



Using Information to Improve Healthcare

A UCLPartners perspective

NHS-HE Forum, 29th November 2011

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Overview

- A little about UCL Partners
- Some innovations in healthcare:
 - Empowering practice
 - Empowering teams
 - Empowering patients

UCLPartners Structure

- Not formal merger of healthcare/academic institutions, but partnership:
 - UCL
 - 4 x founding NHS Trust partners
 - 4 x executive NHS Trust partners
 - ~25 members (PCTs, MHTs, ...)
 - Eastward expansion! (BLT, BHR, City, QMUL, ...)
- Small central coordinating company
 - MD + central team
 - Programme Directors x12 (x30%)
 - Project teams

How will we change the current state to find new solutions?

Fragmentation

Cohesion

From....

To...

Discovery

17 years from basic science to implementation

Delivering new treatments at pace and scale

Delivery system

Reactive, episodic care delivered within historical boundaries

Whole pathway approach to delivering care for patients, integrated provision

Workforce

Isolated clinicians, professional hierarchy

Effective teams, empowered clinicians leading change

UCLPartners' mission and approach

Harnessing academia and service delivery to realise a step change in patient outcomes and population health – *locally, nationally and globally*

**Put the patient first:
Organise and deliver
care around patients'
needs**

Empower patients

**Create a culture of
measurement and
ongoing improvement**

**Explicit focus on
value**

**Eleven clinically-led
programmes**

**Invest in building
clinical leadership
and management
skills**

**Establish joined-up
information systems**

**Focus research and
training/education on
patient benefit**

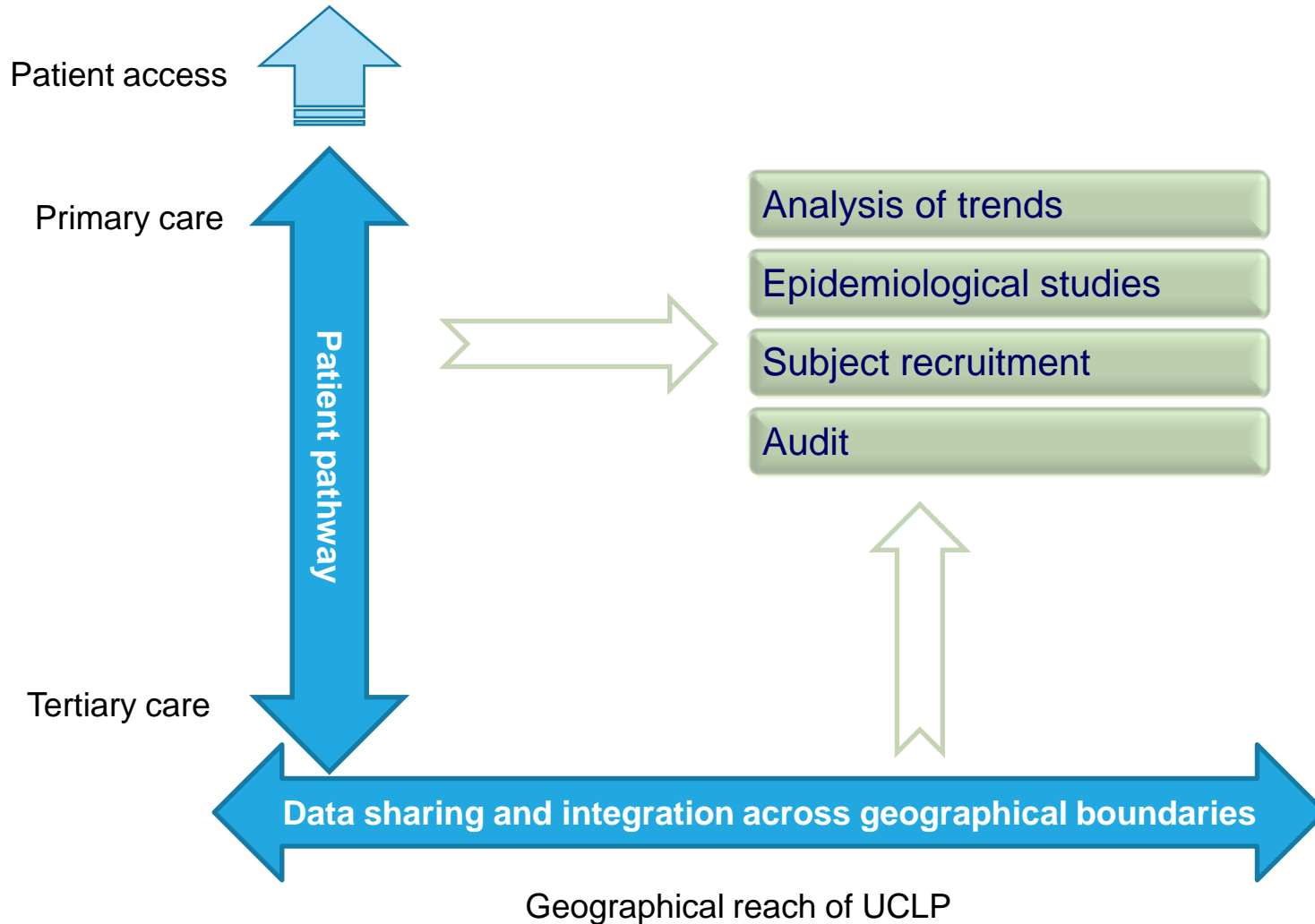
**Explicitly address
spread and delivery at
scale**

**Build partnerships:
patient groups, NHS,
academic, industry**

UCLPartners Designated Programmes

- Cancer
- Cardiovascular
- Child Health
- Eyes and Vision
- Immunology and Transplantation
- Infection
- Neurosciences
- Women's health
- Ear Nose and Throat diseases
- Mental health
- Gastroenterology

