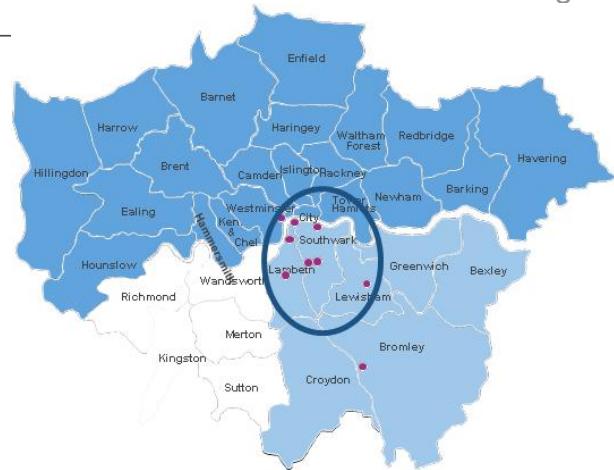


**South London and Maudsley NHS foundation Trust**

Page 1

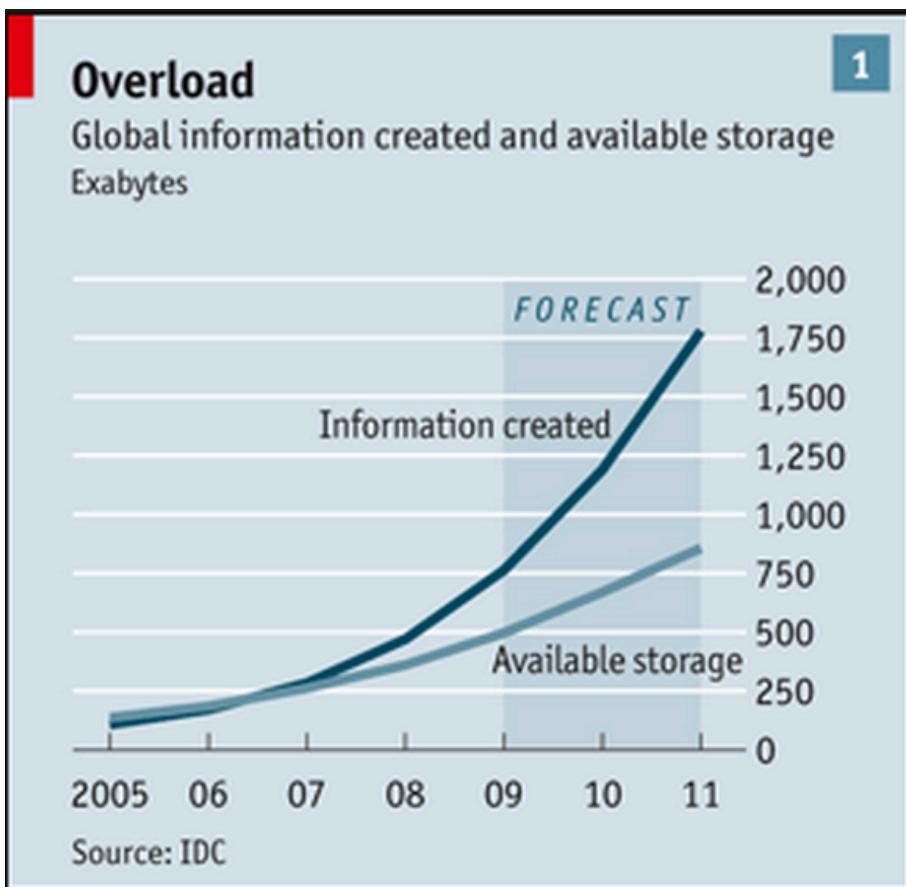
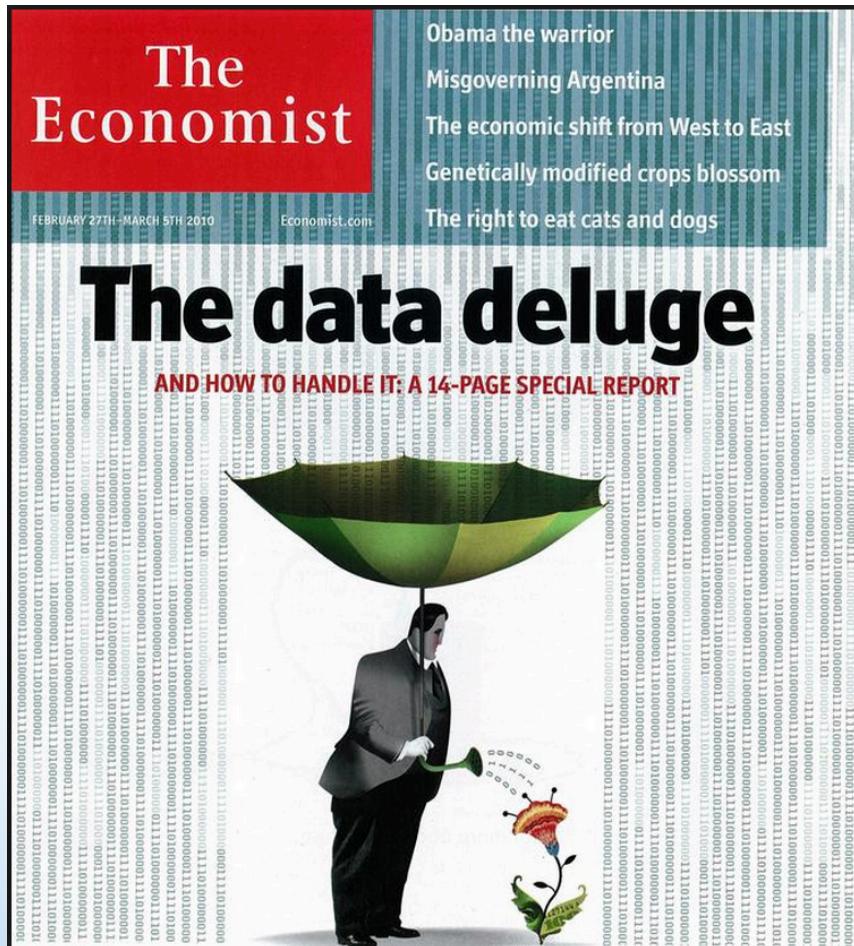
- Bethlem Royal Hospital (Bedlam) founded in 1247 - oldest psychiatric institution in the world
    - The Maudsley Hospital – proposed Feb 1908
    - The Joint Hospital 1948
    - The Institute of Psychiatry 1948
  - Largest provider of specialist mental health services in Europe
  - Operates a specialist Biomedical Research Centre and Unit for Dementia with Institute of Psychiatry, KCL
  - Member of Kings Health Partners Academic Health Sciences Centre



