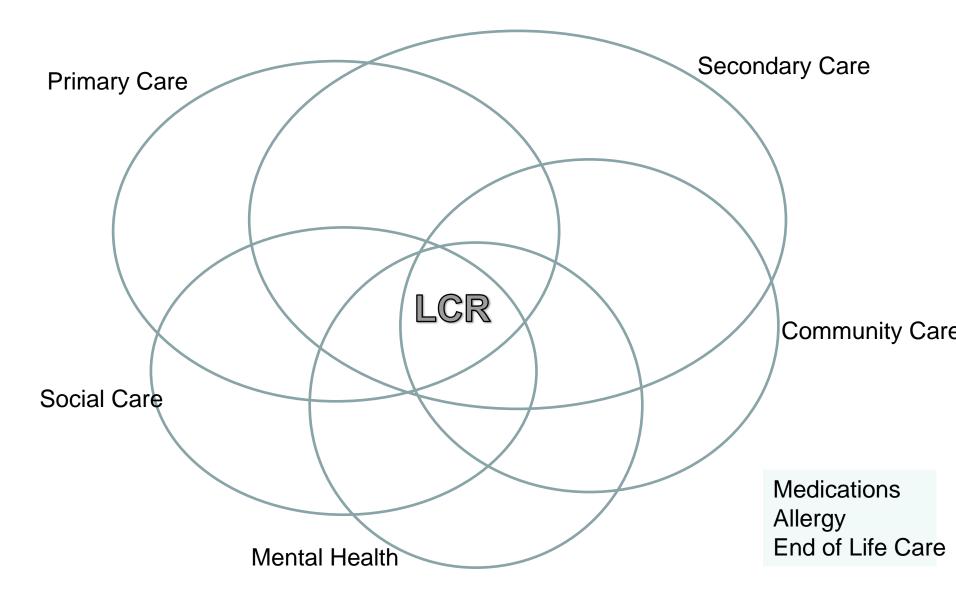
- Clinically oriented
- Reusable list of clinical statements
- Maximal dataset
- Can be coded with terminologies

e.g. Pulse, BP

• Computable

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Leeds Care Record - Common Ground



Leeds Care Record Issues

- People
 - Health & Social Care Teams
- Process
 - Frontline Care
 - MultiDisciplinary Patient Reviews
- Information
 - City Wide Data Sharing
- Technology
 - Interoperability MIG
 - Open Standard openEHR

Leeds Care Record

Clinical Portal Leeds	-00			ſ	Patient 💌	Advanced S	م three		The Leeds Teaching Hospitals
Menu 🗵	°° £ ° ○°								minshali 🔻
Actions 🔍	Home AVOCARDO, Becky	/ (Mrs) ×							
View Patient Details	AVOCARDO, Becky (Mr	-							Born 22-Jan-1955 Gender Female NHS No. *
View Audit Log		<i></i>							Died 01-Dec-2010 Age at Death (55y)
Clinical Record Types	Address 100 Some Street	Summary	Problems	Diagnosis	Medications	Risks/Warnings	Procedures	Investigations	Allergies not recorded
AVOCARDO, Becky (Mrs)	Recent events	Summary	Examinations	Events	Patient Details	Health Status Guide	Cumbria Summary	Investigations	
All	Recent events		EXaminations	Evenus	Patient Details	Health Status Guide	Cumbria Summary		
Alerts (0)	This feature is not currently	Current M	edication Past M	ledication Me	dication Issues				
		Last Issue	Drug / Dos	age / Quantity					
Allergies (0)		Acute Me	dication						
Audits/Tracking (2)		25-Sep-20	008 Cilest 250)microgram / 35	5microgram tablets	(Janssen-Cilag Ltd), AS DIF	ECTED, 126 tablet		
Clinical Documents (14)		Repeat M	ledication						
Encounters/Events (55)		30-Nov-20	07 Prochlorp	perazine 5mg ta	ablets, ONE TO BE	TAKEN THREE TIMES A DA	r, 84 tablet		
Medications (0)		25-Sep-20	008 Tramado	l 50mg capsule	s, ONE TO BE TAK	EN FOUR TIMES A DAY, 12) capsule(s)		
Observations (1)		25-Sep-20	008 Oramorpl	h 10mg/5ml ora	al solution (Boehrin	ger Ingelheim Ltd), 2.5-5 N	LS 4 HRLY AS REQUIRED,	100 ML	
Orders (15)		25-Sep-20		ine 150mg mod	lified-release capsu	Iles, ONE TO BE TAKEN EA	CH DAY, 28 capsule(s)		
Plans (5)		25-Sep-20				ONE TO BE TAKEN TWICE A	DAY, 60 TABLET(S)		
Problems/Issues/		27-Jul-200		•		TAKEN DAILY, 30 tablet(s)			
Diagnoses (3)		25-Sep-20	008 Paraceta	-		AKEN FOUR TIMES A DAY A	S REQUIRED, 200 tablet(s)		
Procedures (3)				Snomed code		PATA2159			
Results (26)				Prescription D		06-Sep-2000			
Scheduling (0)				Date Authoris		21-Oct-2008			
Tasks (0)				Issue Date		25-Sep-2008			=
Trials/Studies (0)				Number of Iss	ues 4 thorised Issues 0	10			
Interops				Additional Inst) Jot known			
HealthView				Status of med		Current			
Order Comms ICE Report				Person record		Dr Geoffrey Edwards			
ICE Request				Role of persor		lealth Care Support Worker			
				Organisation (EMISWebCR1 50005			
				Organisation i		400005			
				Time recorded	d O	06-Sep-2000			

