

NHS e-Lab for Efficient Trials

“...feasibility analysis and trials-management making best use of care records”

MRC Trials Methodology Hub, September 2010

John Ainsworth (john.ainsworth@manchester.ac.uk)

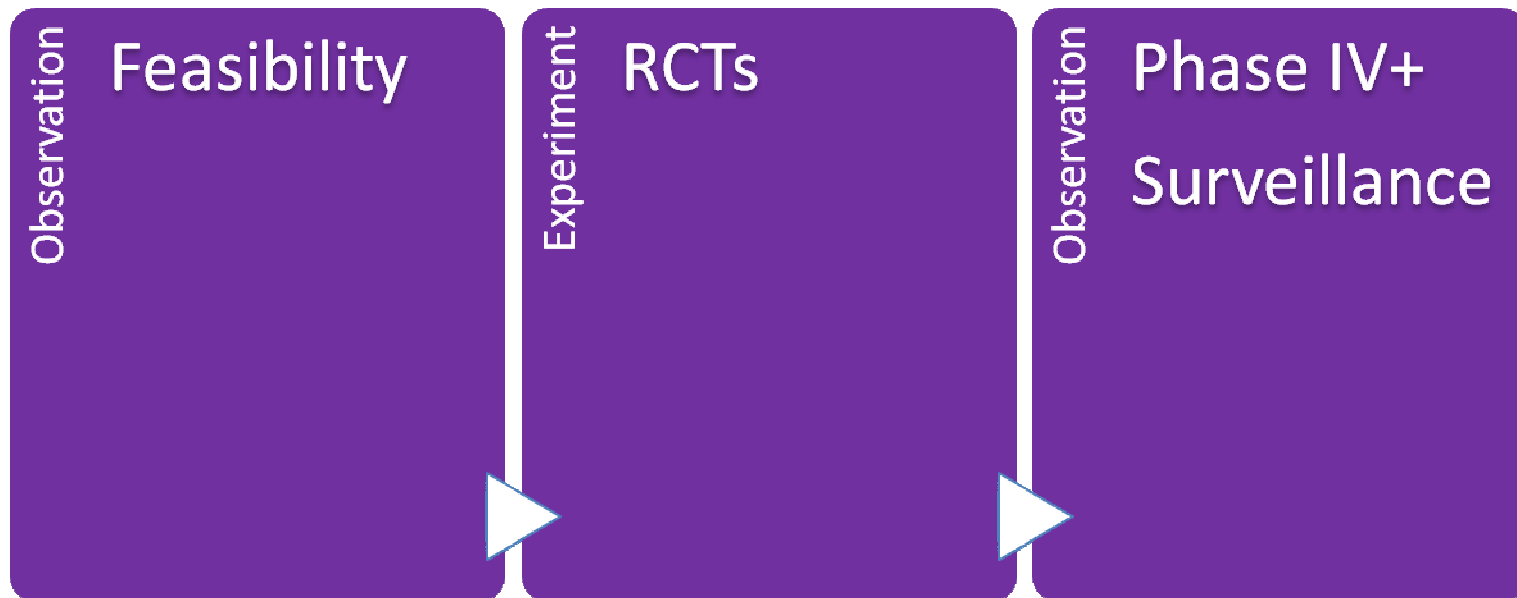
Key messages

Best use of care-records for research requires:

- Trust & transparency
- Local context & expertise
- Open innovation

...trials methodology can harness open software with inputs from other areas making decisions on analyses of care-records

The observational sandwich



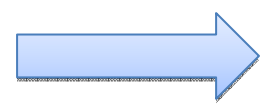


Making sense of local healthcare

Managing clinical studies



+ community



What is an e-Lab?

*... a web-based software application bringing together **people, data and methods***

People with
relevant expertise
and authorisation

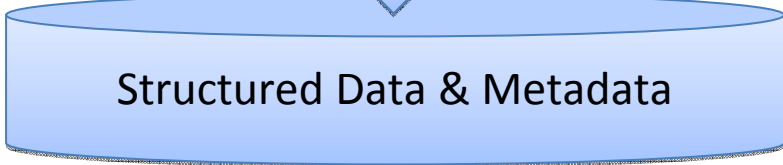
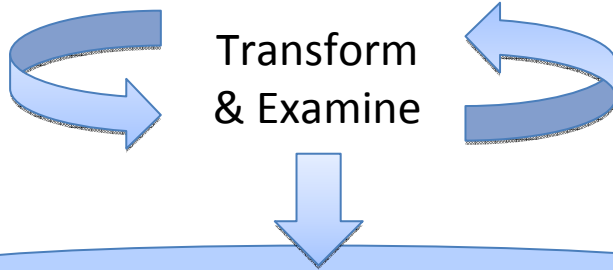
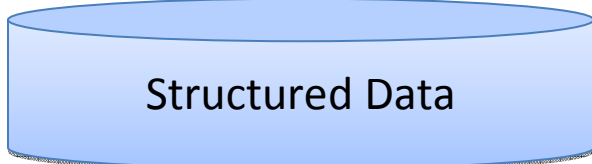
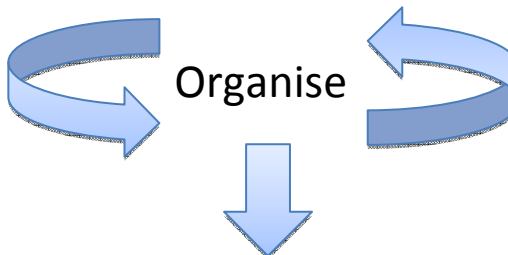


State-of-the-art
algorithms

Quality assured
integrated data

North-West e-Health

- NHS-University partnership
- Not-for-profit venture
- Developing open source software to make better use of electronic health records for
 - Research
 - Clinical Audit
 - Commissioning
 - Public health intelligence



Problem: Lack of local ownership

Centralised intelligence systems do not empower local health professionals to build more locally useful information

Due to:

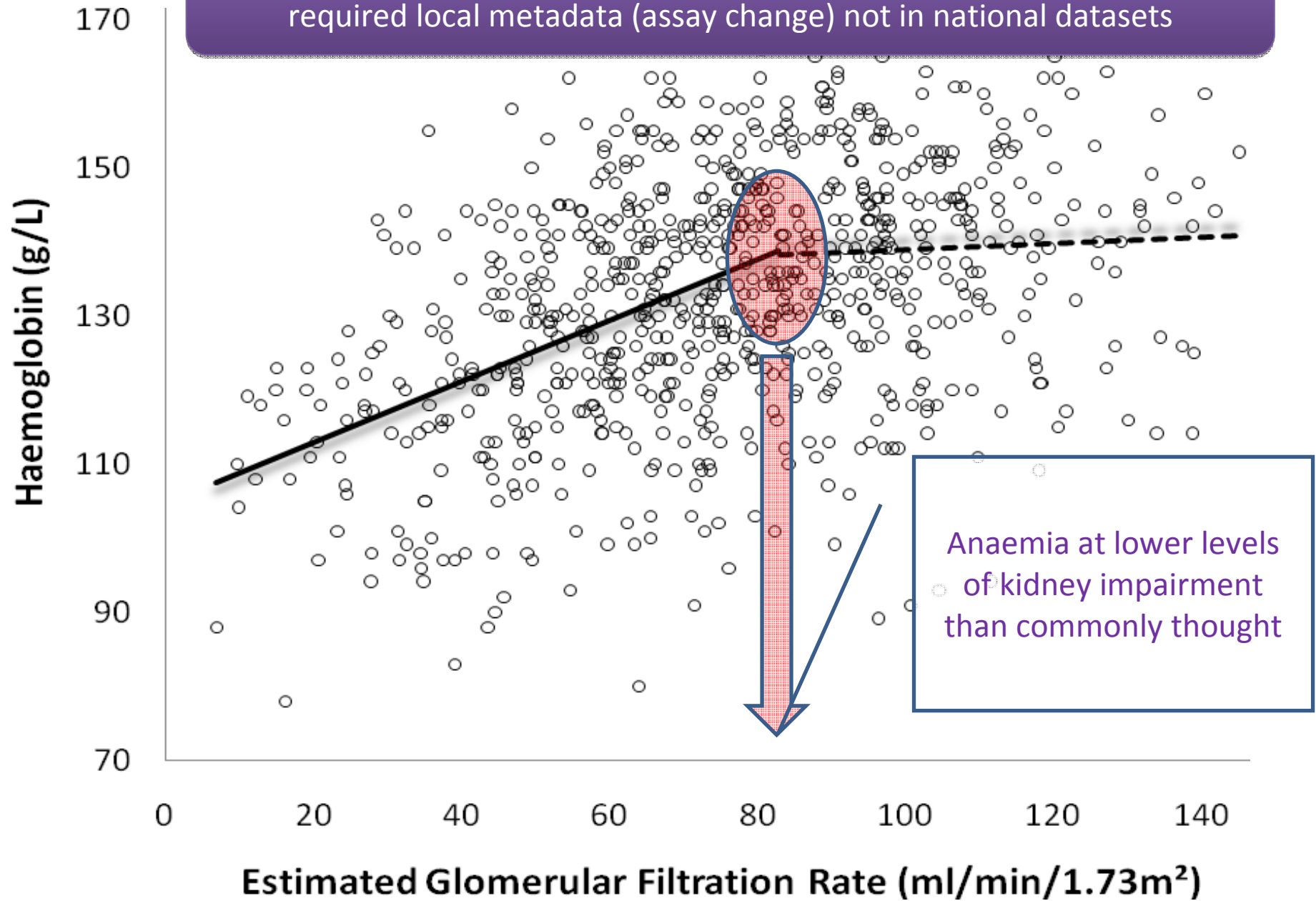
1. Fixed reports rather than templates from centre
2. Costly to reproduce
3. Benchmarking imposed vs. community of trust
4. Additional local explanatory data left out
5. Lack of local ownership to act on the intelligence

e-Lab ownership: Local insights

- Additional sources of data
- Coding and other data quality issues
- Local context of questions
- Local context of explaining results
- Locally generated research and audit questions

...capture the local insight, attribute/credit the right people, share it, reuse it, enrich it...

