



Public Health  
England

Protecting and improving the nation's health

# The National Cancer Registration and Analysis Service (NCRAS) England

## Data collection for tumour agnostic treatments

Dr Alice Turnbull  
Programme manager, Public Health England

# What I will discuss:

1

The National Cancer Registration and Analysis Service (NCRAS) England

- A brief background

2

NCRAS principles for data collection

- How does this facilitate monitoring of tumour agnostic treatments?

**1983** Mainframe Computer

### Hospital Records are on Paper

Very little cohesive data on cancer across the

- Difficult to understand the burden of cancer
- Difficult to assess service delivery
- Lack of co-ordination of data, knowledge, intelligence



**2013** Smart



Public Health  
England



## ACHIEVING WORLD-CLASS CANCER OUTCOMES

A STRATEGY FOR ENGLAND  
2015-2020  
Executive Summary



Report of the Independent Cancer Taskforce



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NCRS)  
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statistics



# Our vision...

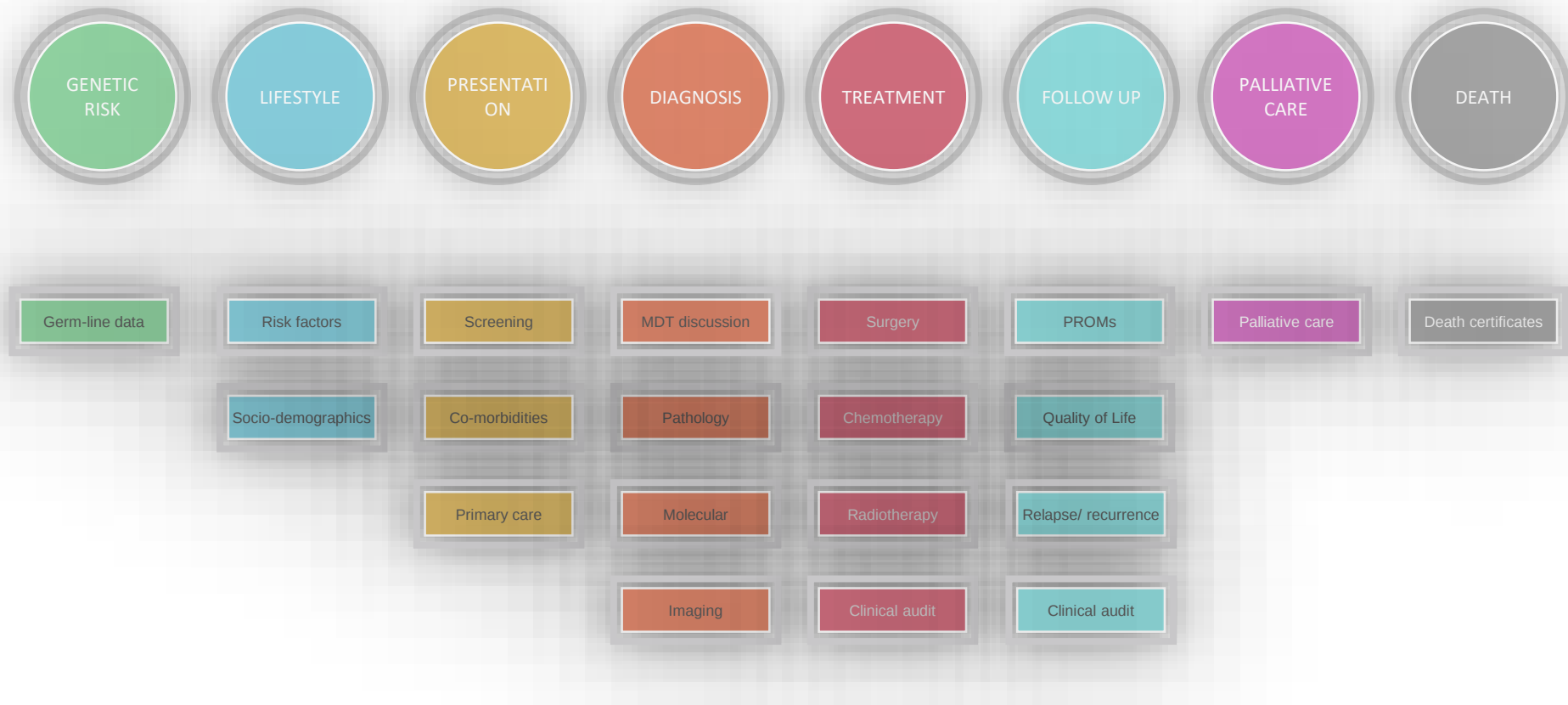


- To provide near-real time, cost-effective, comprehensive, quality-assured data services covering the entire cancer and rare disease care pathways on all patients in England