Leeds Innovation Lab

Leeds Lab- Idea

- Leeds Care Record
 Open EHR Standard
- Leeds Lab

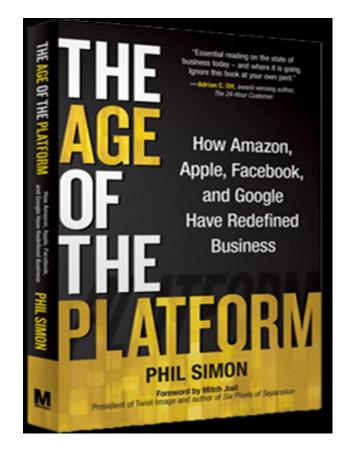


- People + Process + Technology
- Across Health & Social Care
- Live2Lab and Lab2Live

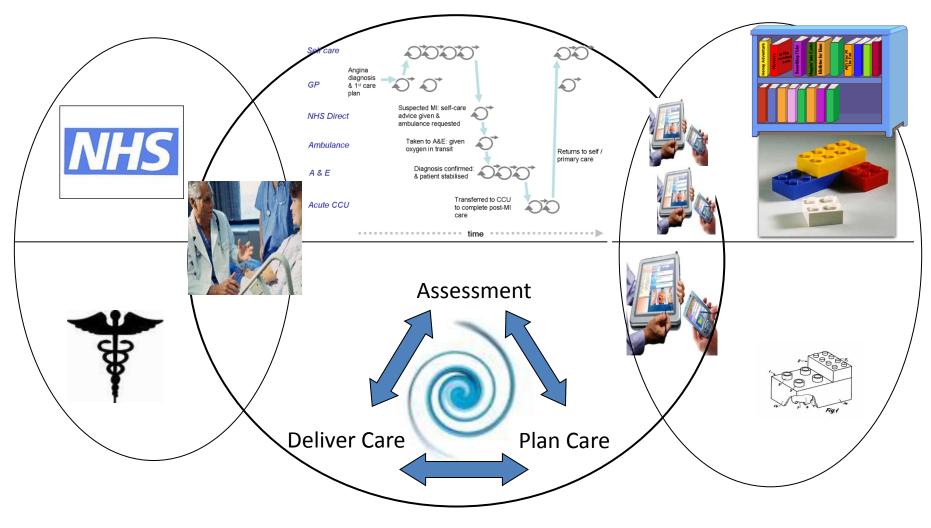
NHS eHealth – Platform required







21St Century Healthcare: Platform Required



Leeds Lab - People



Leeds Lab- Process

- Usability at the Frontline
- Integration of Data
- Business Intelligence
- Clinical Decision Support
- Cross Organisational Workflow

Leeds Lab- Technology

- OpenEHR Standards Based Platform
- Open NHS APIs

Leeds Lab: People + Process + Technology



Leeds Innovation Lab

www.leedsilab.com/signup/index.html



Creating Enterprise, Growth and Innovation across Leeds

We would like to welcome you to the launch of the Leeds Health Innovation Lab.