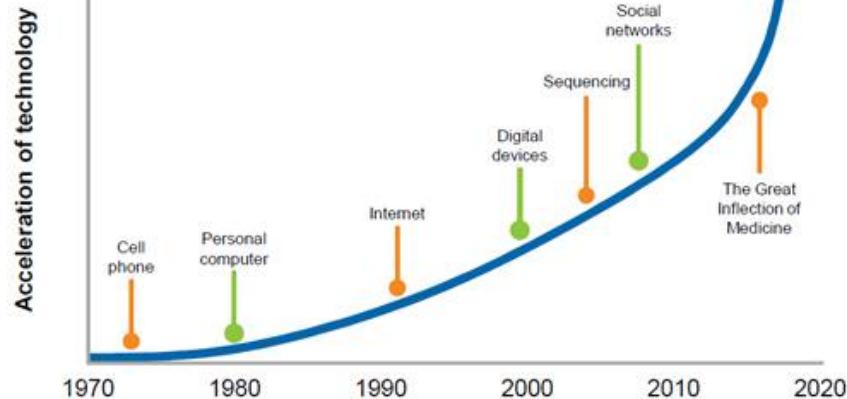
## Hogarth's Rake in Bedlam (1732-1733)



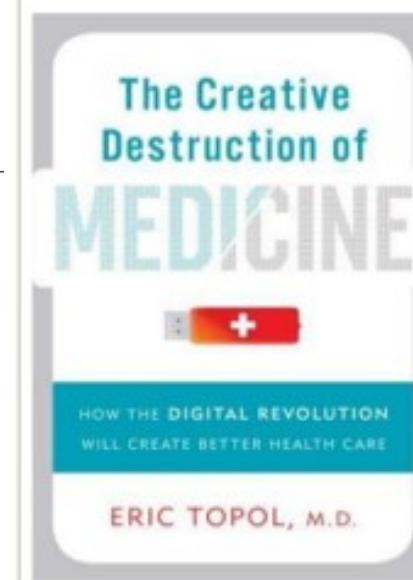
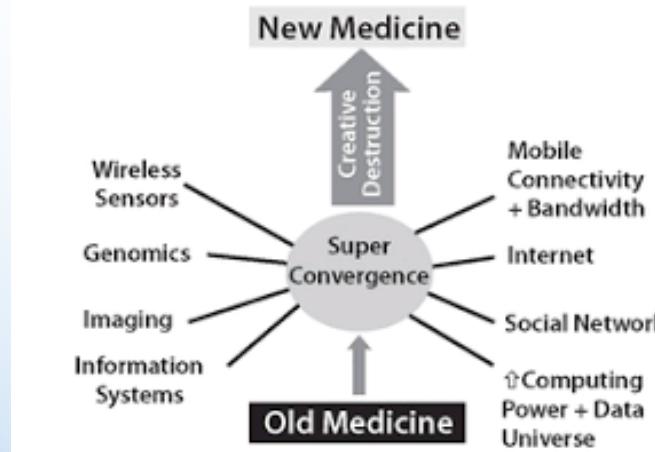
.....generate more data every 2 days than we did in the time up until 2003.....



## THE CREATIVE DESTRUCTION & INNOVATION OF MEDICINE

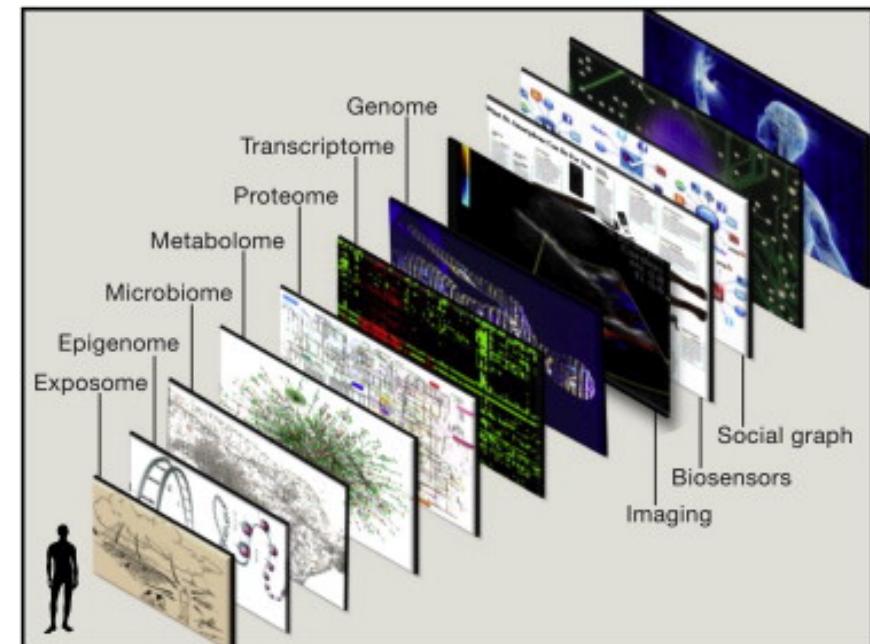


Timings of the big 6 major digital advances over the past 40 years that have set up the Great Inflection of Medicine