Axes of integration



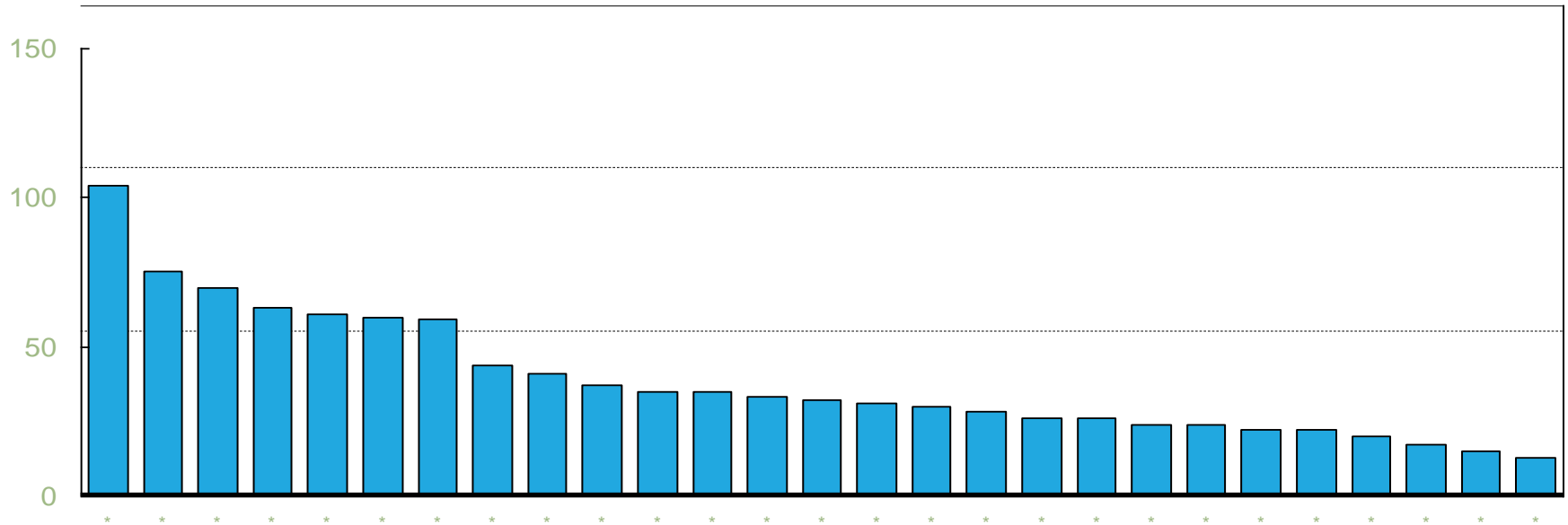
IT health innovations

- **Improving local performance**
 - Improve care delivery
 - Understand current performance
 - Power of transparency
 - Prioritise areas for action
 - Self-driven improvement
 - Performance management
 - Research tool
-
- Connecting teams
 - ‘Activating’ patients

Addressing variation at physician level within the same department

Number of head CT scans per 1000 patients seen in Emergency Dept.

Each bar is one physician

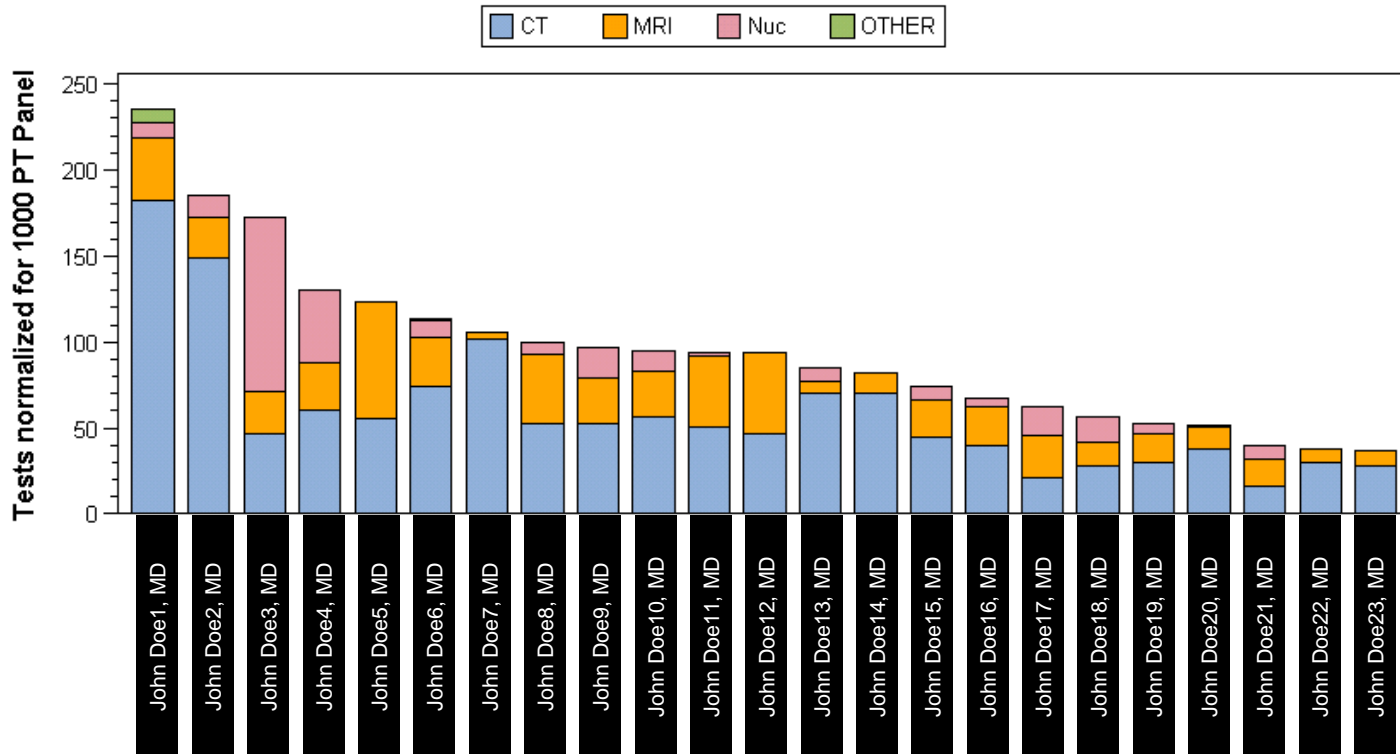


8 fold variation in rate of scanning

Physician 1 uses 40% more head CTs than next highest user

Practice Variation Report

HMA High Cost Radiology PCP Ordering
October 01 2006 thru September 30 2007
(normalized for 1000 PT Panel) by Modality

