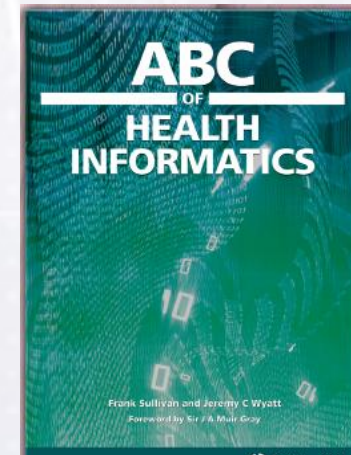# Dundee Health eResearch Centre (HeRC)

Frank Sullivan FRSE, FRCP, FRCGP

NHSTayside Prof of R&D in GP & 1y care

Co-Director Health eResearch Centre

MRC | Medical Research Council

hic — health informatics centre

Google™ Custom Search · Search

> Home > Funding opportunities > Call for proposals

FUNDING OPPORTUNITIES
- Grants
- Call for proposals
- Fellowships
- Studentships
- Highlight notices
- International opportunities
- Applicant handbook
- Deadlines

OUR RESEARCH
ACHIEVEMENTS & IMPACT
NEWS & PUBLICATIONS
SCIENCE & SOCIETY
ABOUT US

FUNDING OPPORTUNITIES

E-Health Informatics Research Centres (E-HIRCs) Call

This call is now closed for applications and is available for reference purposes only.

It is vital that the UK research community is in a strong position to maximise the health research potential offered by linking electronic health records with other forms of routinely collected data and research datasets. The major funders of health research are working in partnership to ensure the UK builds critical mass and expertise in health informatics research. This call to establish centres of excellence in research using e-health records is part of a shared vision to promote linkage of electronic data for research.

CONTACT US
> Comment?
> Question?
> Request?
> Complaint?
Get in touch

£19M

- Arthritis Research UK,
- British Heart Foundation
- Cancer Research UK
- Economic and Social Research Council
- Engineering and Physical Sciences Research Council
- National Institute of Health Research,
- National Institute for Social Care and Health Research (Welsh Assembly Government),
- Chief Scientist Office (Scottish Government Health Directorates)
- Wellcome Trust

UNIVERSITY OF DUNDEE

NHS National Services Scotland (Information Services)

NHS Tayside

The Centres will:

- pursue cutting-edge research,
- deliver innovative linkage and analysis of health-related data sets,
- build research capacity and expertise and
- act as an interface with industry, practice and policy with the aim of building and sustaining a vibrant health informatics research capability in the UK.

The next 15 minutes

- HERCS
- Health eResearch in Dundee
- Benefits
  - Research
  - Health Service
  - Education
- Getting involved

Aberdeen

Dundee

St Andrews

Edinburgh

Glasgow

Manchester

Swansea

London

Background

- Office for the Strategic Co-Ordination of Health Research (OSCHR) e-health
- MRC mapping exercise
- Secure Anonymised Information Linkage (SAIL)
- Scottish Health Informatics Programme(SHIP+,
- Research Capability Programme(RCP) etc.
- Wellcome/ESRC/MRC Frontiers Meeting

ACRONYM Alert

Purpose of the call

- Fund a small number of health informatics research centres
  - To conduct excellent research
  - Develop innovative methods/linkages
  - Build capacity
  - Interface with
    - industry,
    - practitioners and
    - policy-makers

Essential criteria

- **Scientific excellence** based on existing strengths and innovative proposals for health-health or cross-sectoral linkage
- **Training and career development** for researchers **and** programmers, data managers, etc.
- **Clear governance structure** under a director based in the lead institution
- **Networking** with other e-HIRCs and the wider research community [*bidders can seek an extra £1 million to become the nominated lead centre*]
- **Public engagement** to promote public/professional understanding of e-health records research

Desirable criteria

- Modular training (e.g. short courses)
- Ethics and governance
- Linkage of health (incl. imaging and 'omics) and non-health (incl. socio-economic and geo-spatial) data
- Focus on translation (public, policy, NHS, industry)
- Sharing of data for secondary analysis