Information era converging with the digital era

“ A new model of medicine is being induced by the digital era and the altered way in which information will be flowing. ”



# Electronic Health Records for Data - Driven Biomedical Research

A screenshot of a Microsoft Internet Explorer browser window titled "Patient Journey 4.9.1 - Microsoft Internet Explorer". The address bar shows a URL starting with "http://epjs.slam.nhs.uk/EPJ5/(S(dgthf55ncpaz55jyosrh))/Navigator.aspx?ClientSearchHierarchy=patId=293104&hosId=10000000000000000000000000000000". The main content area displays patient information: "All Test 30/05/1978 Age: 31", "Best Kebab & Fried Chicken, 19 Bunt Ash Road, LONDON, SE12 8RG Tel (Home): 0208 876 9999", "GP: Dr PS Ashton", "Trust ID: 41-83-68", "Care Coordinator: Gary Moriarty", "Consultant: Gender: Male", "Care Type: CPA". Below this is a summary table with columns for "Summary" and "Care", and rows for dates from 26/02/2010 to 09/12/2010. A note at the bottom states: "This document [and authorised members] disseminate any information sharing is".

## EMR – Patient Journey System

- Single integrated clinical record
- Covers all areas of specialist MH care – initial referral to full service discharge
- Total of 190,000 records with 35,000 active patients
- 5,000 unique users log-in per month
- 300,000 documents created per month

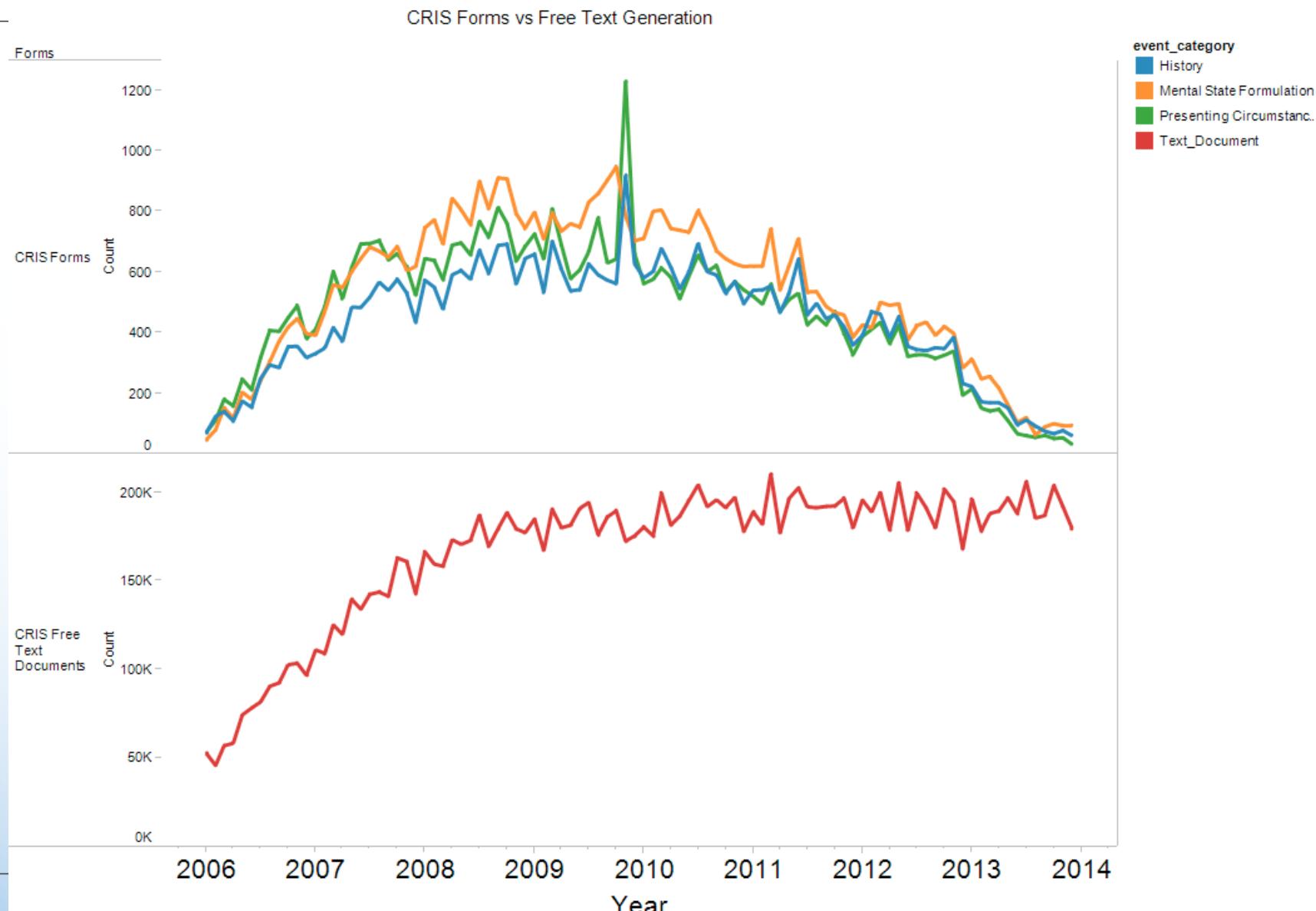


A screenshot of a Microsoft Internet Explorer browser window titled "Clinical Register Information Search - Microsoft Internet Explorer". The address bar shows "http://10.36.32.139/CRIS/Logon". The main content area features logos for "KING'S COLLEGE LONDON Institute of Psychiatry", "South London and Maudsley NHS Foundation Trust", and "National Institute for Health Research". A large blue banner on the right side contains the text "CRIS" and a bulleted list of features:

- Complete clinical data – structured, semi-structured and unstructured
- Extracted, pseudonymised and deidentified, including free text
- Searchable repository for observational research, trial feasibility, identifying potential recruits, service evaluation and clinical audit
- Pseudonym attached to samples
- Linked to imaging and biological datasets

# Information in free text

Page 5



The trend of count of CN\_Doc\_ID for date Month broken down by Forms. Color shows details about event\_category. The data is filtered on date, which includes the last 8 years relative to 31/12/2013. The filter associated with this field ranges from 01/01/2006 to 31/12/2013.

# Routine patient omics

**BioResource** | Bringing people together and leading research



Home News Volunteers Researchers Clinicians Industry Contacts Career Opportunities

A A A

## Researchers

[click here](#)

## How to become a volunteer

[click here](#)

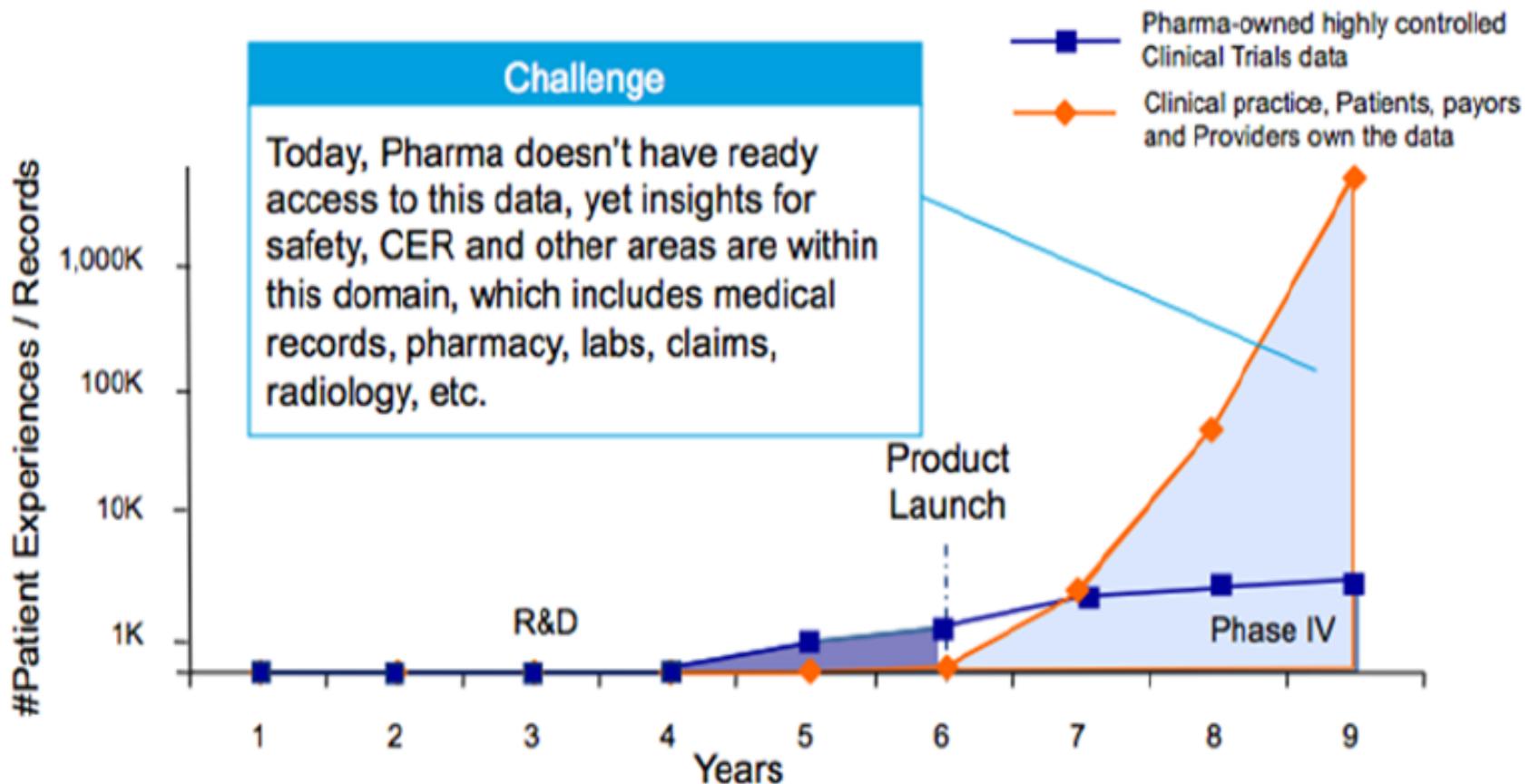


## News page

[click here](#)