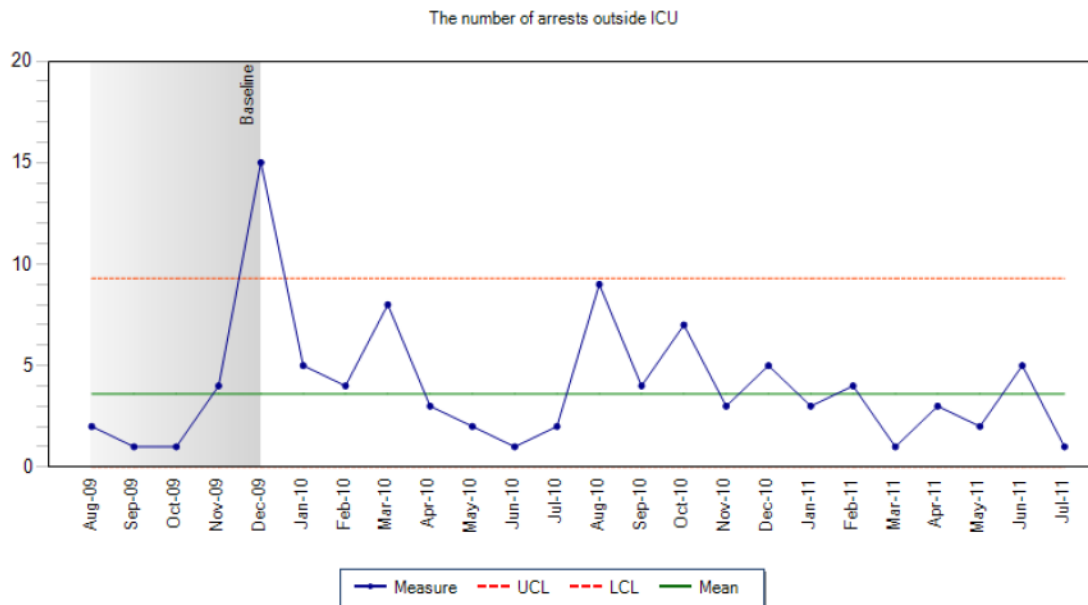
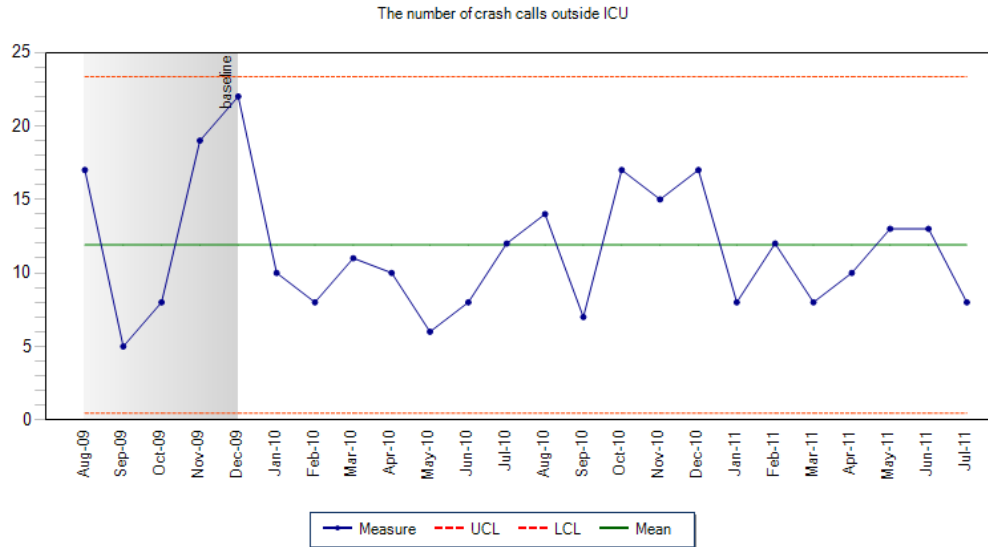


Deteriorating Patient Project

Data Sheet – August 2011

Measure	Numerator	Denominator
Completeness of recording of vital signs of randomly sampled patients	19	20 (95%)
Completeness of recording of vital signs of deteriorating patients (referrals to Outreach)	20	20
Recording of vital signs to prescribed plan compliance with vital sign observation plan	8	20 (40%)
Timeliness of referral	19	20
Use of structured communication, i.e. SBAR	-	-
Timely response to referral	20	20
Timely transfer to critical care	7	9
Total number of Cardiac Arrests	10 (17)	