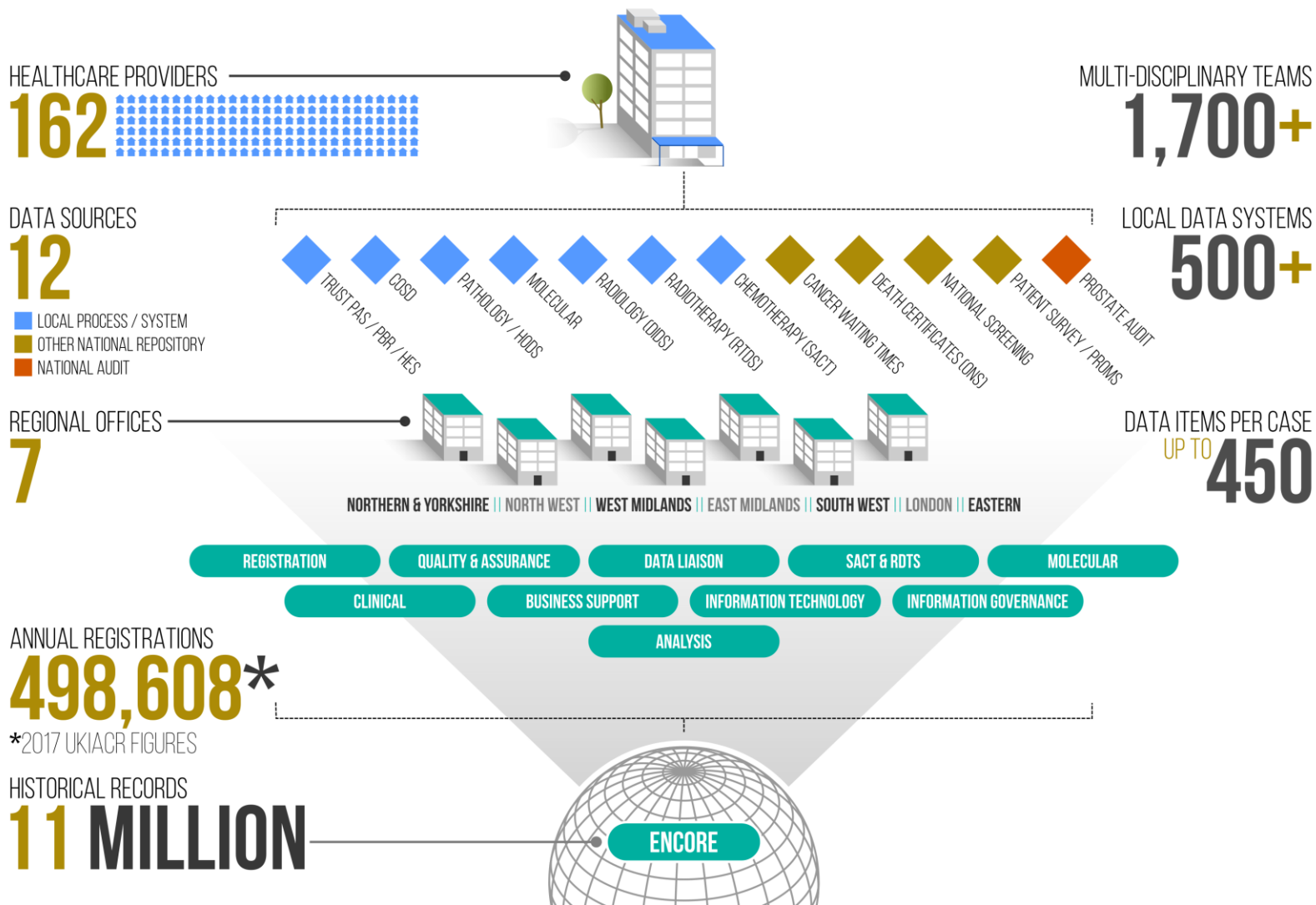
as a resource for

- population and public health, patient care, research, quality, safety, clinical team and service performance management, audit, outcome monitoring and commissioning.