Clinical (audit) question leading to scientific finding:
required local metadata (assay change) not in national datasets



Problem: Unclear governance

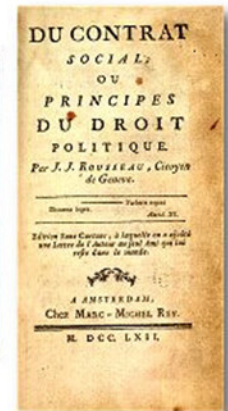
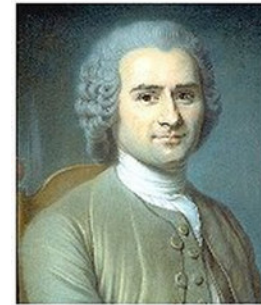
Patients can't be assured of who has done what with their records or if the right calculations have been employed

Due to:

1. Closed/black-box health intelligence products
 - security measures hidden
 - formulae/algorithms hidden
2. Centralised security measures remove local control and impede work

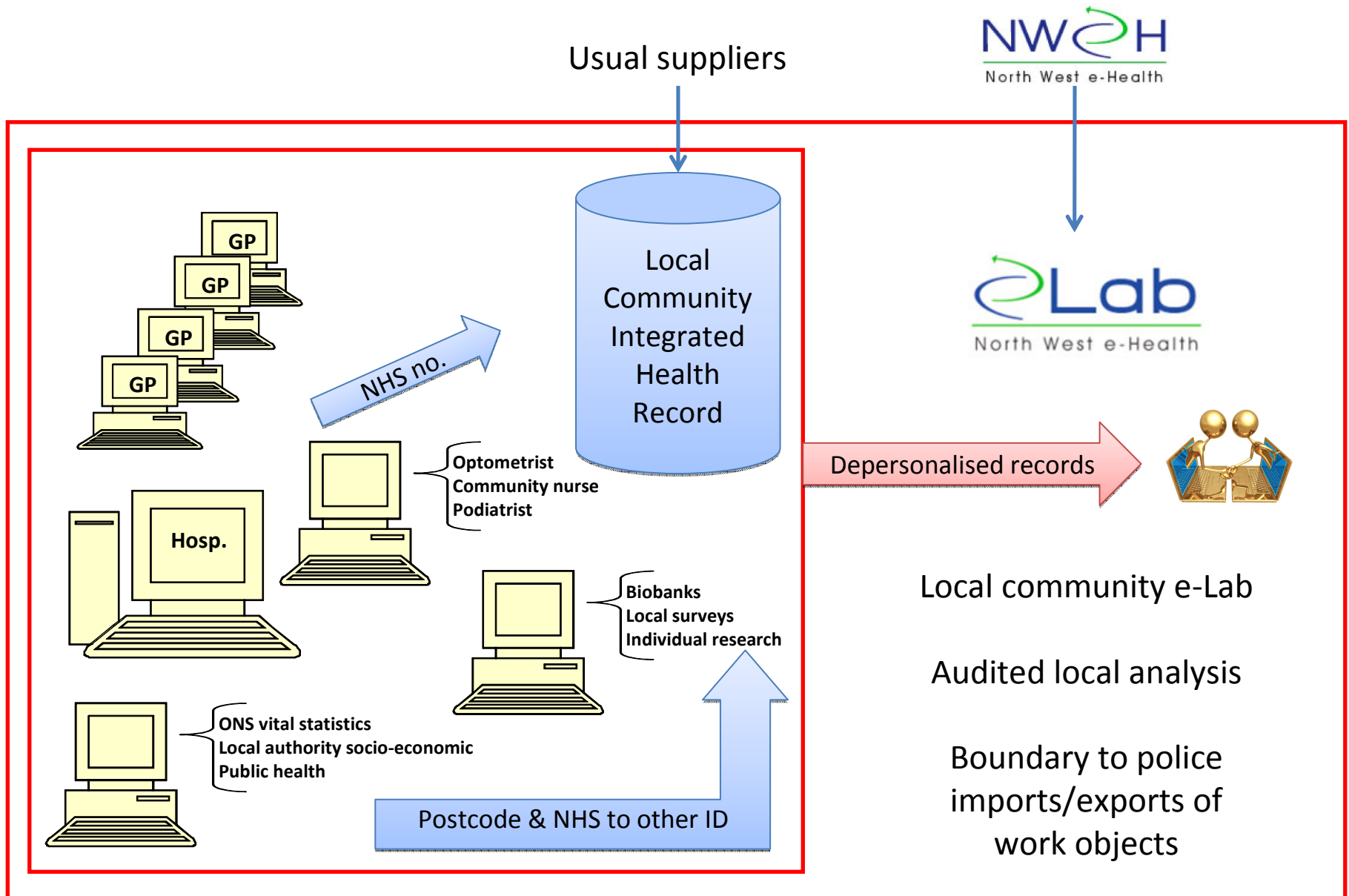
Ethical Principles & e-Lab

- Respect for autonomy
 - Patient consent: opt in/out?
 - Analyst-driven, not driving analysts
- Beneficence
 - Benefit: cost analysis of data sharing
 - Audit what was done with data
- Non-maleficence
 - Most governance is in place in the UK
 - Restricting data access has opportunity costs
- Justice
 - Fair access to data, models & tools
 - Credit for participation



Rousseau: "Social Contract"

e-Lab security: Double firewalling



e-Lab governance: Transparent

- Track record in security, e.g. openCDMS
- Open source software (external validation)
- ISO compliant procedures
- Local control over data and system access
- No shareholders: e-Lab system is owned by and accountable to the NWeH stakeholder community (all public service & NHS-led)

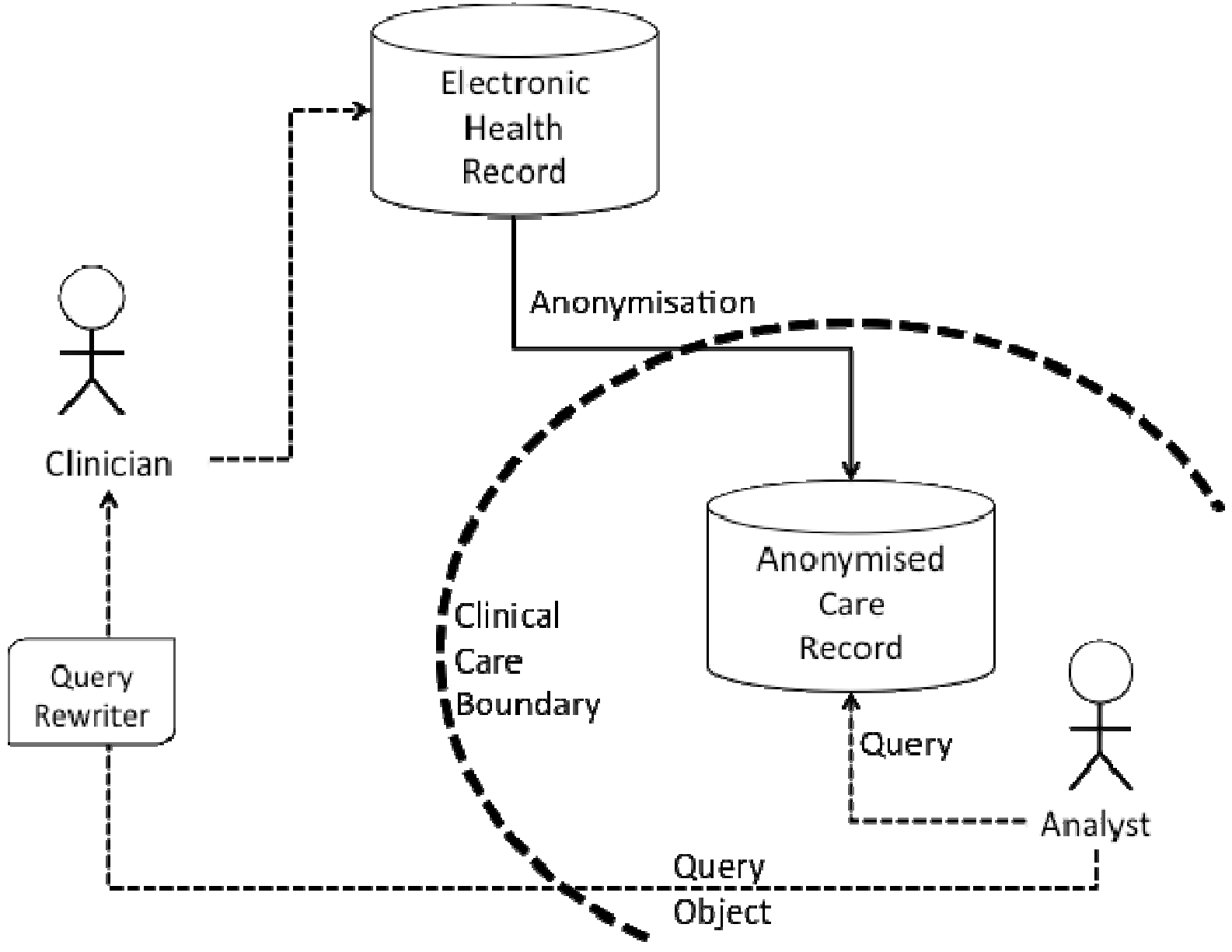


FARSITE

Feasibility **A**ssessment
and **R**ecruitment **S**ystem
for **I**mproving
Trial **E**fficiency