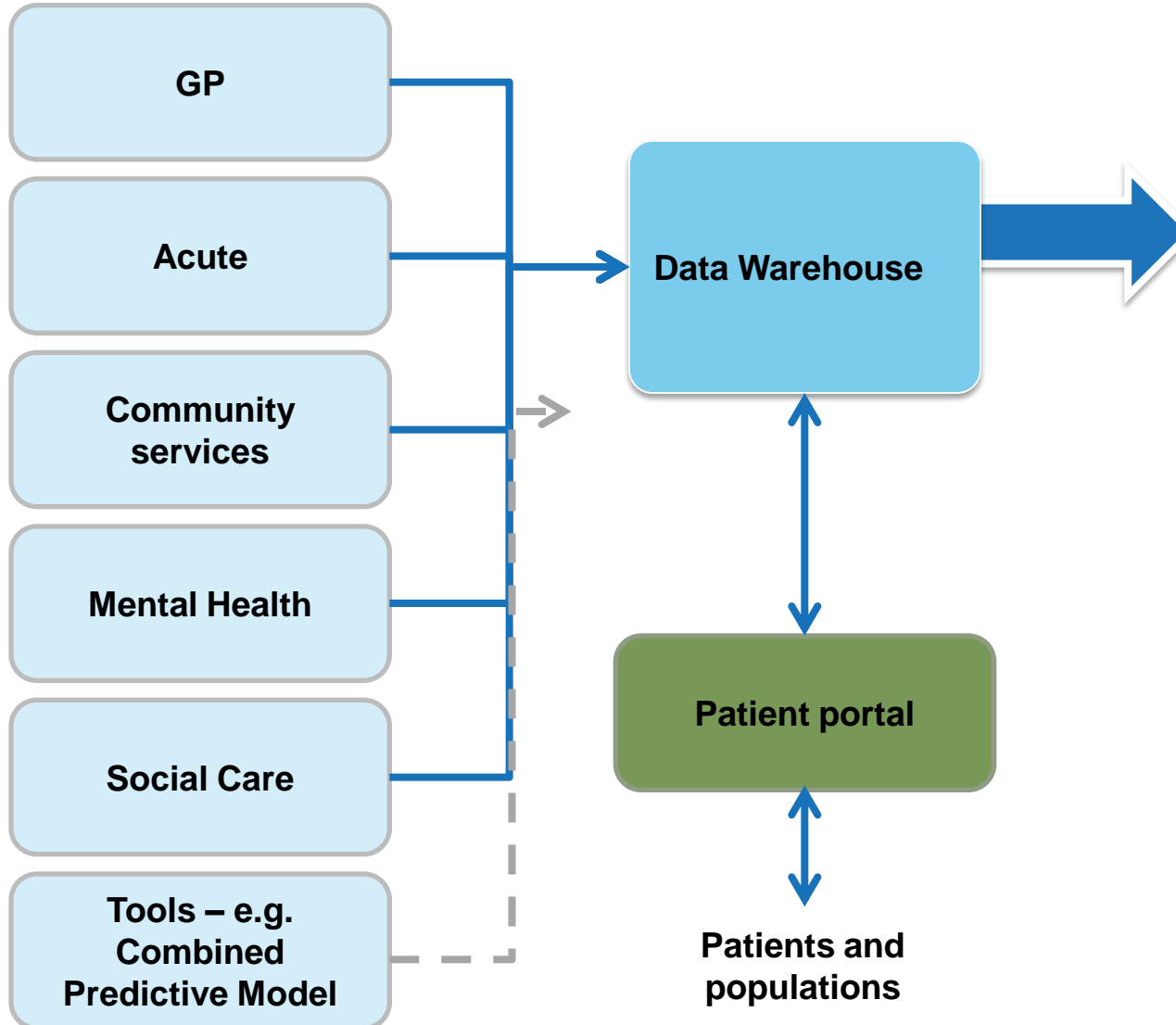
Run Charts for Deteriorating Patient



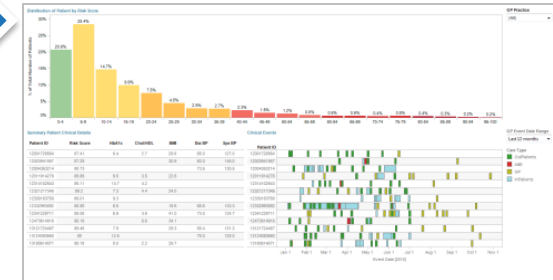
IT health innovations

- Improving local performance
- **Connecting teams**
 - Understand population characteristics
 - Target priority patients/
risk stratification
 - Focus on patients' priorities
and needs and pathways
- 'Activating' patients

Integrating routinely collected data: Overview



'Whole pathway' metrics



Analysing high risk patients

Clinical Events



Select LTC

Diabetes

- Care Type
- A&E
 - OutPatients
 - InPatients
 - Community Contact
 - Social Care Contact
 - GP Practice

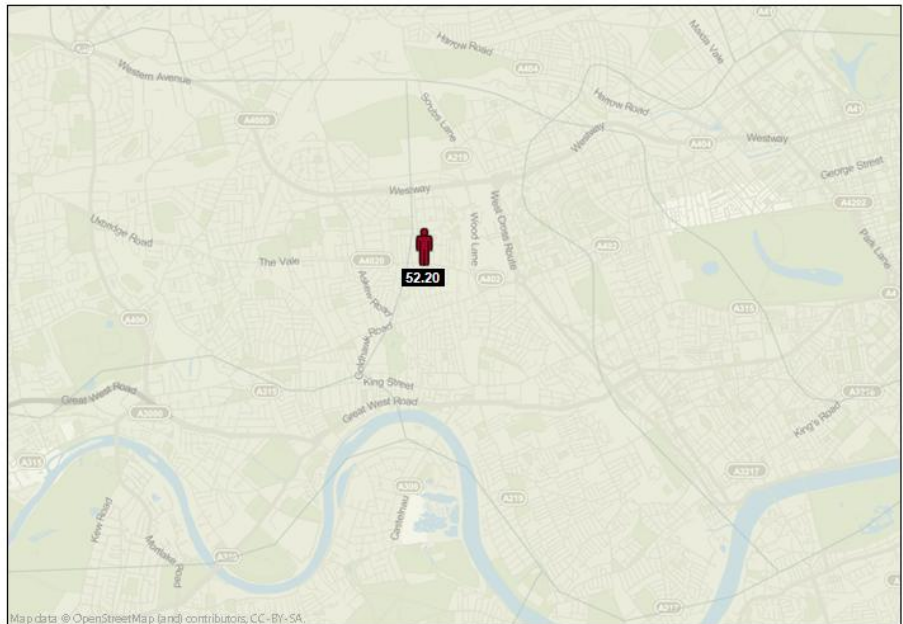
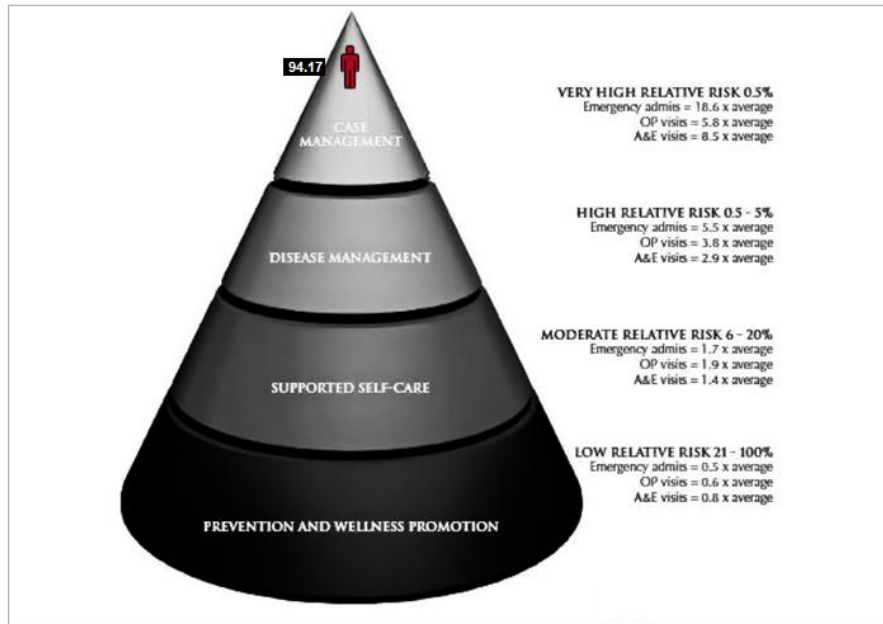
Case management indicator for individual patients

General Patient information and CPM score

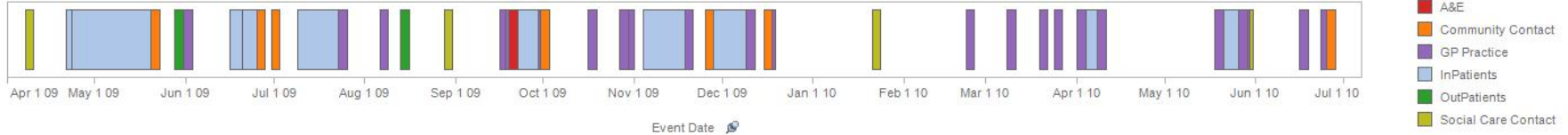
Gender Age Ethnicity LTCs
Male 88 White / Dementia / Diabetes / Elderly / Hypertension / Peripherarterydis

Demographic information and IMD scores

Patient: Mosaic Group Ward LSOA IMD National.. IMD Score
Poorer minority families GR E01001956 Quintile 1 52.2