Scottish eHealth Informatics Research Centre

Health, Illness and Society Through Time	Studies of Interventions

Inter-disciplinary training programme

Governance and public engagement

New methods and new data sources

Industry and policy maker interaction

Manchester
Lancaster
Liverpool
York

CHIP-SET (Community Health Intelligence Partnership Semantic Epidemiology Toolkit)
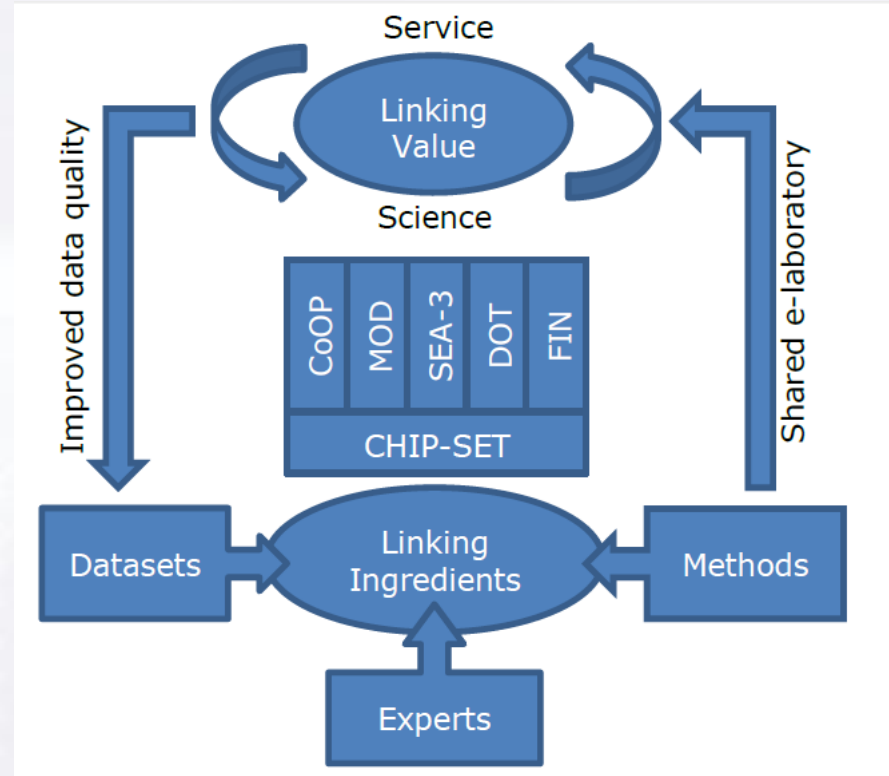
Coproducing Observation with Patients

Missed Opportunities Detector

Scalable Endotypes in Asthma, Allergies and Andrology

Diabesity Outcomes Translator

Trials Feasibility Improvement Network

UCL Partners,

London School of Hygiene and Tropical Medicine,

Queen Mary, University of London

Health Protection Agency

Our work will focus initially on using data from health records to make improvements in: **Cardiovascular medicine, Maternal and child health,**

Infection

We will establish a **new informatics platform** to ensure that data collected in different clinical systems can be securely and meaningfully integrated in research.

We aim to make **improvements in the quality of data collected** and develop tools to help clinicians in decision-making.

We will also build on existing training strengths to establish a **new doctoral training programme, taught courses and leadership development programmes, alongside innovative public engagement programmes**.

Swansea

Centre for
Improving
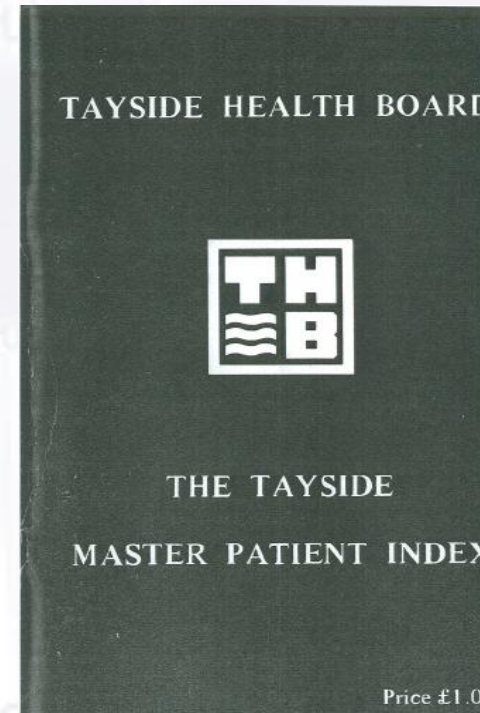**P**opulation
Health through
E-Health
Research