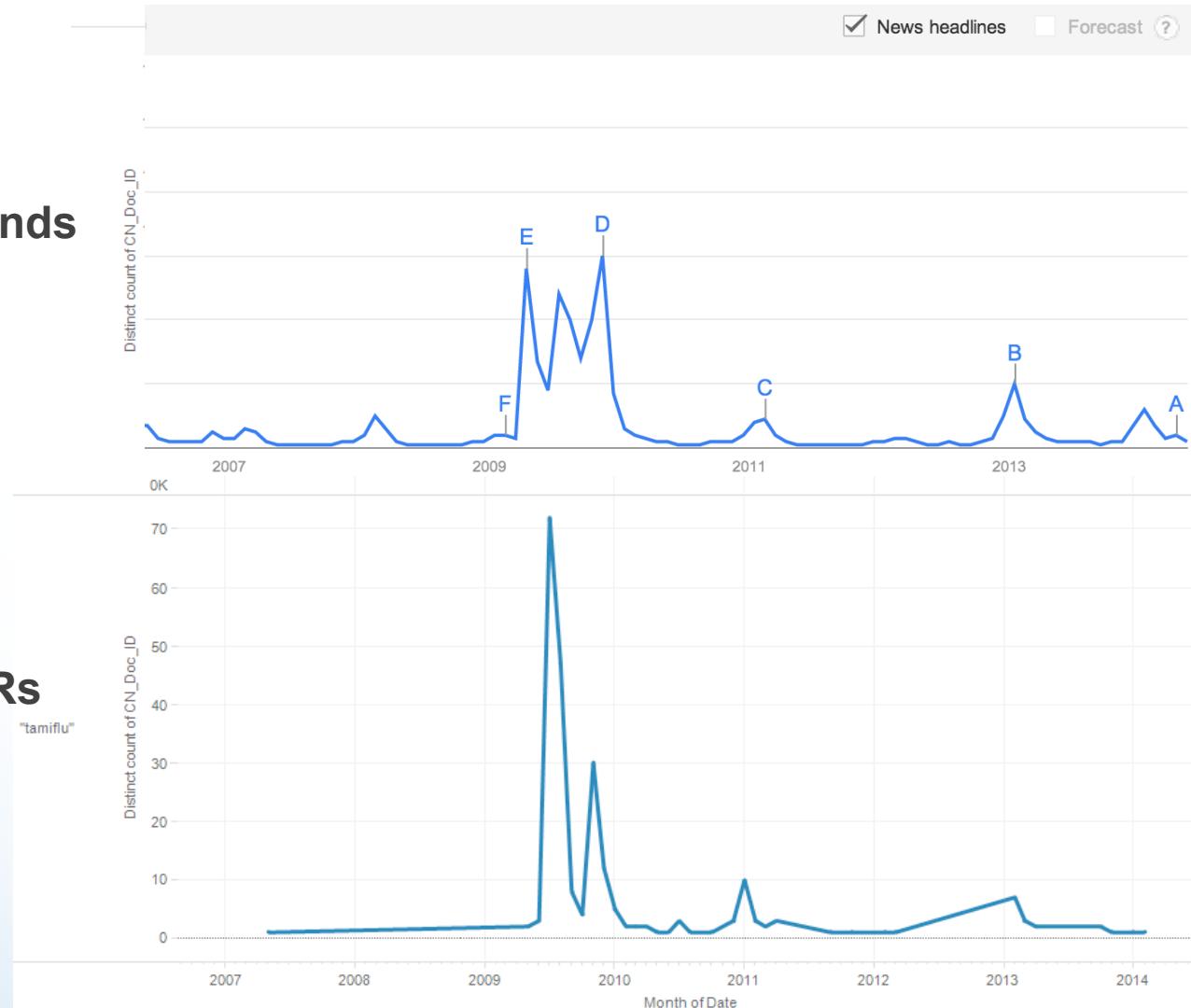


# The “burning platform” for Life Sciences



The value of healthcare data for secondary uses in clinical research and development  
 - Gary K. Mallow, Merck, HIMSS 2012

## Google Trends 'tamiflu'



## Psych EHRs "tamiflu"

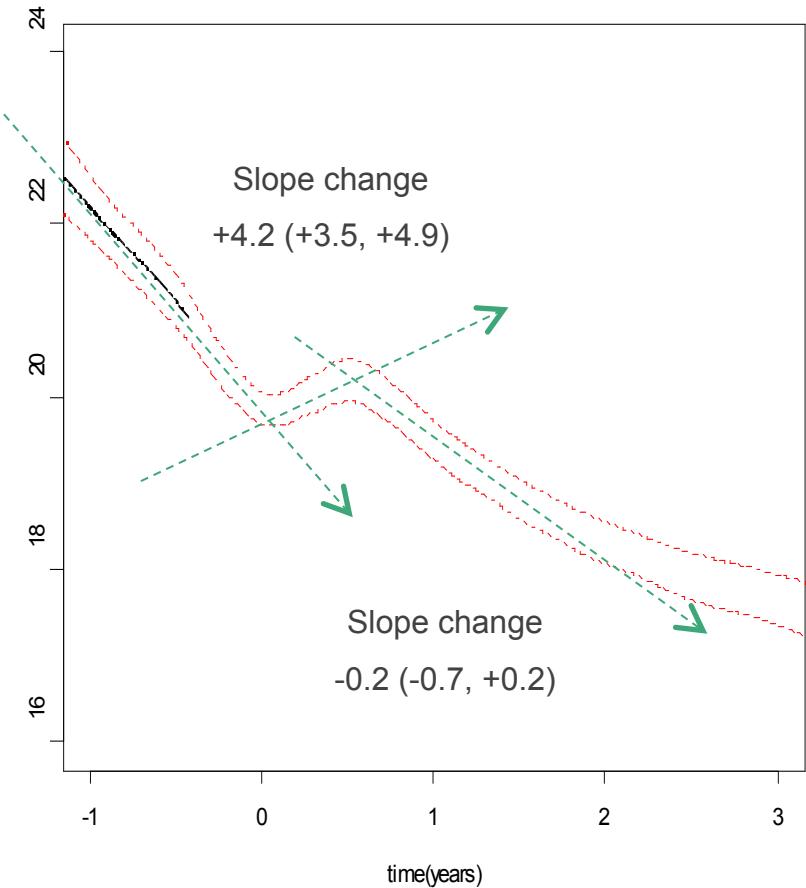
# EHR data re-use for research (Cholinesterase inhibitors and Alzheimer's disease)