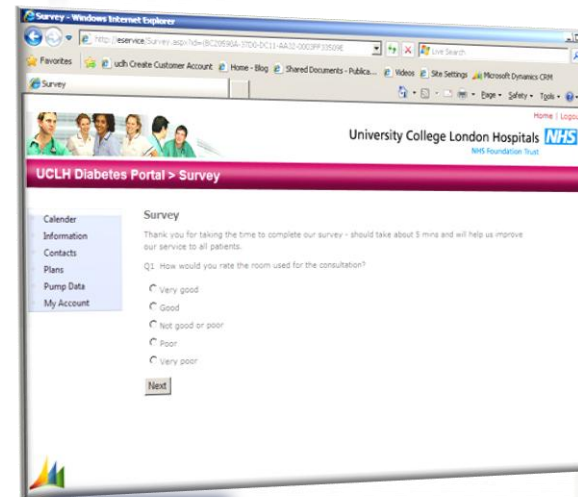
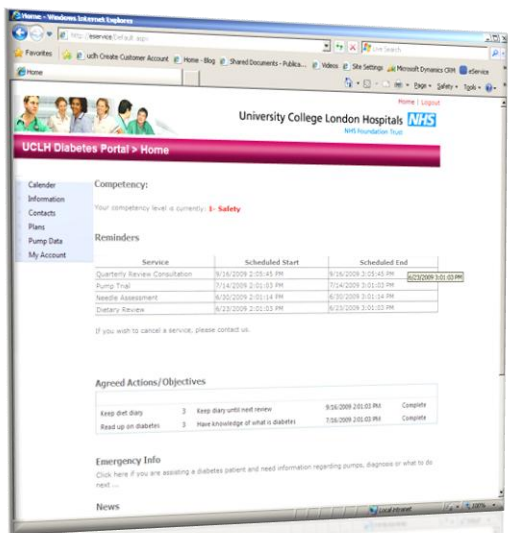
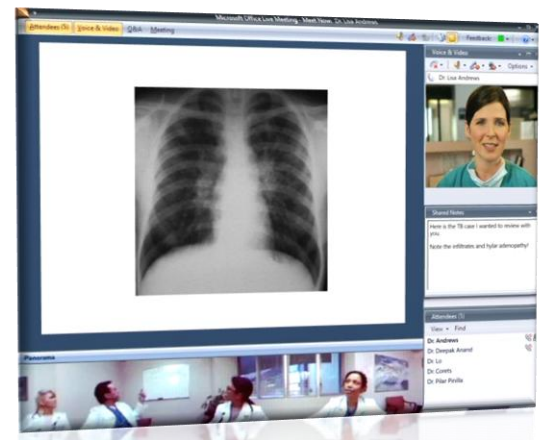
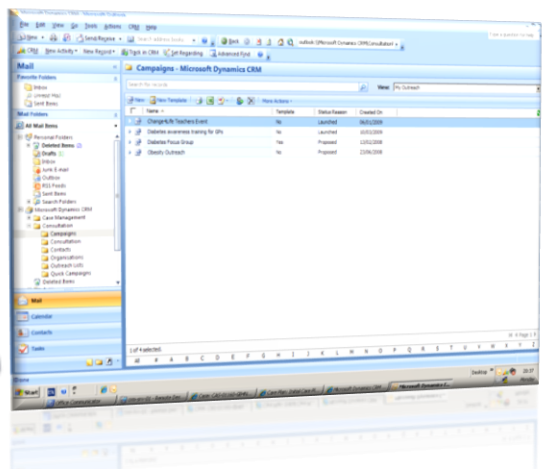
Events



IT health innovations

- Improving local performance
- Connecting teams
- **‘Activating’ patients**
 - Create patient ‘pull’: well informed customers
 - Owning their health data
 - Driving provider response
 - Change relationship between patient and clinician/system: combat paternalism

Patient Relationship Management (PRM)



Stages



University College London Hospitals
Paediatric Diabetes Portal



Home

- News
- Appointments
- Reminders

Information

- General information
- Pump information
- Patient documents
- Patients reading

Medical

- Insulin doses
- Daily dose calculator
- Dashboard
- Care pathway
- Meter readings
- Food diary

My profile

- Update profile
- My diary

- Patient referral
- Assessment
- Initiation of treatment
- Continuous care

Patient Referral and assessment

- Receipt of referral from GP
- Registration of referral at hospital
- Initial assessment undertaken
- Interest registered
- Invitation to portal
- Await portal sign-up
- Sign-up
 - Or invitation expiration warnings

The screenshot shows a web-based patient information form for 'John Patient'. The form is divided into several sections: 'General', 'Details', 'Administration', 'Notes', 'Patient', and 'NIH Site'. The 'General' section is active and contains fields for Salutation (Mr), First Name (John), Middle Name, Last Name (Patient), Job Title, Parent Customer, Contact Type (Patient), Business Phone, Home Phone, Mobile Phone, Fax, and E-mail. Below this is the 'Address' section with fields for Street 1, Street 2, Street 3, City, Post Code, and County. There are also consent sections: 'Email Consent' (No selected), 'SMS Consent', and 'Medication Consent' (dropdown menu). A sidebar on the left lists various categories: Details, Sales, Service, and Marketing, with 'Information' selected under Details.

Initiation of treatment

- Education assessment
- Pump school
 - Training
 - Dose calculation
- Dietetic evaluation
- Pump ordered
- Pump arrival

Device Allocation: 'Pump trial started'