Major Issues with Clinical Studies

- Bias & generalisability
- >50% over-run
- >30% don't hit recruitment targets
- Unrealistic feasibility assessment
- Consent-management confusion



Consent-for-consent

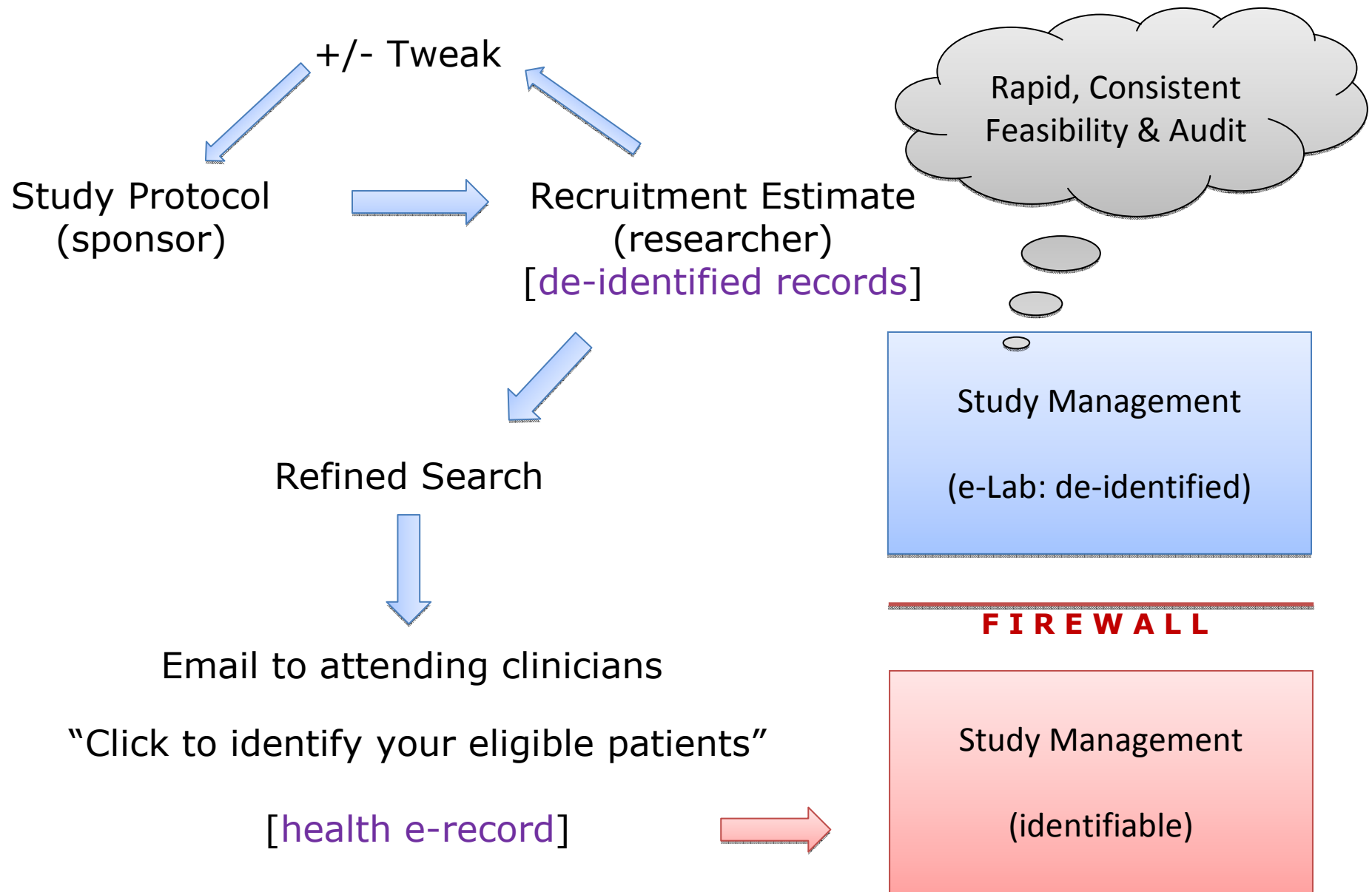
...is the consent to

search an individual's health record

to determine whether or not

they should be invited

to take part in a clinical study.



From this...

```
select distinct PatientID, GPPracticeCode from Patients where DeathDate is null and PatientID in (select distinct PatientID from Patients where
Dob<=1991 and PatientID in (select distinct PatientID from Patients where Dob>=1931 ) ) and PatientID in (select distinct PatientID from Patients
where PatientID in (select distinct j.PatientID from Journal j where j.ReadCode in
('C21','C2A','C2D','C2G2','C1021','C109','C1094','C1095','C1097','C1099','C109D','C109F','C109G','C109H','C109J','C10F','C10F4','C10F5','C10F7',
'C10F9','C10FD','C10FF','C10FG','C10FH','C10FJ','L1806','X40J5','X40J6','X40JK','XaELQ','XaFn7','XaFn8','XaFn9','XaFWI','XSETp','XU70f','XU71F','XUK
OO','XULXc','XUPHn','XUSbx') and j.EntryDate<@p4DateLimit1 ) ) and PatientID not in (select distinct PatientID from Patients where PatientID in
(select distinct j.PatientID from Journal j where j.ReadCode in
('.1226','.12C2','.12C3','.12C5','.12C8','.12CA','.12CB','.12CC','.12CD','.12CE','.12CF','.12CG','.12CH','.12CJ','.12CL','.12CM','.12CN','.12CP','.12CR','.12C
S','.12CT','.12J3','.14A','.14A3','.14A4','.14A5','.14A6','.14AD','.14AH','.14AJ','.14AL','.14AM','.14AN','.14AP','.14AQ','.14AR','.14H1','.187','.110','.113
','.115','.116','.1160','.1O1','.2241','.679X','.68B2','.68B6','.6C0','.7721','.7722','.865','.8651','.8652','.8653','.8654','.865Z','.B1NZ','.G12','.G121','.G
122','.G123','.G12Z','.G131','.G2','.G21','.G211','.G212','.G213','.G21Z','.G22','.G221','.G222','.G223','.G22Z','.G23','.G231','.G232','.G233','.G234',
'.G235','.G236','.G23Z','.G2Z','.G32','.G34','.G4','.G41','.G42','.G420','.G43','.G44','.G440','.G441','.G442','.G443','.G444','.G445','.G446','.G45',
'.G451','.G452','.G45Z','.G46','.G47','.G48','.G49','.G4Z','.G5','.G51','.G511','.G52','.G52Z','.G5Z','.G6','.G61','.G612','.G613','.G614','.G62Z','.G6
3','.G631','.G632','.G633','.G634','.G635','.G636','.G637','.G63Z','.G64','.G641','.G642','.G643','.G644','.G645','.G646','.G64Z','.G65','.G651','.G652',
'.G653','.G654','.G655','.G656','.G657','.G65Z','.G66','.G67','.G670','.G68','.G681','.G682','.G68Z','.G69','.G691','.G692','.G693','.G69Z','.G6A','.G6A
1','.G6A2','.G6AZ','.G6B','.G6B2','.G6B3','.G6B5','.G6B6','.G6BZ','.G6C','.G6E','.G6Z','.K2B5','.N2','.N21','.N211','.N212','.N213','.N214','.N21Z','.N2
2','.N221','.N222','.N223','.N224','.N225','.N226','.N227','.N22Z','.P324','.P9H2','.P9N2','.P9OZ','.RJ10','1226','12C','12C2','12C3','12C5','12C8','1
2CA','12CB','12CC','12CD','12CE','12CF','12CG','12CH','12CJ','12CL','12CM','12CN','12CP','12CR','12CS','12CT','12J3','14A','14A3','14A4','
14A5','14A6','14AD','14AH','14AJ','14AL','14AM','14AN','14AP','14AQ','14AR','14H1','1I10','1I3','115','116','1160','1O1','2241','679X','68
B2','68B6','6C0','7902','79020','79021','79022','79023','79024','79025','7902y','7902z','7930','79300','79301','79302','79304','7930y','7930z','79
340','79341','79342','79350','79351','79356','793E1','793M1','793M2','793M3','7L1H','7L1H0','7L1H1','7L1H2','7L1H3','7L1H4','7L1H7','7L1H8','7P0
G0','A17y0','A17y1','A2704','A32y1','A364','A3640','A3642','A3643','A364z','A742','A7420','A7422','A7423','A742z','A7A','A860','A8600','A932',
'A9320','A9321','A9322','A9323','A9324','A932z','A93y1','A98y2','A98y3','AB2y0','AB404','AB414','AB4z4','AD03','B241','B2410','B2411','B2412','B2
413','B241z','B25','B727','B728','B93y1','Byu21','C1322','C34y1','C3733','F3918','F391B','G01','G010','G011','G012','G01y','G01y0','G01yz','G0
1z','G020','G1','G10','G100','G101','G102','G10z','G11','G110','G111','G112','G113','G114','G11z','G12','G120','G121','G122','G12z','G
13','G130','G131','G132','G133','G13y','G13z','G14','G140','G1400','G1401','G1402','G1403','G1404','G1405','G140z','G141','G1410','G1411',
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'G21z','G21z0','G21z1','G21zz','G23','G230','G231','G232','G233','G234','G23z','G3','G30','G300','G301','G3010','G3011','G301z','G302','G3
03','G304','G305','G306','G307','G3070','G3071','G308','G309','G30A','G30B','G30X','G30X0','G30y','G30y0','G30y1','G30y2','G30yz','G30z','G
31','G310','G311','G3110','G3111','G3112','G3113','G3114','G3115','G311z','G312','G31y','G31y0','G31y1','G31y2','G31y3','G31yz','G32','G33',
'G330','G3300','G330z','G331','G332','G33z','G33z0','G33z1','G33z2','G33z3','G33z5','G33z6','G33z7','G33zz','G34','G340','G3400','G3401','G341
','G3410','G3411','G3412','G3413','G341z','G343','G344','G34y','G34y0','G34y1','G34yz','G34z','G34z0','G35','G350','G351','G353','G35X','G36
','G360','G361','G362','G363','G364','G365','G366','G38','G380','G381','G382','G383','G384','G38z','G3y','G3z','G40','G400','G40z','G4
1','G411','G41y','G41yz','G41z','G5','G50','G500','G501','G51','G510','G5100','G5101','G5102','G510z','G511','G5110','G5111','G5112','G5
```