- Diabetes and obesity,
- Cardiovascular disease
- Cancer
- Child and maternal health

Other HeRC research in Dundee

- **CHI**
- **SCI-DC**
- SHIP
- UKB
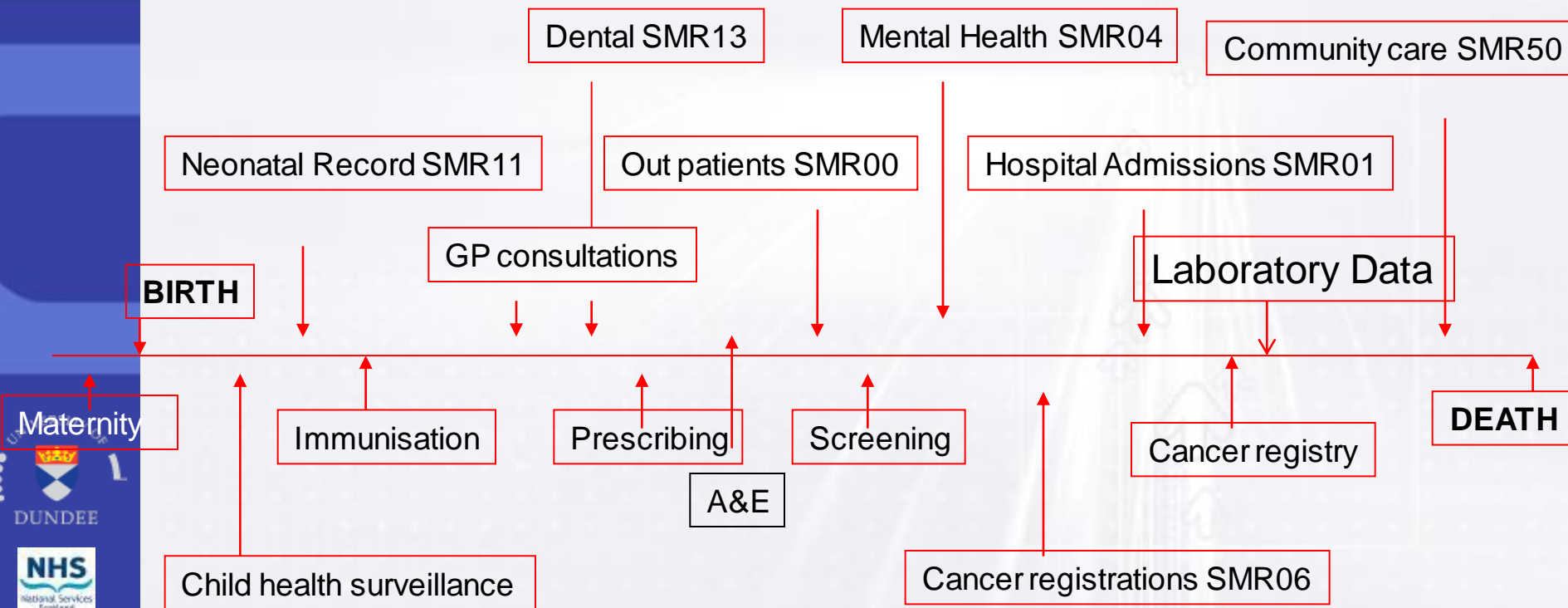- TRaNsFoRm
- EHR4CR
- **DQIP**
- **SHARE**

*Each person in the world creates a **Book of Life**. This book starts with birth and ends with death. Its pages are made of records of the principal events in life. Record linkage is the name given to the process of assembling the pages of this book into a volume.*