Information

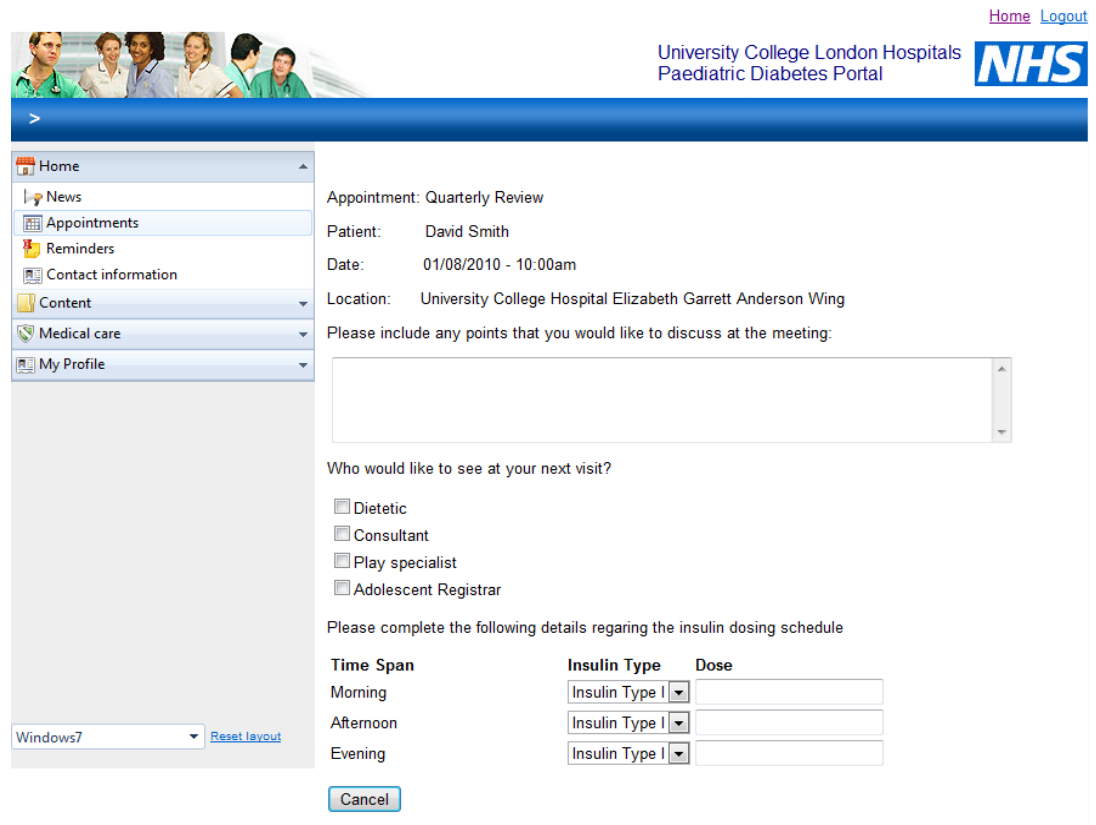
General Notes

Name	<input type="text" value="Pump trial started"/>	Device	<input type="text" value="Trial pump' for pump clinic"/>
Date Issued	<input type="text" value="6/11/2010"/>	Patient	<input type="text" value="John Patient"/>
Cannula Site	<input type="text" value="Arm"/>	Date Returned	<input type="text" value="6/26/2010"/>
Patient Comments	<input type="text"/>		
Cannula Type	<input type="text" value="Quickset"/>		

Quickset
Silhouette
Easy set
Other

Continuous care

- Glucose monitoring
- Insulin delivery
- Reporting cycle
- Telephone appointments × 4
- Quarterly review
- Annual review



The screenshot shows the NHS Paediatric Diabetes Portal interface. At the top right, there are links for 'Home' and 'Logout', and the NHS logo. The main content area displays appointment details for a patient named David Smith. The appointment is a 'Quarterly Review' scheduled for '01/08/2010 - 10:00am' at the 'University College Hospital Elizabeth Garrett Anderson Wing'. Below the appointment details, there is a text area for notes and a section for selecting who to see at the next visit, with checkboxes for Dietetic, Consultant, Play specialist, and Adolescent Registrar. At the bottom, there is a table for insulin dosing details.

Home Logout
University College London Hospitals
Paediatric Diabetes Portal **NHS**

Appointment: Quarterly Review
Patient: David Smith
Date: 01/08/2010 - 10:00am
Location: University College Hospital Elizabeth Garrett Anderson Wing
Please include any points that you would like to discuss at the meeting:

Who would like to see at your next visit?

Dietetic
 Consultant
 Play specialist
 Adolescent Registrar

Please complete the following details regarding the insulin dosing schedule

Time Span	Insulin Type	Dose
Morning	Insulin Type I	<input type="text"/>
Afternoon	Insulin Type I	<input type="text"/>
Evening	Insulin Type I	<input type="text"/>

Cancel



Home

- News
- Appointments
- Reminders

Information

- General information
- Device information
- Patient reading

Medical

- Insulin doses
- Dashboard
- Pump care pathway
- Meter readings
- Food diary
- Calculators

My profile

- Update profile
- My diary

Home > Dashboard

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Patient Name Robbie Smith
Type of Diabetes Type 1 Diabetes
Duration of Diabetes 6 Months 12 Days
Competence 2 - Basics
Current HbA1c mmol/l 5.00
Total insulin daily dose 12.00
Total daily dose / Kg 0.15
Annual Review Date 04/07/2011
Complications Nephropathy
 Foot problems
Associated Problems Adrenal disease
 Thyroid disease

Insulin Therapy: Specify the date for this result:

Pump insulin

Active insulin

Pump total daily dose

Number of bolus per day

Basal: Bolus Ratio

Basal Rates:

	Basal Rate	Carb Ratio	Sensitivity	BG Target (lower)	BG Target (Higher)	Notes (eg activities)
00:00 - 01:00						
01:00 - 02:00						
02:00 - 03:00						

Graphical Feedback

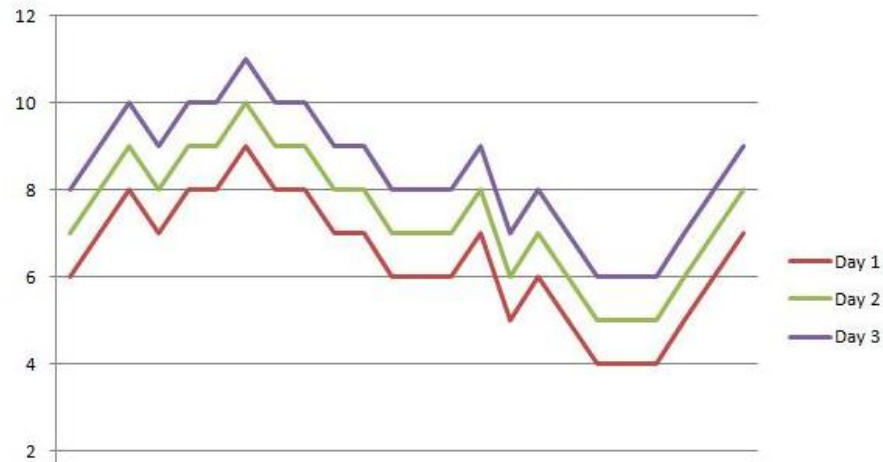


University College London Hospitals
Paediatric Diabetes Portal



- Home
- News
- Contact information
- Appointments
- Reminders
- Content
- General information
- Pump information
- Patient documents
- Patient reading
- Medical care
- Insulin doses
- Dashboard
- Care pathway
- Meter readings
- Food diary
- Calculators
- My Profile
- Update profile
- My diary

Line 1 01/01/2010
Line 2 02/01/2010
Line 3 03/01/2010



Personal Health Repositories

- Up and coming technologies
 - Microsoft HealthVault
 - Patients Know Best
 - ~~Google Health~~
- The Future?



PATIENTS KNOW BEST[®]
MANAGE YOUR HEALTH

Information Governance

- ...is a challenge!
- UCLP working to address IG issues
 - Common data handling policy
 - Data sharing agreement
- Other national initiatives
 - Information Revolution & NHS Future Forum

Reflection

4.10 **Information systems which enable information sharing and seamless, integrated care within and between organisations should be developed more rapidly** and include all healthcare providers. We would expect the Government's response to the consultation on '*Liberating the NHS: An Information Revolution*' to address these points.

Recommendation

13) **Commissioning consortia should have a duty to promote research and innovation and the use of research evidence in the NHS.** Commissioners must fund the treatment costs of patients who are taking part in research, in line with current Department of Health guidance.