..to this

- Create new study
- Create copy of this study
- Cancel Study
- Return to list of studies

Protocol Templates

- Create Template

Study Overview

State

Feasibility

Study Members

- lucy (Creator)
- bruce (Viewer)
- gary (Editor)
- markelderfield (Editor)
- normanstein (Editor)
- pat (Editor)
- sarahthew (Editor)
- steph (Viewer)

Description Protocol Estimates

Study saved 31/08/2010 08:45:31

Protocol History

Edit

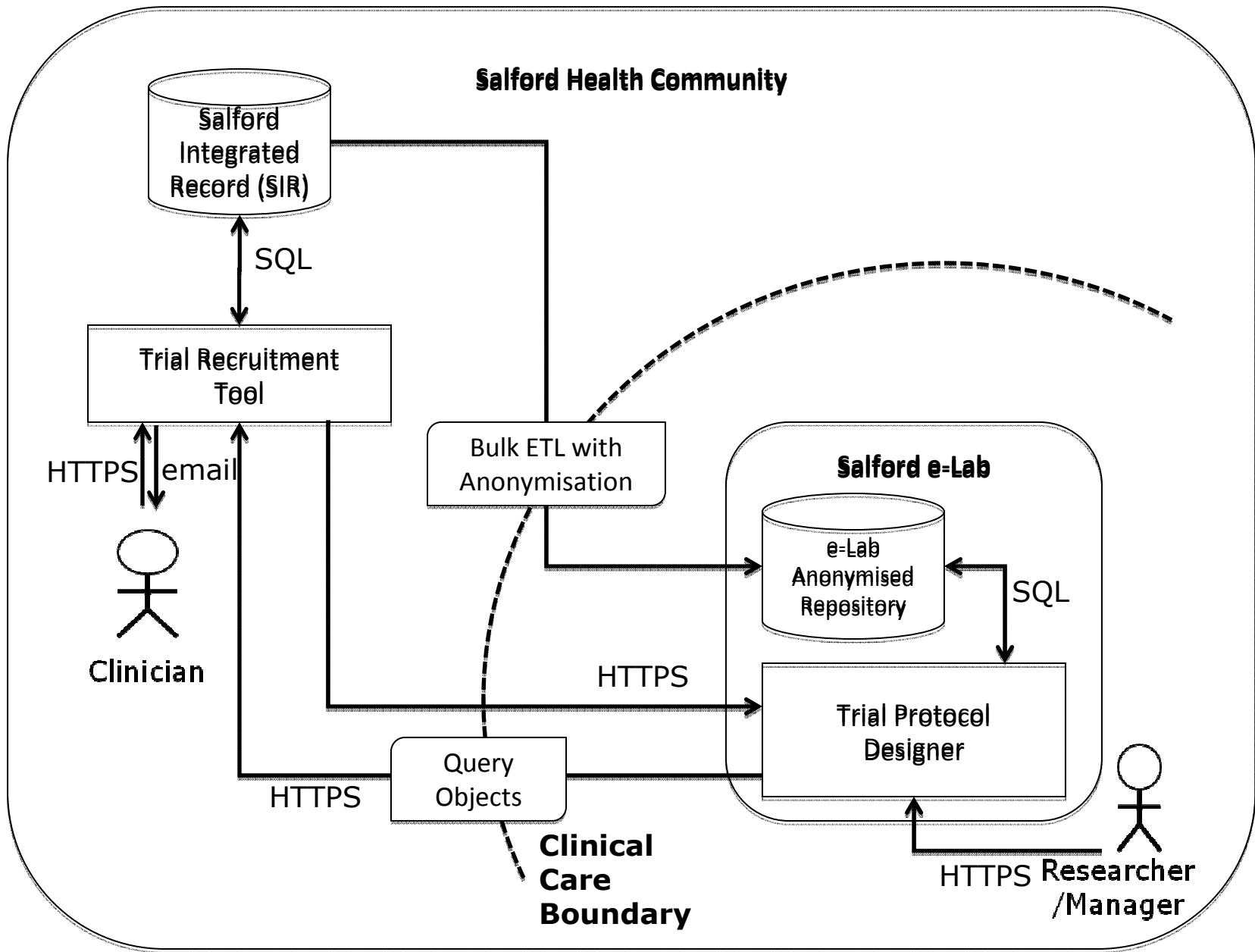
Demographics

- Age is Any
- Gender Is Any
- Ethnicity Is Any
- Smoker Types: Any

Additional Criteria

- Include: Has Asthma**
 - Asthma
 - AND Asthma attack diagnosis made less than 12 Months ago
- Include: Asthma Medications**
- Exclude: BMI - Overweight**

Back Next



Study List

Welcome gary! [Log Off]



Farsite Home	Protocol Templates	Shared Criteria	Research Networks	Clinical Codes	Help
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Options

- ▶ Create new study

My Studies

Show

MASCOT
Approved
An example of an asthma study

Diabetes
Feasibility
Research into diabetes

Arthritis Test
Feasibility
Testing diagnosis gives consistant results

Group Test
Feasibility
Checking group creation

< 1 >

Feasibility Studies

Welcome gary! [Log Off]



Farsite Home	Protocol Templates	Shared Criteria	Research Networks	Clinical Codes	Help
------------------------------	------------------------------------	---------------------------------	-----------------------------------	--------------------------------	----------------------

Options

- Create new study
- Create copy of this study
- Cancel Study
- Return to list of studies

Study Overview

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- normanstein (Editor)
- pat (Editor)
- sarahthew (Editor)
- steph (Viewer)

MASCOT

Browser

Description Protocol Estimates

Study Name *

Short Description *

UKCRN Code

Other Research Network Code

This is a feasibility study.

This is an approved study.

* Denotes required fields.

Next

Creating a Protocol

Study Overview

State

Feasibility

Study Members

- lucy (Creator)
- bruce (Viewer)
- gary (Editor)
- markdelderfield (Editor)
- normanstein (Editor)
- pat (Editor)
- sarahthew (Editor)
- steph (Viewer)

Gender

Ethnicity

Smoker 'N/A' (Not Applicable)
 Select:
 Current Smoker Ex-Smoker Never Smoked

Additional Criteria

[-] Include: Has Asthma ✕

- AND Asthma ✕
- AND Asthma attack diagnosis made less than 12 Months ago ✕

Search for

Search within term description

Diagnosis made

Add with

- asthma ✕
- Asthma
 - Asthma attack
 - Asthma NOS**
 - Cardiac asthma
 - Asthma screening
 - Intrinsic asthma
 - Asthma confirmed
 - Asthma attack NOS
 - Asthma unspecified

[+] Include: Asthma Medications ✕

[+] Exclude: BMI - Overweight ✕

Examining Coding

The screenshot displays a study filtering interface. On the left, a sidebar contains a 'Study Overview' section with a 'Study Members' list including lucy (Creator), bruce (Viewer), gary (Editor), markdelderfield (Editor), normanstein (Editor), pat (Editor), sarahthew (Editor), and steph (Viewer). The main area shows filters for Gender (Any), Ethnicity (Any), and Smoker (N/A (Not Applicable) selected). A 'Read Codes' dialog box is open, listing various asthma-related codes and their descriptions. Below the dialog, there are sections for 'Include: Asthma Medications' and 'Exclude: BMI - Overweight', both marked with a red 'X' icon. At the bottom, there are buttons for 'Add Include Group' and 'Add Exclude Group'.