# Collecting data across the cancer patient pathway



# An idea of scale:



# Data in the English National Health Service (NHS)



There is plenty of it.....

Turning information into  
knowledge...



# What I will discuss:

1

The National Cancer Registration and Analysis Service (NCRAS) England

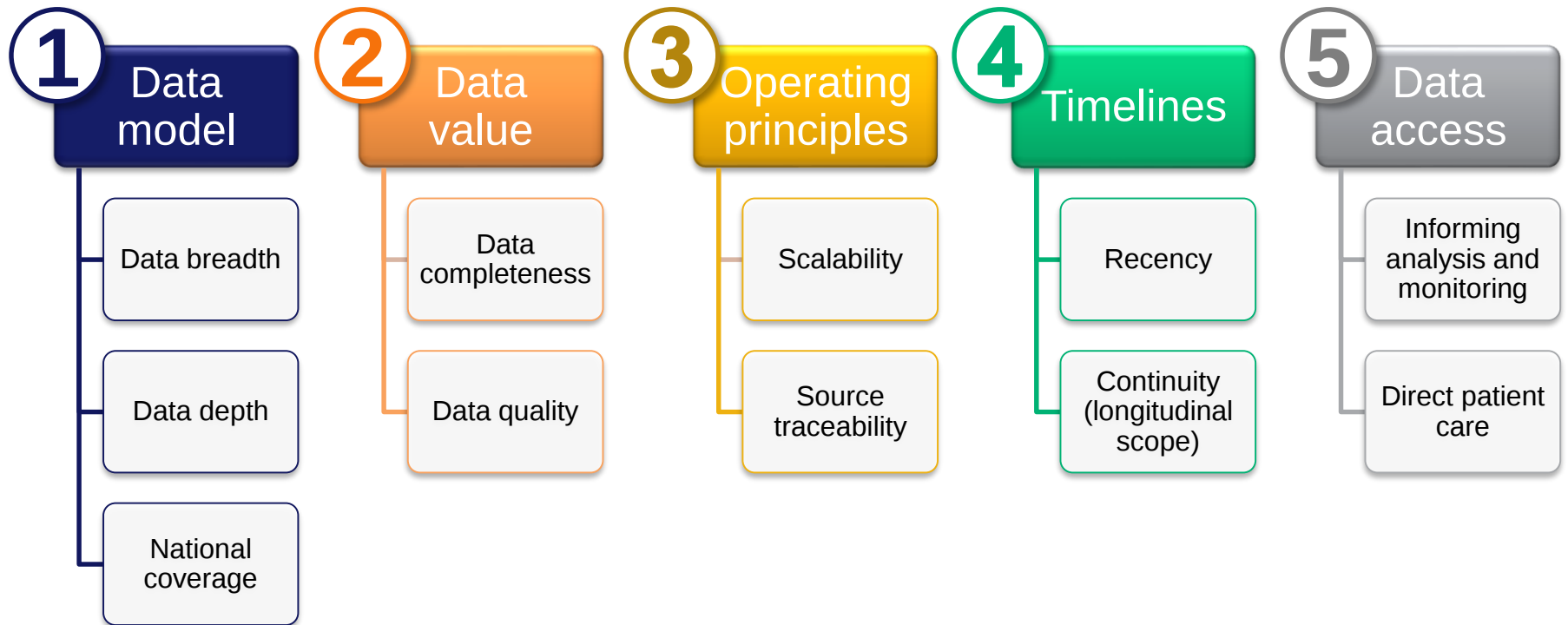
- A brief background

2