Thank you

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Secure Data Sharing between UCL and its NHS partners

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NHS-HE Forum

29th November 2011

Overview

- Information Security Policy: NHS and UCL
- Pressure and Needs
- The Identifiable Data Handling Solution
- The UCL Partners Network Solution

NHS and UCL

Relationship between UCL and NHS organisations:

- Medical School
- Institutes - eg Child Health, Cancer, Neurology,
- Research Units at UCLH, RFH, Whittington, Great Ormond Street, Moorfields
- Links via Academic Charitable - Health Partnerships
- Research needs covering:
 - > Observational research – eg population studies
 - > Interventional research – eg clinical trials
 - > Innovation and Technology improvements
 - > Patient Identified data used for analysis, contact and linkage

Information Security: NHS and UCL

NHS:

Top-down data security mandate:

- Compliance with the Information Governance Toolkit
- Permeates whole structure

UCL:

Light touch:

- General UCL Information Security Policy
- Devolved approach to implementation and monitoring

UCL Health Research and NHS Information Governance

How does the NHS Information Governance system impact UCL health research work?

- UCL has no specific patient data confidentiality policy - each research team makes its own data sharing arrangements?
- Varying procedures – how should researchers work?
- UCL doesn't have a standardised technical environment in which researchers can work on identifiable data
- Lack of confidence of NHS in UCL data security processes.

Looking at how we can address this:
The vision.....

Two projects sponsored by UCL:

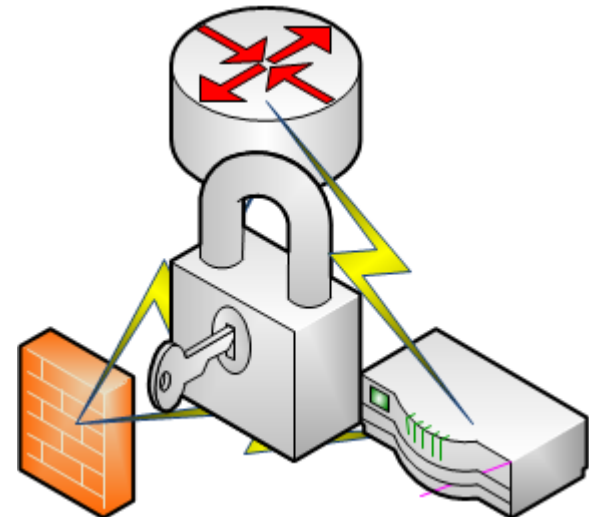
Identifiable Data Handling Solution

Ensuring personal identifiable data is kept safe and secure in UCL research systems



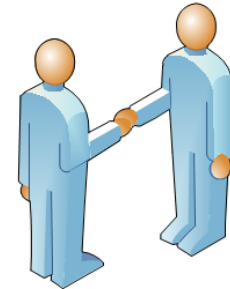
UCL Partners Network

Providing a dedicated, secure IT network for collaboration between UCL partner organisations

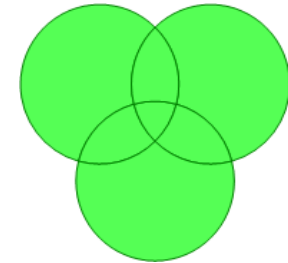
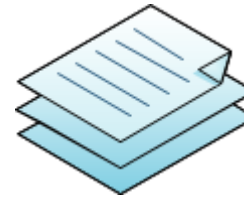


Secure Identifiable Data Handling Requires?