Gender: Any

Ethnicity: Any

Smoker: 'N/A' (Not Applicable)

Select:

Current Smoker Ex-Smoker Never Smoked

Read Codes

.173A	Exercise-induced asthma (finding)
.173c	Occupational asthma
.173d	Work aggravated asthma
.1780	Aspirin-induced asthma
.H43.	Asthma (disorder)
.H431	Extrinsic asthma - atopy (& pollen) (disorder)
.H432	Asthma: [intrinsic] or [late onset] (disorder)
.H433	Status asthmaticus (disorder)
.H434	Asthma attack (& NOS) (disorder)
.H435	Exacerbation of asthma (disorder)

Include: Asthma Medications ✖

Exclude: BMI - Overweight ✖

Add Include Group Add Exclude Group

Shared Criteria

welcome **gary!** [Log Out]



Farsite Home	Protocol Templates	Shared Criteria	Research Networks	Clinical Codes	Help
------------------------------	------------------------------------	---------------------------------	-----------------------------------	--------------------------------	----------------------

Options

- ▶ [Edit](#)
- ▶ [Shared Criteria items](#)

Diabetes Register Example (Shared Criteria)

Name: Diabetes Register Example

Creator: lucy

Created: 24/08/2010

Additional Criteria

[Diabetes mellitus type 1
AND/OR Diabetes mellitus type 2]
AND NOT Diabetes resolved (finding)

Adding Shared Criteria

The screenshot displays a software interface for designing clinical trial protocols. On the left, there are two panels: 'Protocol Templates' with a 'Load Template' dropdown, and 'Study Overview' with a list of roles including 'gary (Creator)'. The main area is titled 'Demographics' and contains the following criteria:

- Age: More Than 18 Years, Less Than -- Years
- Gender: Any
- Ethnicity: Any
- Smoker: 'N/A' (Not Applicable), Select:

An 'Add Exclude Group' dialog box is open, showing a list of conditions to be added to an exclude group. The 'From existing' checkbox is checked. The list includes:

- Hypertension
- BMI - Obese
- BMI - Overweight
- Hayfever
- COPD
- Asthma
- Atrial Fibrillation
- Cancer
- Coronary Heart Disease
- Heart Failure
- Palliative Care
- Stroke And Transient Ischaemic Attacks
- Dementia
- Depression
- Epilepsy
- Learning Disabilities
- Mental Health
- Never Smoked
- Diabetes
- Hypothyroidism
- Ex-Smoker
- Thursday

The dialog box also features 'Cancel' and 'Save' buttons. In the background, there are 'Include:' and 'Add Include' buttons, and a 'Next' button at the bottom right.

Query Results

[Farsite Home](#)[Protocol Templates](#)[Shared Criteria](#)[Research Networks](#)[Clinical Codes](#)[Help](#)[Browser](#)

Options

- Create new study
- Create copy of this study
- Cancel Study
- Return to list of studies

Protocol Templates

- Create Template

Study Overview

State

Feasibility

Study Members

- lucy (Creator)
- bruce (Viewer)
- gary (Editor)
- markdelderfield (Editor)
- normanstein (Editor)

MASCOT

Description Protocol **Estimates**

Study saved 31/08/2010 08:45:31

Run

Baseline

885 people

Demographics **885 people**

Additional Criteria

Include: Has Asthma

Asthma

<5 people

AND Asthma attack diagnosis made less than 12 Months ago

<5 people

Include: Asthma Medications

Exclude: BMI - Overweight

Recruitment Estimate

<5 people

Edit

Recruitment

Browser

Options

- Create new study
- Create copy of this study
- Cancel Study
- Return to list of studies

Protocol Templates

- Create Template

Study Overview

State

Approved

Study Members

- lucy (Creator)
- bruce (Viewer)
- gary (Editor)
- markdelderfield (Editor)
- normanstein (Editor)
- pat (Editor)
- sarahthew (Editor)
- steph (Viewer)

MASCOT

Description

Protocol

Estimates

Attachments

GP Recruitment

Send To GPs

Study saved 31/08/2010 08:47:20

Add patient consent form

Choose File

No file chosen

and patient information sheet (if separate)

Choose File

No file chosen

Add ethics approval letter

Choose File

No file chosen

Patient invitation letter template



[[GPSurgeryName]]

[[GPAddressLine1]]

[[GPTown]]

Dear [[PatientFirstName]] [[PatientLastName]]

We would like to invite you

Patient

Address Line 1 Address Line 2 Address Line 3 Town County Postcode Title Firstname Lastname

GP

Surgery Name Address Line 1 Address Line 2 Address Line 3 Town County Postcode Firstname Lastname

Qualifications

Recruitment Settings

Options

- Create new study
- Create copy of this study
- Cancel Study
- Return to list of studies

Protocol Templates

- Create Template

Study Overview

State
Approved

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- markdelderfield (Editor)
- normanstein (Editor)
- pat (Editor)
- sarahthew (Editor)
- steph (Viewer)

MASCOT

Description Protocol Estimates Attachments **GP Recruitment** Send To GPs

Study saved 31/08/2010 08:48:24

GP Recruitment

Number of patients required for study *

Maximum number of patients to contact *

Primary Contact *

Phone Number

Email *

Deadline for GP responses

Research networks to target

NIHR Comprehensive Clinical Research Network (CCRN)

NIHR Stroke Research Network (SRN)

NIHR Primary Care Research Network (PCRN)

NIHR Mental Health Research Network (MHARN)

NIHR Medicines for Children Research Network (MCRN)

NIHR Diabetes Research Network (DRN)

NIHR Developmental Neurodisability Research Network (DNDRN)

September 2010

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Send to GPs

Browser

Options

- Create new study
- Create copy of this study
- Cancel Study
- Return to list of studies

Protocol Templates

- Create Template

Study Overview

State

Approved

Study Members

- lucy (Creator)
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- markdelderfield (Editor)
- normanstein (Editor)
- pat (Editor)
- sarahthew (Editor)
- steph (Viewer)

MASCOT

Description

Protocol

Estimates

Attachments

GP Recruitment

Send To GPs

Study saved 31/08/2010 08:48:24

Enter a description for the study, to be shown to GPs

This is a study for MASCOT which is a ...

Enter any additional protocol restrictions that a GP should be aware of

Patient should not be taking St John's Wort

The study will be sent to GPs for participant recruitment.

Send to GPs

Back



openCDMS

www.opencdms.org

openCDMS in use

- PsyGrid study – cohort of 900+ schizophrenics followed from first episode for 18 months
- Running numerous mental health trials
- ADDRESS – Type I+II diabetes 10y cohort study
- DARE – Diabetes cohort (phenotype and genotype)



openCDMS Create - JohnAinsworth

File Study Help

Design View Schedule View

ANNSERS
 EQ5D
 Calgary
 Premorbid Summary Sheet

Health Questionnaire - EQ-5D Record - Design View

Sections **1. Main** Manage Sections

Instructions: Enter code for each of the groups below:

Mobility

- 1. I have no problem in walking about
- 2. I have some problems with walking about
- 3. I am confined to bed
- 960. Data not known
- 970. Not applicable
- 980. Refused to answer
- 999. Data unable to be captured

Self-care

- 1. I have no problems with self-care
- 2. I have some problems washing and dressing myself
- 3. I am unable to wash or dress myself
- 960. Data not known
- 970. Not applicable
- 980. Refused to answer
- 999. Data unable to be captured

Usual Activities

- 1. I have no problem with performing my usual activities
- 2. I have some problems with performing my usual activities
- 3. I am unable to perform my usual activities
- 960. Data not known
- 970. Not applicable
- 980. Refused to answer
- 999. Data unable to be captured

Pain/Discomfort

Study opened from database: Outlook

Outlook - openCDMS Collect - CROOne

File Database Print Advanced Options Help

Status: All

OLK/001001-1

- Baseline - Section A (Core asses
 - Baseline Audit Form (Informa
 - Screening Schedule For Psych
 - Interview and consent inform
 - Personal Details Form - Base
 - Positive and Negative Syncro
 - The Young Mania Scale - Bas
 - Global Assessment of Functi
 - Duration of Untreated Psycho
 - Drug Check - Baseline**
- Baseline - Section B
 - Pathways to Care - Collated
 - Premorbid Adjustment Scale
 - Calgary Depression Scale Red
 - Family History - Baseline
 - Health Questionnaire - EQ-5
 - Side Effect Record - Baseline
 - Antipsychotic Non-Neurolog
- Baseline - Section C
 - Insight Scale - Baseline
 - Adverse Outcomes Detailed
 - Adverse Outcomes Detailed
 - Adverse Outcomes Detailed
 - Adverse Outcomes Detailed
 - Adverse Outcomes Screening
 - Adverse Outcomes Screening
 - Client Sociodemographic and
 - Time Use Interview Score She
 - Seven-Point Compliance Scal

6 months

12 months

Study termination

Shared

- Treatment Documentation -
- File Note Log - Shared
- Release Rating Data Entry Fo
- Treatment Documentation (v

Drug Check - Baseline

Sections 1. General

Other (please specify):

960. Data not known
 970. Not applicable
 980. Refused to answer
 999. Data unable to be captured

Other Drugs not listed above

No
 Yes
 960. Data not known
 970. Not applicable
 980. Refused to answer
 999. Data unable to be captured

Other drugs

Type of drug	How often have you had them?	Amount (£ per week)	Quantity
Meth- amphetamine	3. Frequent user (almost everyday)	100	960. Data not known

New row

You said that you have been using... (summarize the drugs that were identified from the list above), which of these drugs have caused you the most problems or hassles in the last 3 months? Take into consideration the various risk factors associated with the substances the patient is presently using & select the most problematic drugs based on ALL available information.