Phase IV of ACHel

- > 2500 patient years of therapy
- > 8 fold dataset compared to Cochrane

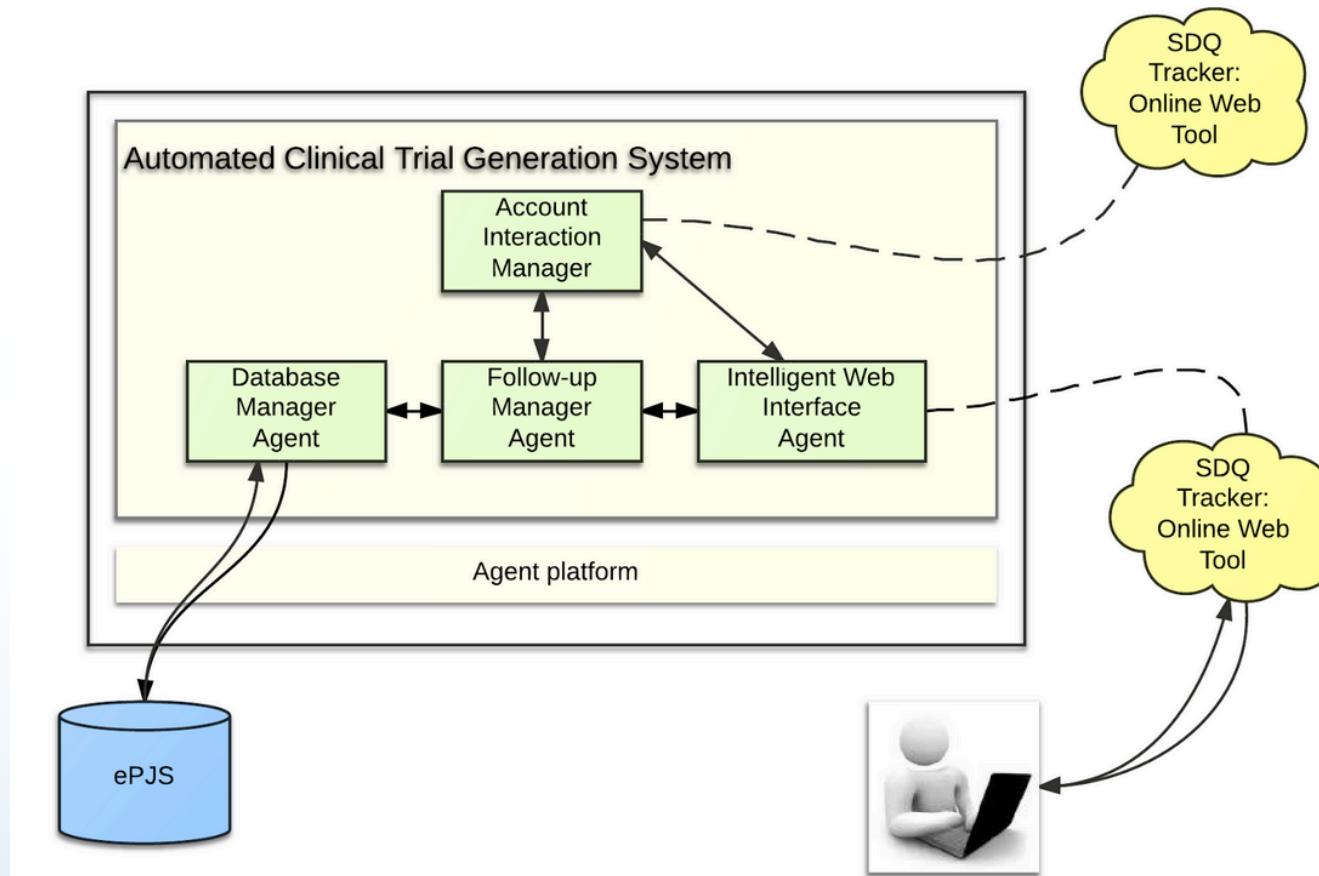
Predictors of response

Biomarkers and clinical



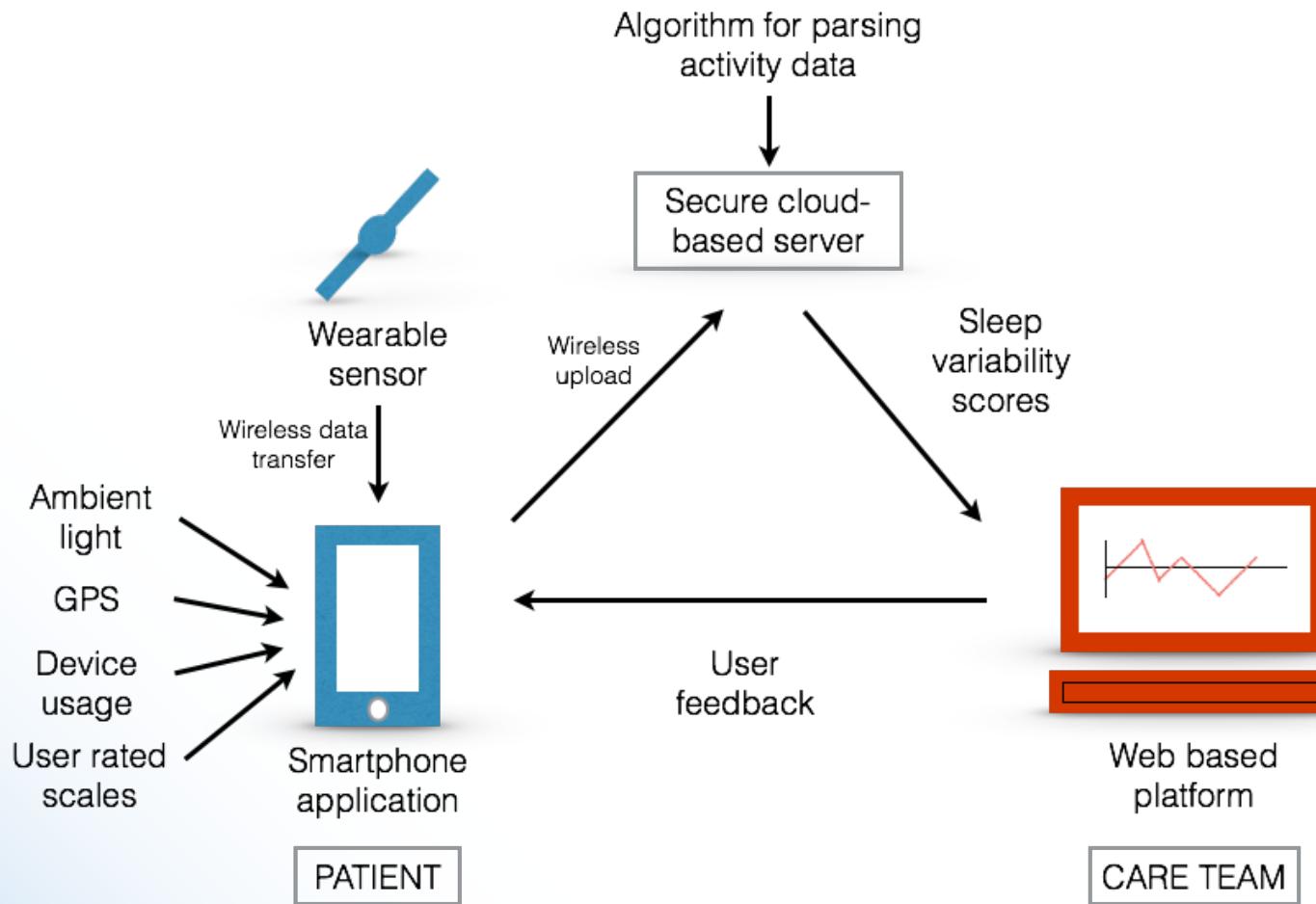