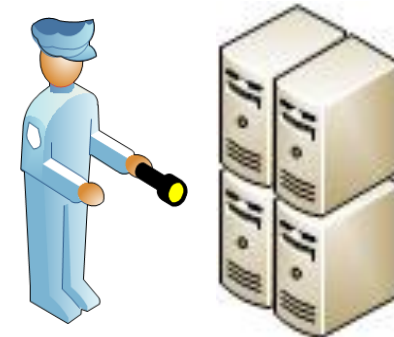
Policy



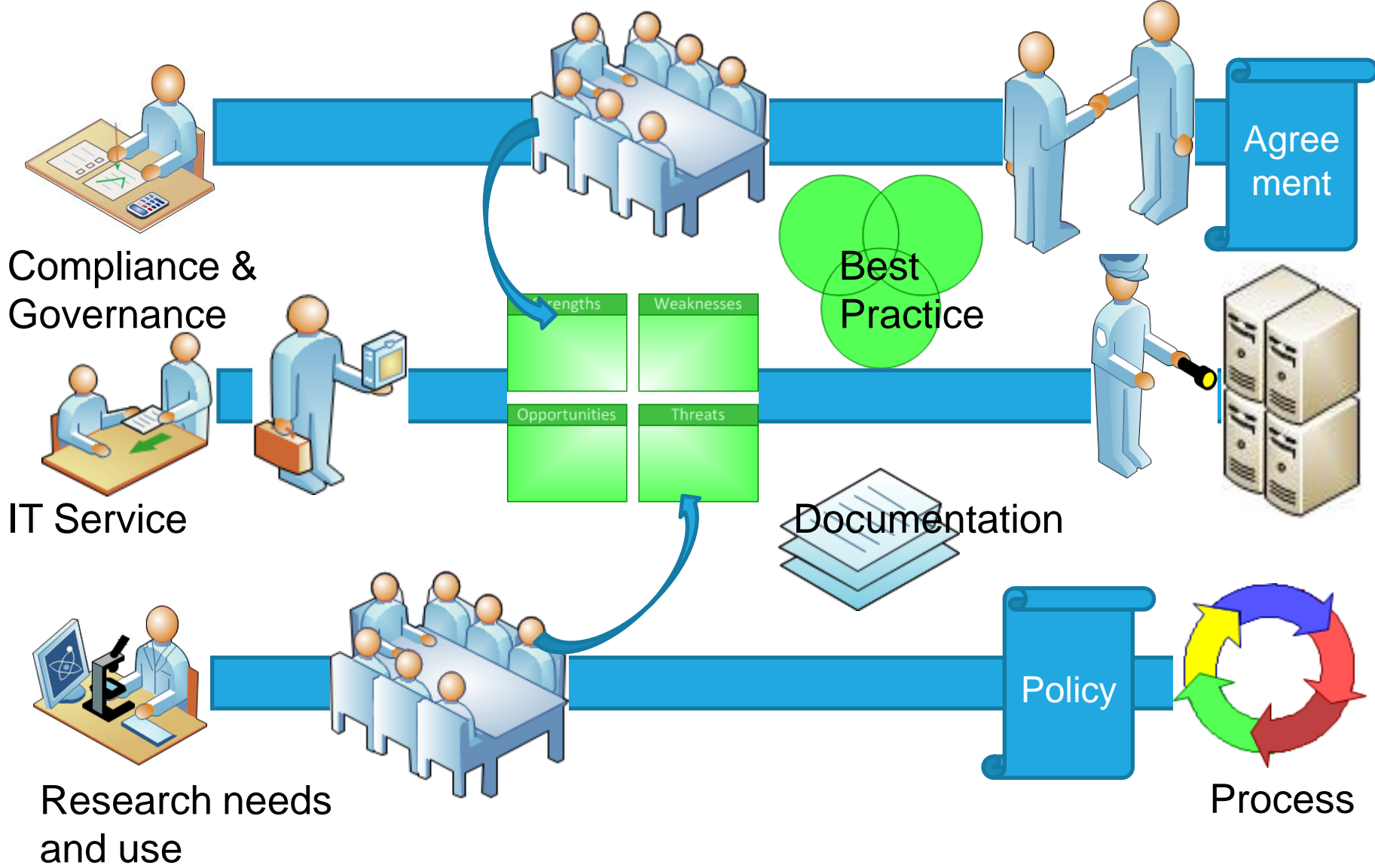
Procedure



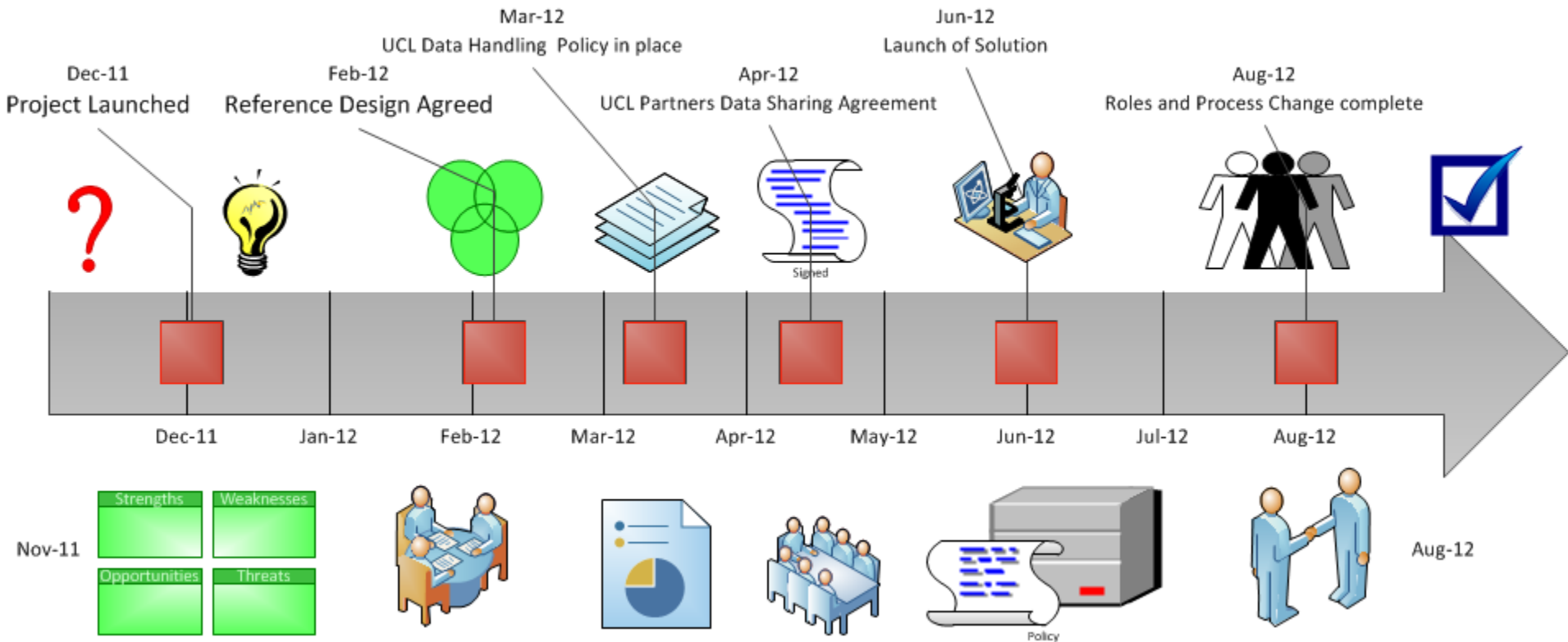
Technical Environment



How can we get this done?

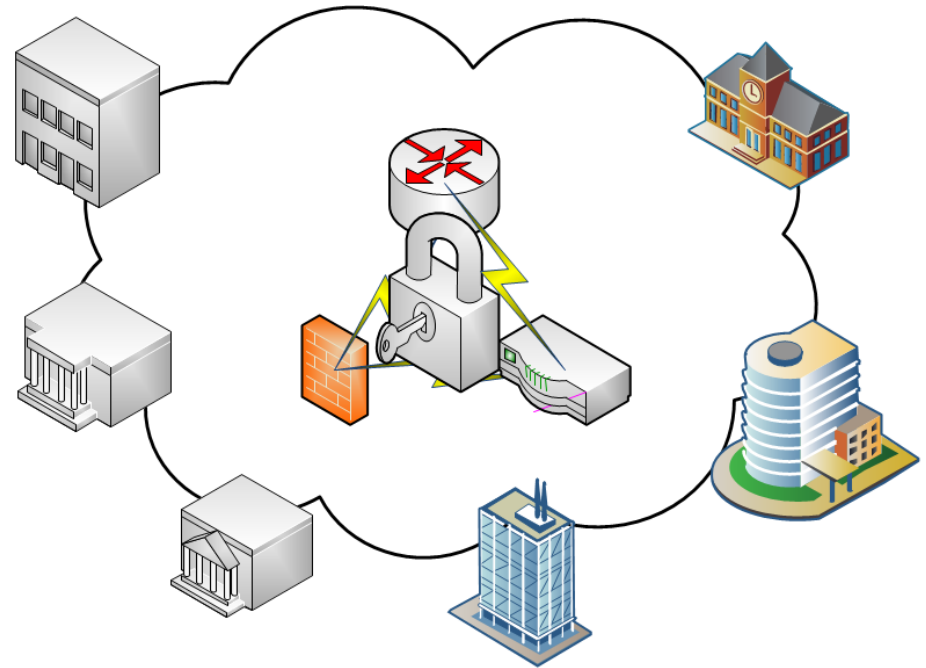


How we're planning to do it



UCL Partners Network project

Ensuring there is a dedicated, secure IT network for collaboration between UCL partner organisations



UCL Partners Network

- Network Services and Infrastructure enhancement
- Reuse of Existing UCL-UCLH Fibre Backbone
- Depends on Policy/Sharing agreement between partner organisations
- Mutual Access and Security Requirements

Thank You

Questions?

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