Sleeping tablets or sedatives? (like valium or normison)
 Marijuana, cannabis, or hash?
 Drugs you sniff, like petrol/glue?
 Drugs like LSD?
 Speed, ecstasy, crack or cocaine?
 Heroin, morphine or methadone?



openCDMS

www.opencdms.org



Build Query

Study:

Centres: Manchester Heart Centre
 Salford Royal Foundation Trust
 South Manchester University Hospitals

Operator: AND
 OR

Statements:

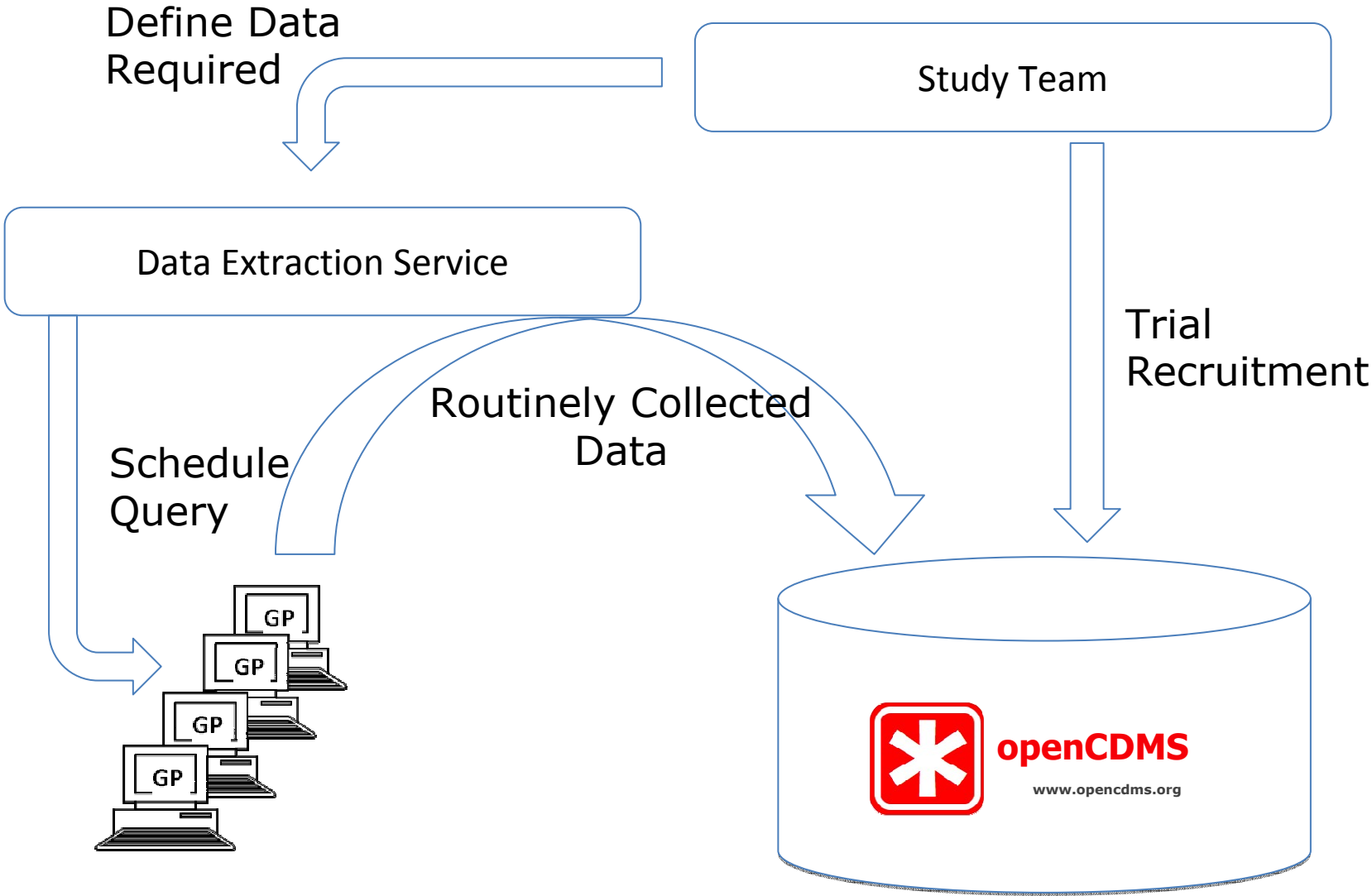
Statement 1

Statement 2

Query Name:

Description:

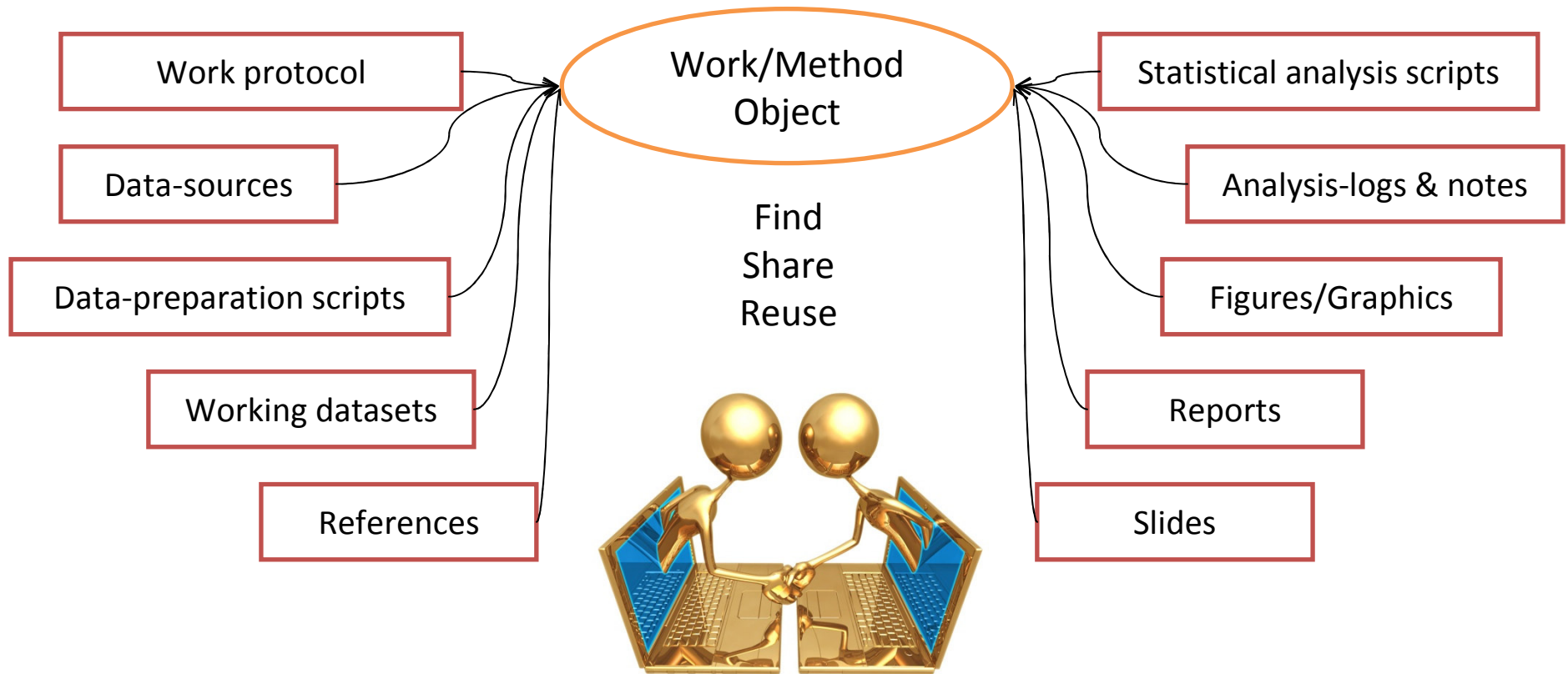
Automated Primary Care Data Import





More Observations

e-Lab ownership: Reproducible work



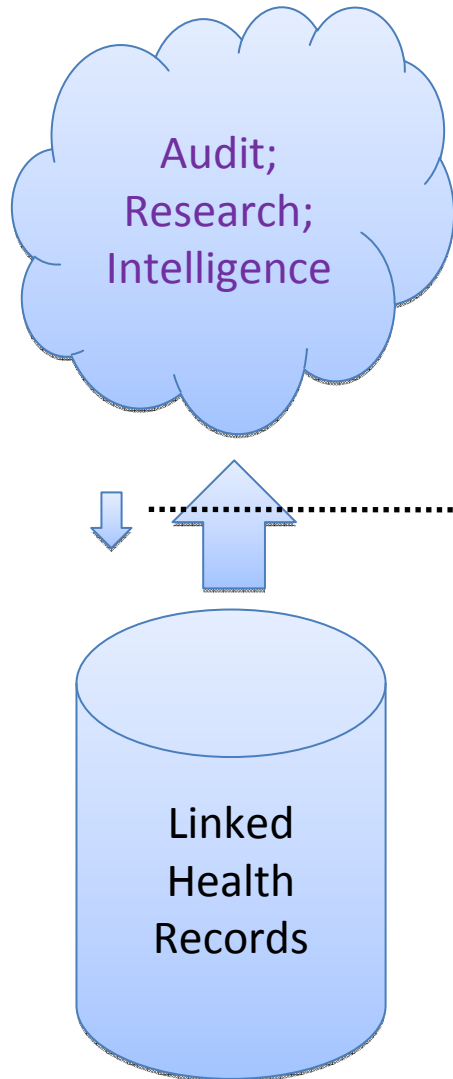
Stimulating healthcare intelligence

- 1) Find one your colleague made earlier;
- 2) take it apart and learn how it was done;
- 3) refill it with local data;
- 4) republish it (+/- enhanced);
- 5) get points for sharing and reusing

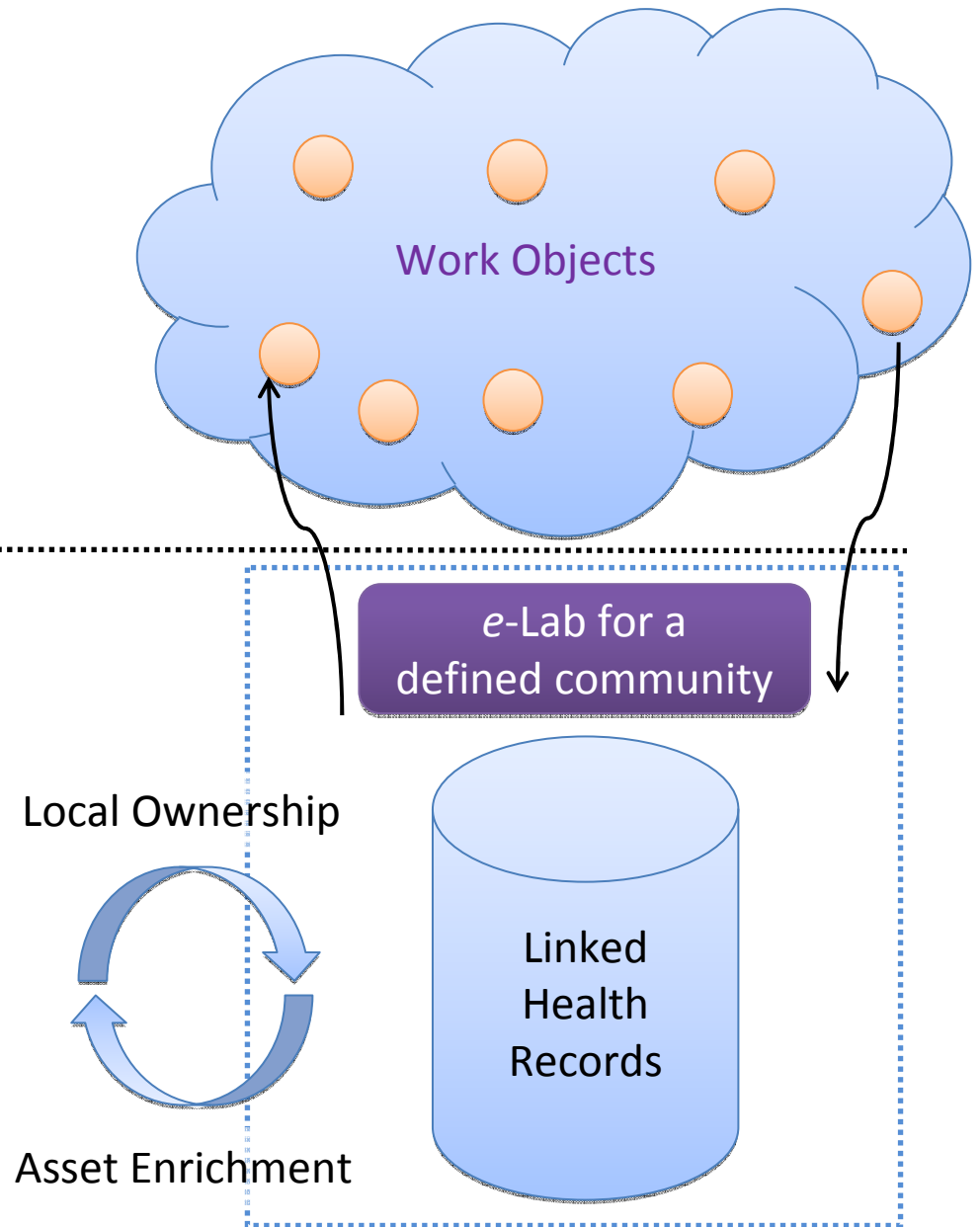
Professional Social Networking in e-Lab

- Builds on a **track record** of social computing and e-Science innovation at Manchester
- ‘Facebook like’ visibility → conversation → resource-sharing → shared understanding → collaboration + CPD points for participation = **reward environment**
- ‘Amazon like’ prompts: “others who selected those variables also selected these variables...”.
Borrowing strength from other NHS & trusted parties not on the local payroll.

Unclear Public Good



Clear Public Good



De-identify







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Project Details

Prevalence of high HBA1C values for diabetics

Investigation into diabetes in Salford

 <p>Data</p> <ul style="list-style-type: none"> ▶ High HBA1C Prevalence ⚙ ▶ Normalised HBA1C by Patient ⚙ ▶ Repository 	 <p>Documents</p> <ul style="list-style-type: none"> ▶ Diabetes ruleset 14.0 as PDF
 <p>Data Exploration</p> <ul style="list-style-type: none"> ▶ HBA1C ▶ example Cube 	 <p>Notes</p> <ul style="list-style-type: none"> ▶ Info about data ▶ Prevalence of high HBA1C values for diabetics ▶ This is the QOF ruleset
 <p>Snapshots</p> <ul style="list-style-type: none"> ▶ HBA1C by ward Mean HBA1C values by ward Map ▶ Normalised HBA1C by Patient High HBA1C Map 	 <p>People</p> <ul style="list-style-type: none"> ▶ gary ▶ dammers ▶ gmoulton

[Show Project Details](#)



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Data

HBA1C by ward

Show Details Show Permissions Add a Note... Add a File...

View data as grid View data as chart View data as map View statistics **Statistics Workbench**

HBA1C by ward

PatientID ↕	Ward	Rubric	Value
1002	00BRFM	hba1c	6.2
1005	00BRFC	hba1c	7
1009	00BRFL	hba1c	8
1016	00BRFS	hba1c	7.5
1019	00BRFW	hba1c	6.1
1020	00BRFG	hba1c	6.4