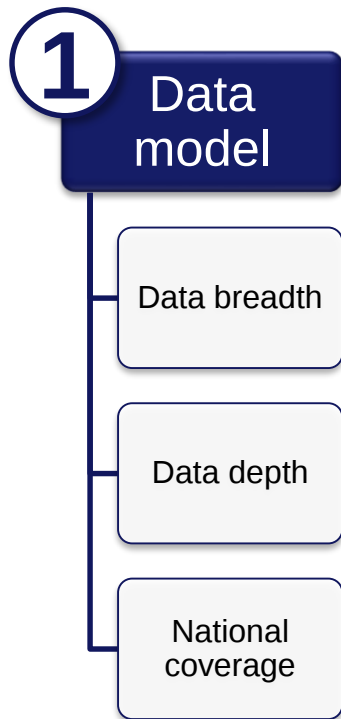
NCRAS principles for data collection

- How does this facilitate monitoring of tumour agnostic treatments?

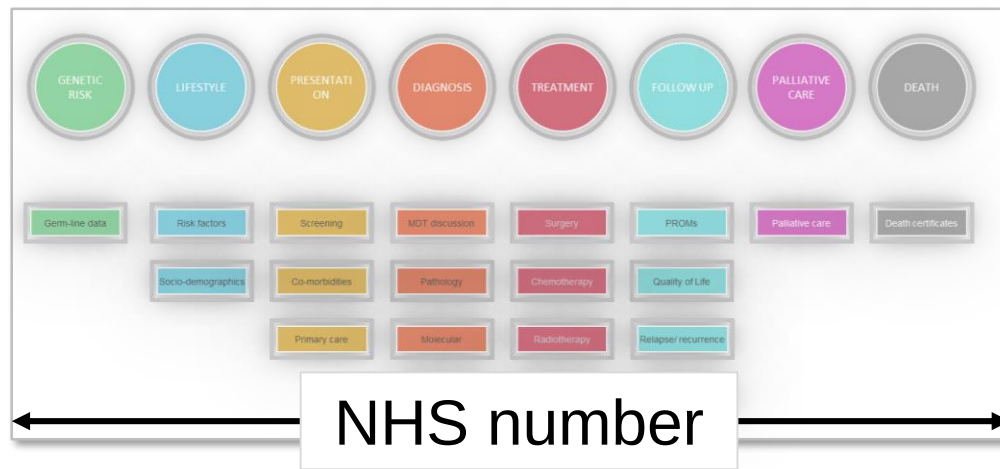
# Principles for cancer data collection:



# Principles for cancer data collection:



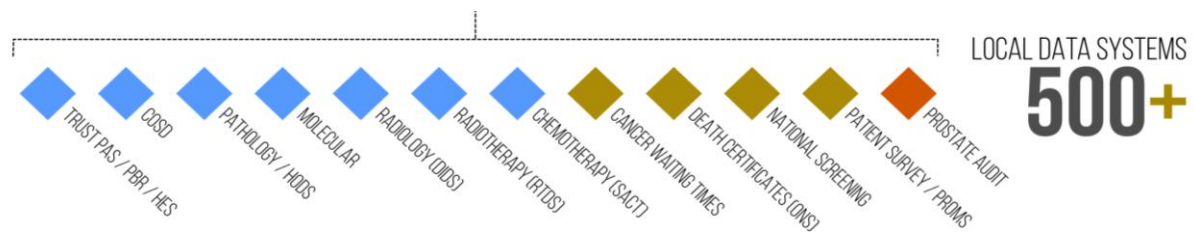
# Data breadth



Data across the cancer patient pathway...