TAYSIDE HEALTH BOARD

THB

THE TAYSIDE

MASTER PATIENT INDEX

Price £1.0

1978

Dunn H: *Record linkage*. JAMA 1946, 36: 1412-6

Linkage of Scottish Health Records

Dental SMR13

Mental Health SMR04

Community care SMR50

Neonatal Record SMR11

Out patients SMR00

Hospital Admissions SMR01

GP consultations

Laboratory Data

BIRTH

Maternity

Immunisation

Prescribing

Screening

Cancer registry
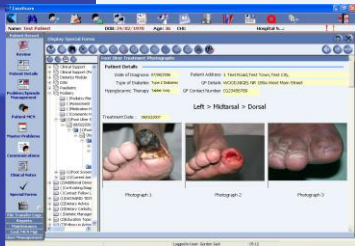
DEATH

A&E

Child health surveillance

Cancer registrations SMR06

Community Health Index (CHI)Number

28 12 57 **02** **5** **0**

Date of Birth **Sequence** **Sex** **Checksum**

SCI-DC NETWORK
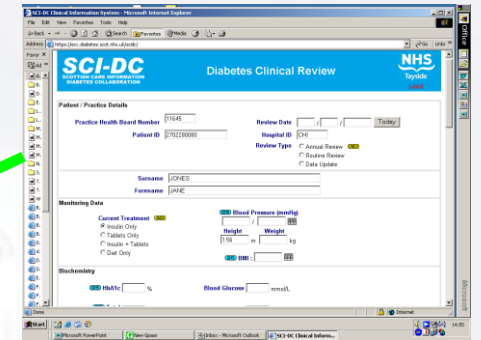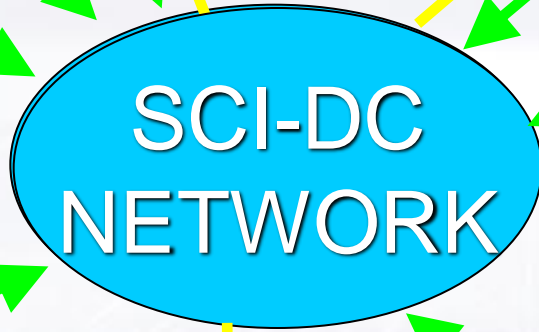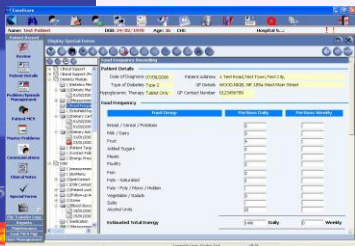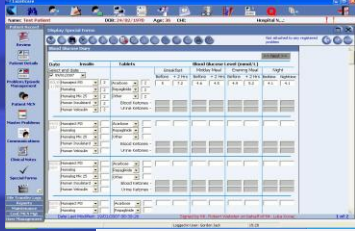
Scottish Health Statistics
The website of ISD Scotland
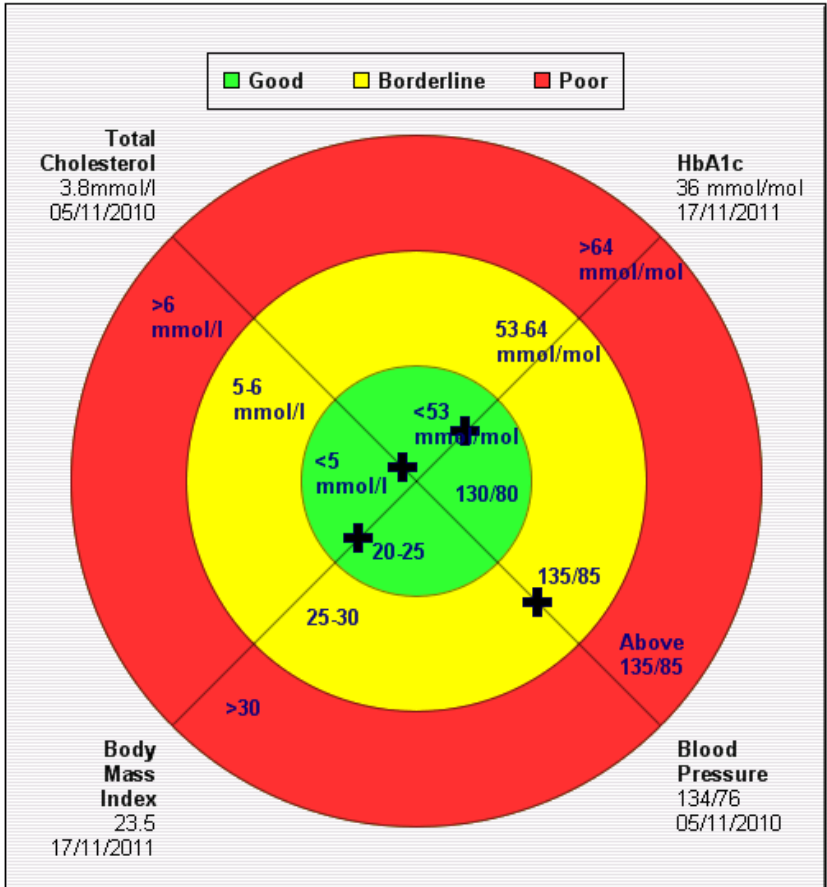Better Information, Better Decisions, Better Health