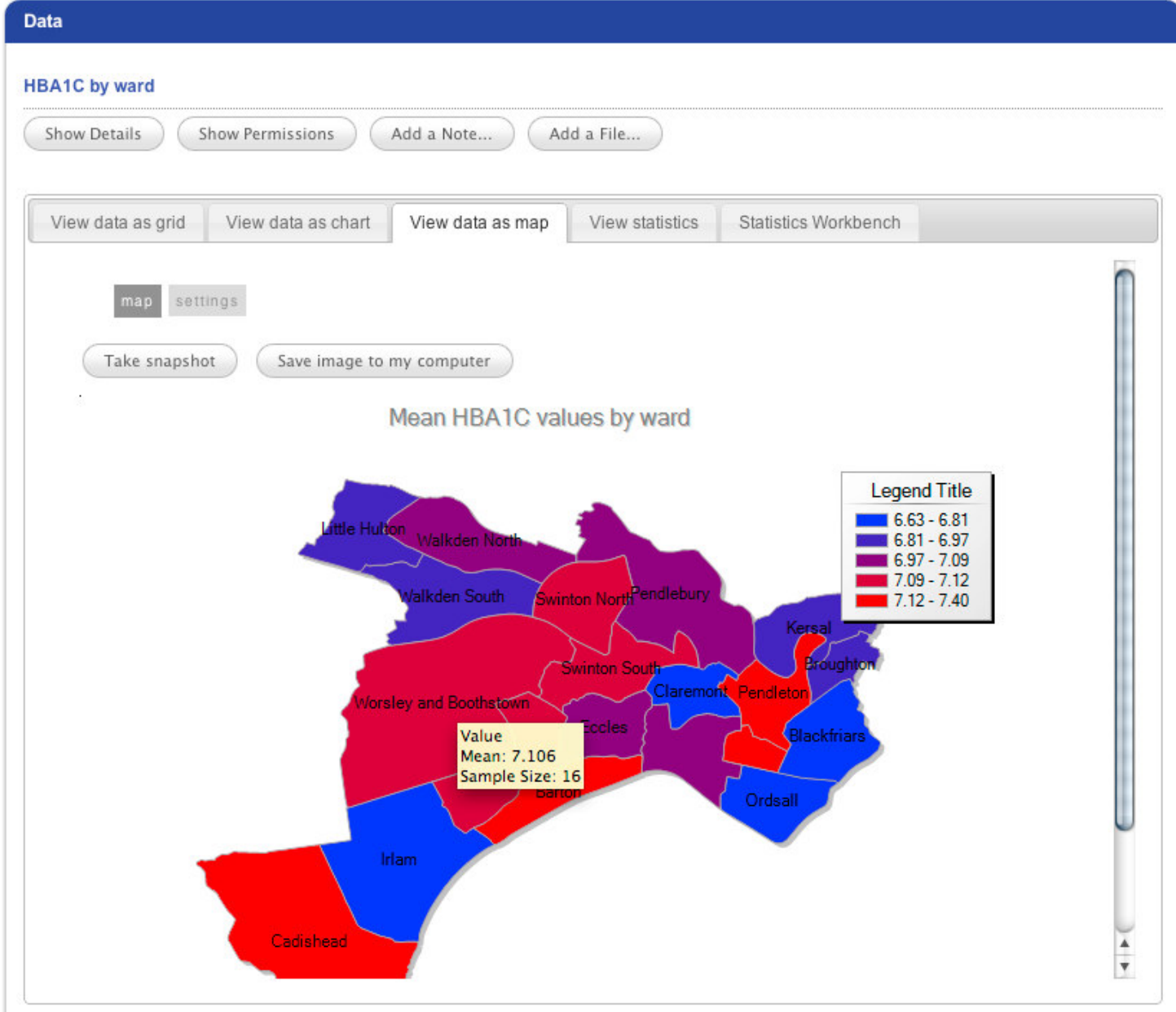
Apply Method

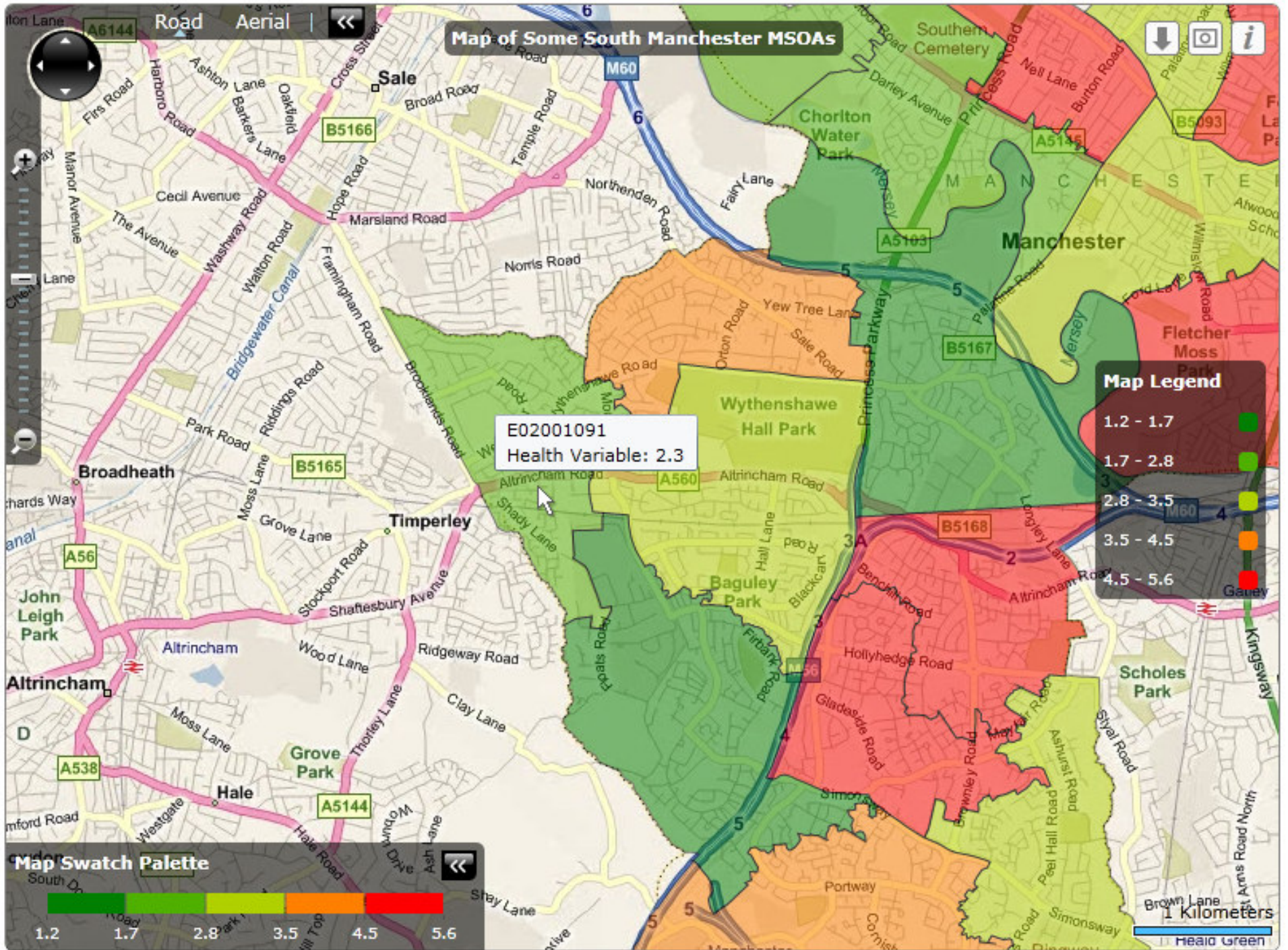
Function: -- Please select --

Show Related Items

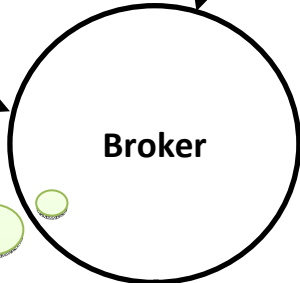
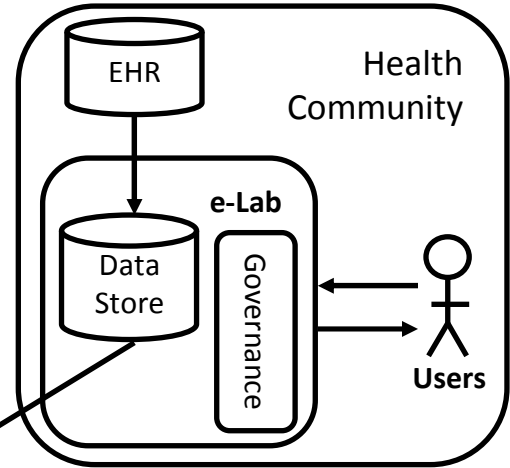
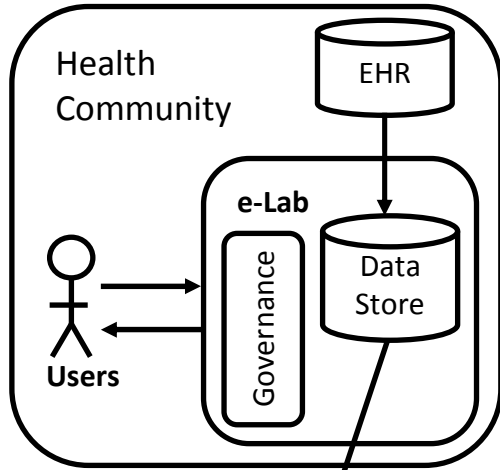
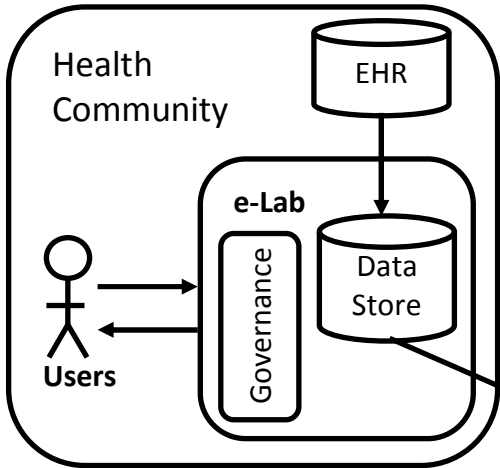
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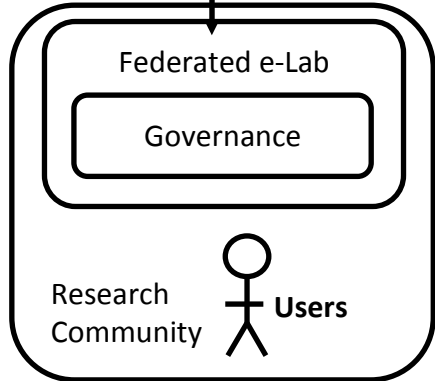




Federation



Multi-site clinical studies management = e-Lab plug-in federation



Key messages

Best use of care-records for research requires:

- Trust & transparency
- Local context & expertise
- Open innovation

...trials methodology can harness open software with inputs from other areas making decisions on analyses of care-records