# AND depth

Captured in tailored datasets



# SACT dataset:



1. Patient and tumour characteristics

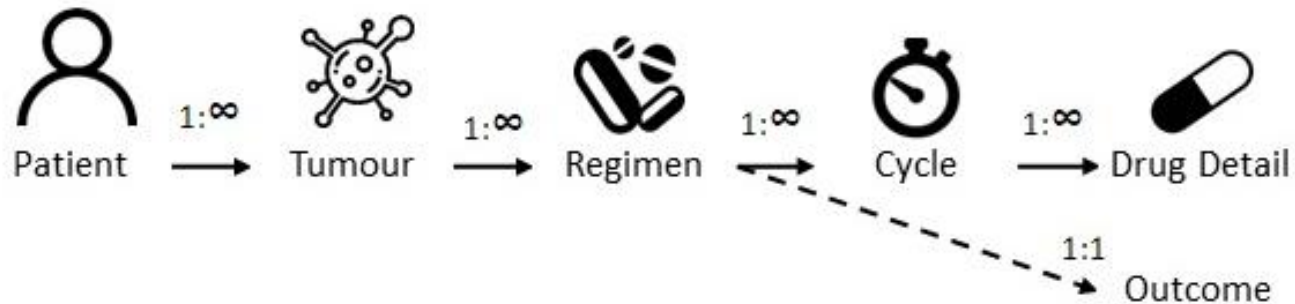


2. Trust and consultant details



3. Treatment characteristics including drug names and drug combinations (regimens)

## Data structure:



# Molecular dataset:

## Genetic Test

Dates, method, lab sample number, which lab carried out the test, who ordered it etc.

One genetic test can look at several genes

## Genetic Test Result

Which gene was tested, whether it was normal, type of abnormality found etc.

One gene can have several variants

## Genetic Sequence Variant

If a mutation was found in a gene, the exact details of the mutation can be recorded here

## Genetic Test

Dates, method, lab sample number, which lab carried out the test, who ordered it etc.

- Dates:
  - Test Requested
  - Sample Taken
  - Sample received
  - Report authorised date
- Reason for referral
- Hospital/Lab demographics
- Specimen type
- Tumour %
- Methodology / technology

Editing genetic test

|                             |                                                                    |       |                                     |
|-----------------------------|--------------------------------------------------------------------|-------|-------------------------------------|
| Date first notified         | 25.10.2017                                                         | today | Date NCRAS received the information |
| Sourcetype                  | MOLECULAR FEED [historical code]                                   |       |                                     |
| Requested Date              | 11.11.2016                                                         |       |                                     |
| Sample Taken Date           | dd.mm.yyyy                                                         |       |                                     |
| Received Date               | 11.11.2016                                                         |       |                                     |
| Report Date                 | 21.11.2016                                                         |       |                                     |
| Genetic Indication Category | Tumour testing – predicting therapeutic response (29)              |       |                                     |
| Clinical Indication Details |                                                                    |       |                                     |
| Molecular Testing Type      | Molecular pathology – diag and personalised medicine (somatic) (5) |       |                                     |
| Requesting Hospital         | THE ROYAL MARSDEN HOSPITAL PATHOLOGY SERVICES (696L0)              |       |                                     |
| Hospital Number             |                                                                    |       |                                     |
| Referring clinician         |                                                                    |       |                                     |
| Lab Code                    | THE ROYAL MARSDEN HOSPITAL PATHOLOGY SERVICES (696L0)              |       |                                     |
| Lab Number                  |                                                                    |       |                                     |
| Specimen Type               | Tissue - Tumour unspecified                                        |       |                                     |
| Other Specimen Type         |                                                                    |       |                                     |
| Tumour Percentage           | 30                                                                 |       |                                     |
| Specimen Preparation        | Fixed tissue / cells (FFPE) (4)                                    |       |                                     |
| Method of Test              | Kit test - COBAS 4800 kit                                          |       |                                     |
| Scope of Test               |                                                                    |       |                                     |
| Research Test               | N : No (N)                                                         |       |                                     |
| Comments                    |                                                                    |       |                                     |

## Genetic Test Result

Which gene was tested, whether it was normal, type of abnormality found etc.

- Test status
  - Normal
  - Abnormal
- Aberration type
  - DNA sequence variant
  - Fusion
  - Amplification
  - Etc.
- Gene tested
  - EGFR
  - BRAF
  - KRAS
  - Etc.

| Edit Genetic Test Result                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Status                             | Normal                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Genetic Aberration Type                 | Wild type sequence (7)                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Karyotype/Array Result                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rapid/NIPT Result                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Gene                                    | EGFR                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Genotype                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Zygosity                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Chromosome Number                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Chromosome Arm                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Cytogenetic Band Number                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Fusion Partner Gene                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Fusion Partner Chromosome Number        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Fusion Partner Chromosome Arm           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Fusion Partner Cytogenetic Band Number  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Microsatellite Instability (MSI) Status |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Comments                                | [The specimen was representative of the tumour population, containing approximately 30% neoplastic nuclei. No evidence of the common EGFR mutations in exons 18 to 21 was found in this sample. These results do not support the use of specific anti-EGFR TKI inhibitors in the first line setting in this patient. UPDATED REPORT Dr S MacMahon (18.11.16) No evidence of an ALK translocation was observed. Current clinical evidence does not support the use of ALK |
| Origin/inheritance                      | Somatic / Tumour-specific                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Percent Abnormal                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Oncotype DX Breast Recurrence Score     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Genetic Sequence Variant