NHS National Services Scotland

inps

Protechnic eXeter

Gpass

iSOFT

emis

My Target Chart - Microsoft Internet Explorer provided by NHS Tayside

http://dev3.hictest.dundee.ac.uk/patientaccess/targetchart.aspx

File   Edit   View   Favorites   Tools   Help

Favorites | https--sci-diabetes.nhs.sco... | Free Hotmail | Suggested Sites ▾ | Web Slice Gallery ▾

My Target Chart

Bing

Page ▾   Safety ▾   Tools ▾

logout

my personal details | my lifestyle | my test results | my eye screening | my foot screening | my medication | my diary | my preferences | my care measures

ARCHIBALD MACKIE

My Target Chart

Good   Borderline   Poor

Total Cholesterol
3.8mmol/l
05/11/2010

HbA1c
36 mmol/mol
17/11/2011

>64 mmol/mol

53-64 mmol/mol

>6 mmol/l

5-6 mmol/l

<53 mmol/mol

<5 mmol/l

130/80

20-25

25-30

135/85

Above 135/85

>30

Body Mass Index
23.5
17/11/2011

Blood Pressure
134/76
05/11/2010

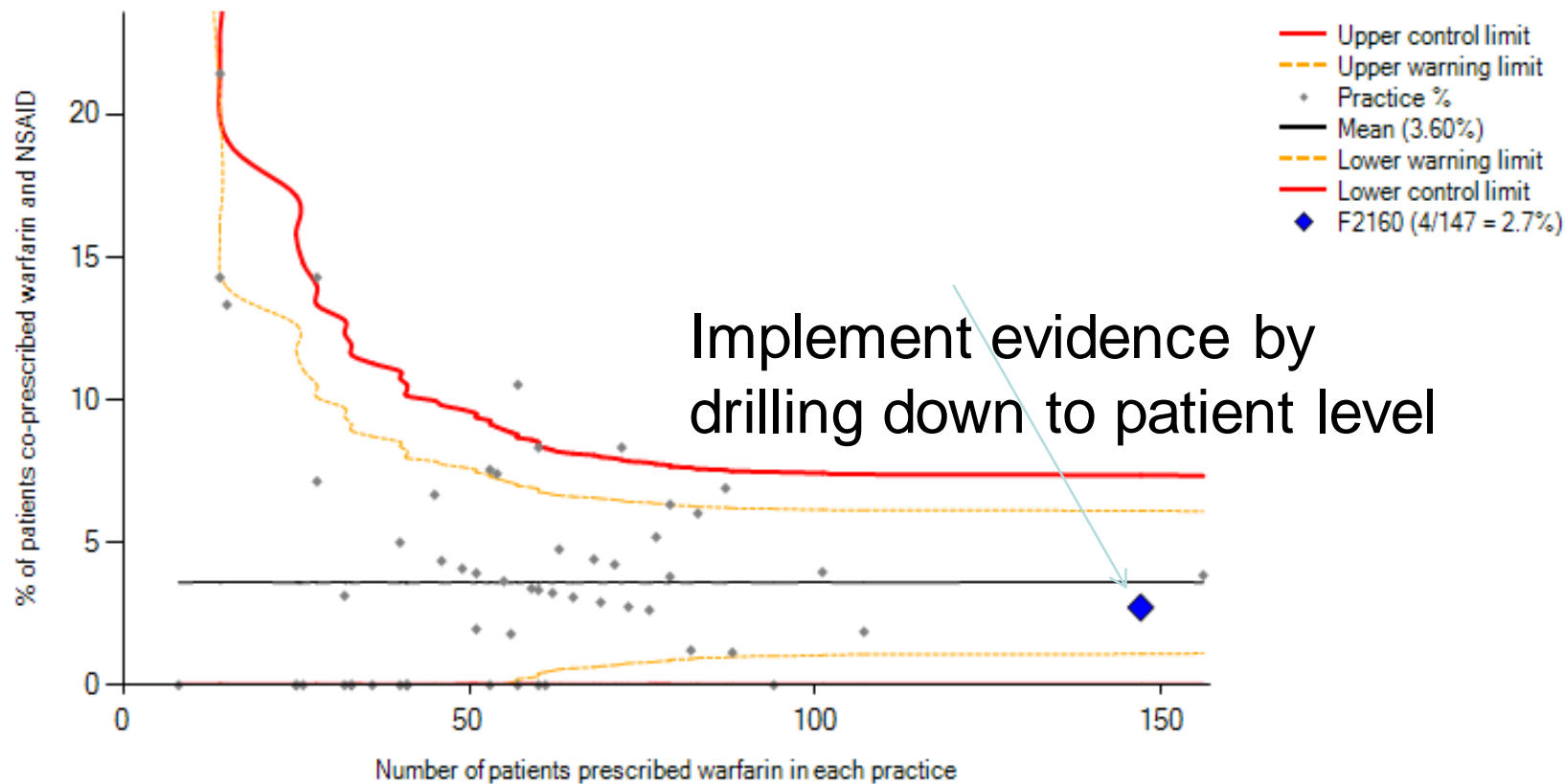# 40% reduction in lower limb amputation rates when linked data used