# Multi-agent systems for automating large naturalistic treatment trials in routine practice

Page 10



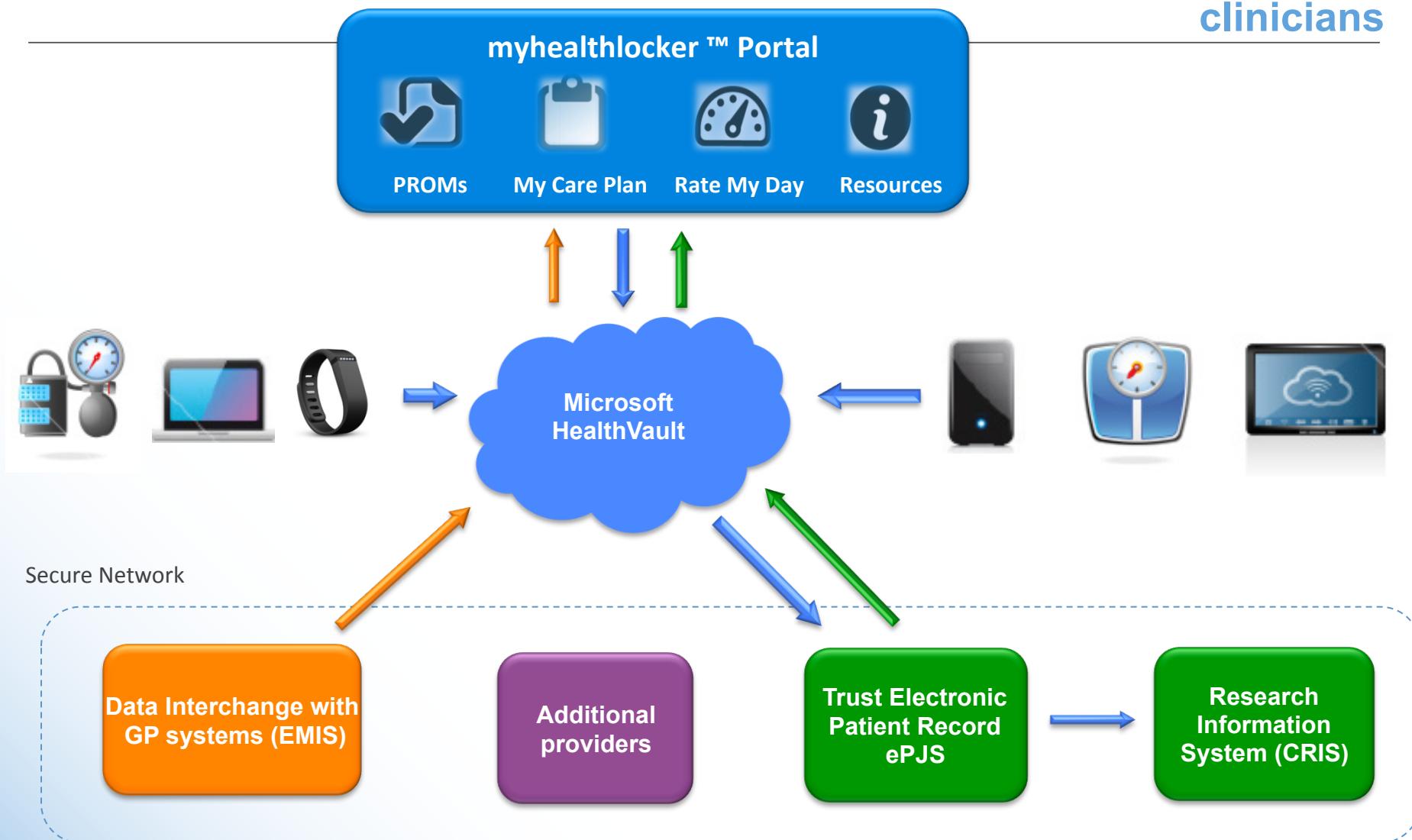
# Interventions based on community monitoring using smartphones/devices