The launch will take place on Tuesday 19 November 2013 from 12.30-5.00 at the Carriageworks, The Electric Press, 3 Millennium Square, Leeds, West Yorkshire LS2 3AD in the Millennium room.

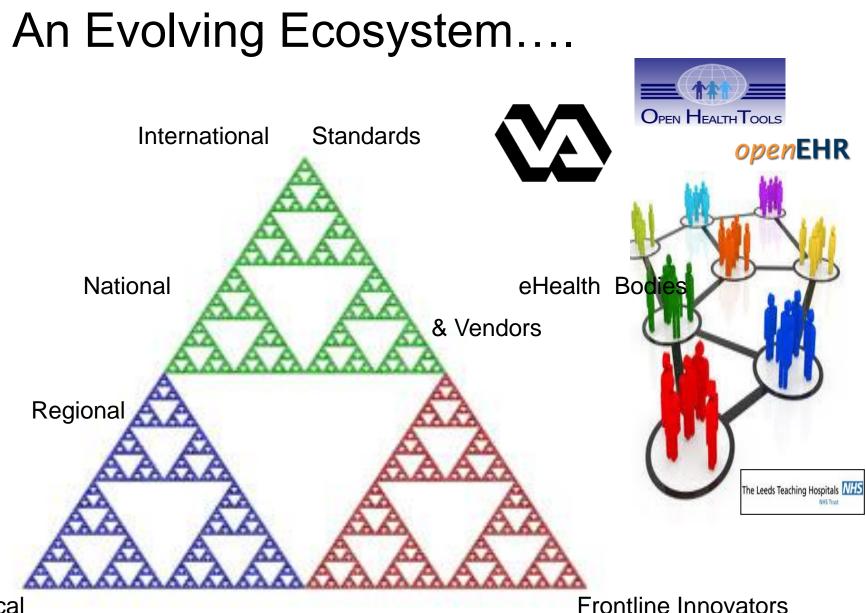
The afternoon will consist of a series of short presentations setting out what the lab will be but will also encourage participant to help shape how it will operate. We also plan to include a live demonstration of the data available and will also run a short hackathon at the end of the day for those interested in having a play with the first cut of the data.

The Leeds Health Innovation Lab is aimed towards a robust yet open platform in healthcare that we believe is now needed in the NHS. Closely related to the open source and open standards development that underpin the Leeds Clinical Portal and Leeds Care Record, the underpinning architecture of the Leeds Health Innovation Lab is based on the internationally recognised openEHR architecture.

You may be interested in related writings by Dr Tony Shannon,



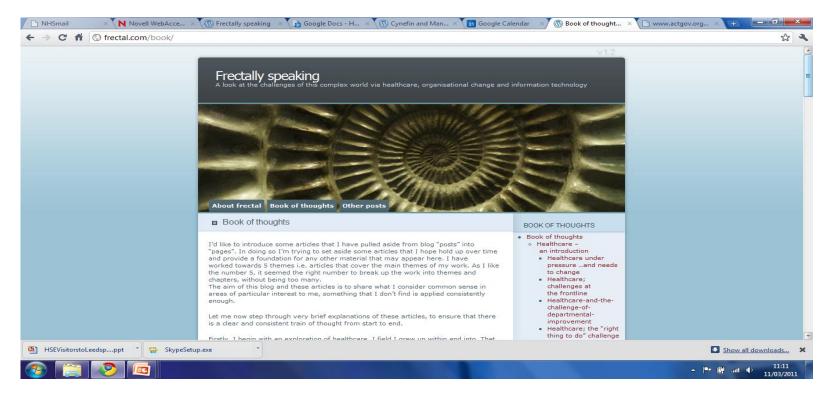
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Leeds Lab Intro

- People
 - How I am & Why I'm here
- Process
 - Whats we've done
 - What we need to do
- Technology
 - Leeds Clinical Portal
 - Leeds Care Record
 - Leeds Lab

Thank you



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