per 1000
patients
 with
diabetes
.
adjusted
for age
and sex.
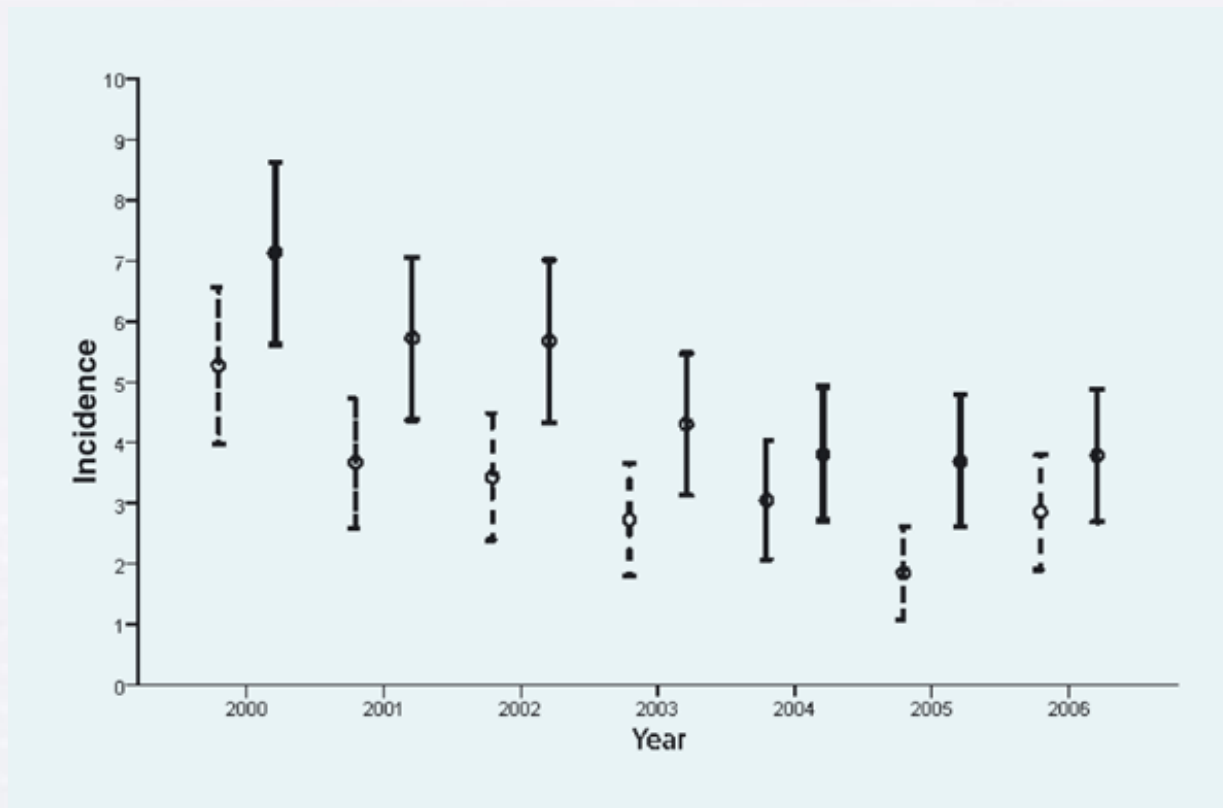
Total ——