Page 11

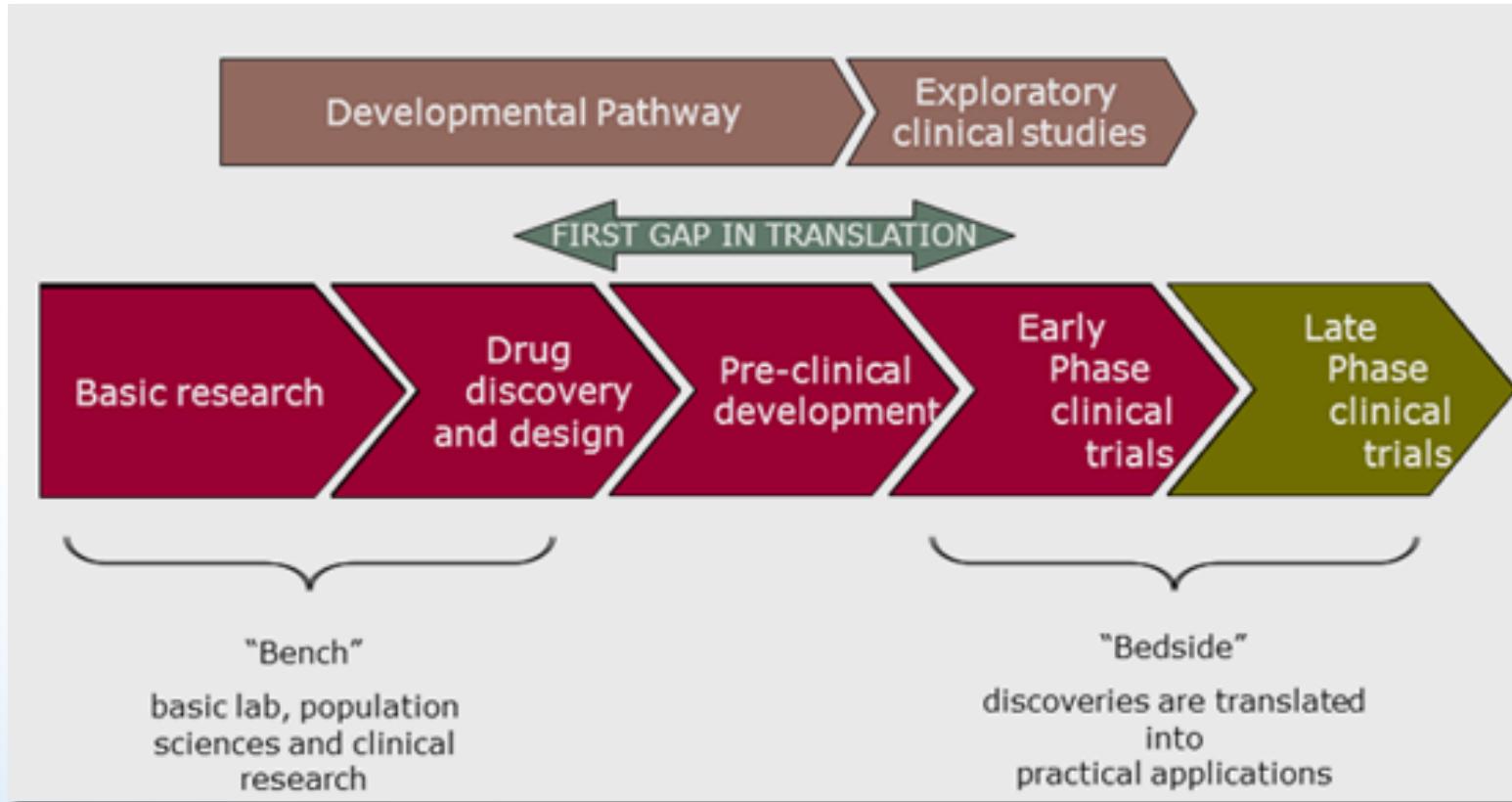


- SLaM patient data
- GP patient data
- User generated data

# The eMPOWERMENT Programme: Using *electronic personal health records* to empower patients and clinicians



## Moving towards developing an IT pathway analogous to the drug dev pathway – taking basic research IT back to the clinic



- <https://github.com/UKRSE/Hackday/wiki/Hack-Ideas>
  - Providing a facility for effective viewing of correspondence in mental health electronic records
  - Multi-agent systems as an alerting tool eg. Identify heavy service users
  - Summary presentation of longitudinal measures derived from electronic health records
  - Purple Robot for development of care team interventions using smartphone/device derived data