Major ----

DQIP – Data-driven Quality Improvement in Primary Care

Co-prescription of Warfarin and NSAIDs

Implement evidence by drilling down to patient level

The paradox aims to solve

1. Researchers cannot easily identify potentially eligible and willing participants.

2. Potentially eligible and willing participants never hear about studies in which they might be interested and wish to take part;

http://youtu.be/Odf3LOq3774

Single-Source
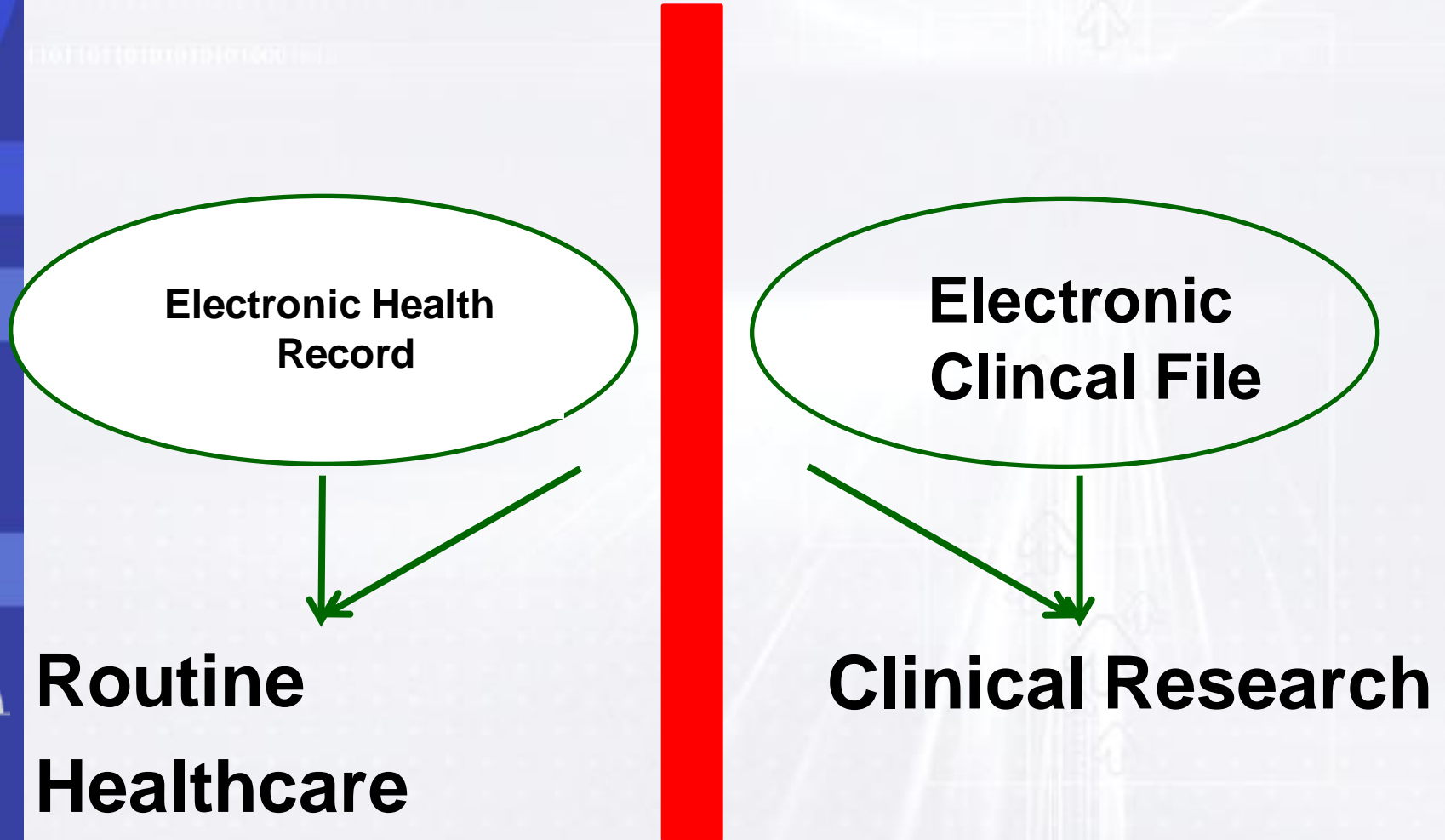
Electronic Health Record

Electronic Clincal File

Routine Healthcare

Clinical Research

Health eResearch Centres

**Higher quality care
In a Data Rich Environment**

Patient

Better

informed

decisions

Patient data

**Storage
System**

Retrieval → Relevant patient data

Patient records

Comparison with targets → Local insights

Quality improvement

Grouped analysis → New knowledge

Research

Sullivan and Wyatt ABC of Health Informatics 2006

19. Use information effectively in a medical context.

(a) Keep accurate, legible and complete clinical records.

(b) Make effective use of computers and other information systems, including storing and retrieving information.

(c) Keep to the requirements of confidentiality and data protection legislation and codes of practice in all dealings with information.

(d) Access information sources and use the information in relation to patient care, health promotion, advice and information to patients, and research and education.

(e) Apply the principles, method and knowledge of health informatics to medical practice.

Getting Involved

- **Networking** with other e-HIRCs and the wider research community
  - Scotland, Wales, North, South
- **Training and career development** for researchers **and** programmers, data managers, etc.
  - Undergraduate opportunities
- **Scientific excellence** based on existing strengths and innovative proposals for health-health or cross-sectoral linkage
- **Public engagement** to promote public/professional understanding of e-health records research

Contact

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  - **r.a.lyons@swansea.ac.uk**

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Mapping categories of application to suitable governance pathways

STAGE 1

STAGE 2

STAGE 3

BENCHMARKS
(PUBLIC INTEREST,
SAFE PEOPLE,
SAFE SYSTEMS,
SAFE ENVIRONMENT,
RELATIVE RISKS)

**PRIVACY RISK
ASSESSMENT**
(BASED ON CRITERIA SUCH
AS DISCLOSIVENESS,
SENSITIVITY ETC)

CATEGORY 0
PUBLIC DOMAIN - NO FURTHER CONDITIONS

CATEGORY 1= LOW IMPACT
NO FURTHER REVIEW - STANDARD TERMS
AND CONDITIONS

CATEGORY 2= MEDIUM IMPACT
FAST TRACK REVIEW + STANDARD TERMS AND
CONDITIONS = POSSIBLE FURTHER CONDITIONS

CATEGORY 3= HIGH IMPACT
FULL REVIEW + STANDARD TERMS AND
CONDITIONS = POSSIBLE FURTHER CONDITIONS

Data Request

SHIP Research Co-ordinator

Advice & Guidance

Co-ordinator refers data request to sources

Reseacher wishes to link data

Data source 1

Data controllers can seek advice from PAC if they wish

Indexer

Data source 2

Key for Linkage

Data source 3

Training & Researcher Approval

Linkage agent

Once all approvals are in place demographic data is sent to indexer for coding and de-identified data then goes to the safe haven where the linked dataset is created.

Once trained and approved, our researcher can access the linked dataset in her local safe haven.

Safe Haven

Linkage part 1

Datasource 1

Datasource 2

Local IDs
Names
Addresses
Dates of birth

Local IDs
Names
Addresses
Dates of birth

Local IDs
Study numbers

Local IDs
Study numbers

Indexing Service

Linkage part 2