If a mutation was found in a gene, the exact details of the mutation can be recorded here

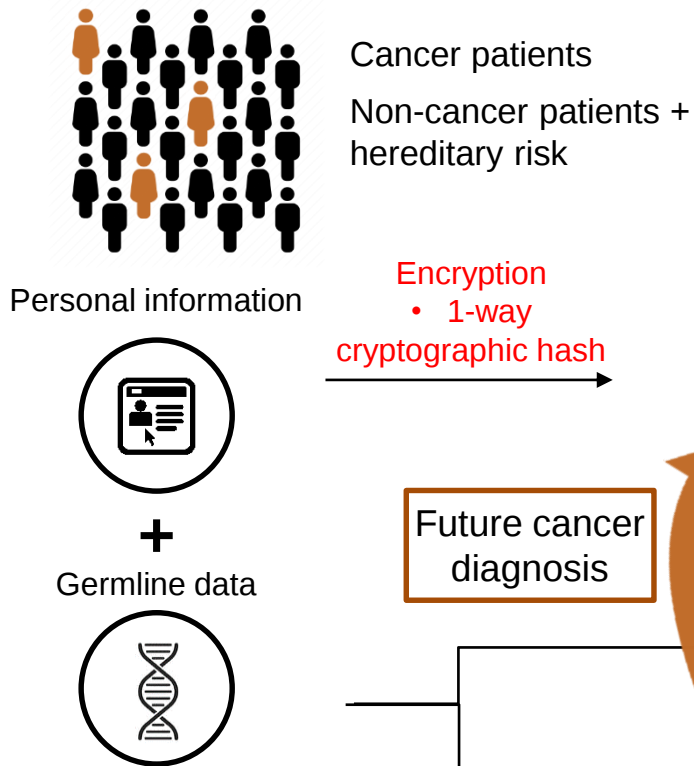
- Genome Build
- Transcript ID (incl. version number)
- Sequence variant details in HGVS where available
- Exon/intron/codon number where specific details not given:
  - E.g. 'BRAF codon 600 mutation detected'

Genetic Sequence Variants [Add Sequence Variant](#)

|                              |                      |
|------------------------------|----------------------|
| Human Genome Build           | <input type="text"/> |
| Reference Transcript ID      | <input type="text"/> |
| Genomic Change, g            | <input type="text"/> |
| cDNA Change, c               | <input type="text"/> |
| Protein Impact, p            | <input type="text"/> |
| Variant Location             | <input type="text"/> |
| Exon/Intron/Codon Number     | <input type="text"/> |
| Sequence Variant Type        | <input type="text"/> |
| Variant Impact               | <input type="text"/> |
| Pathogenicity Classification | <input type="text"/> |
| Variant Genotype             | <input type="text"/> |
| Variant Allele Frequency     | <input type="text"/> |
| ClinVar ID Number            | <input type="text"/> |
| COSMIC ID Number             | <input type="text"/> |
| Description / Comments       | <input type="text"/> |

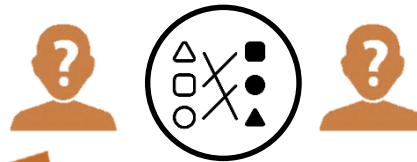
# Germline data - pseudonymisation

## Information from genetics labs



Encryption  
• 1-way  
cryptographic hash

Cancer patients  
**MATCH**



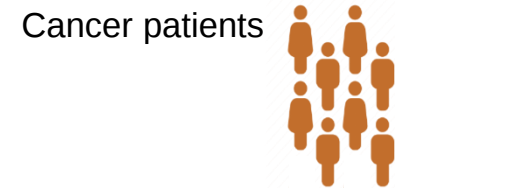
Future cancer  
diagnosis

Non-cancer patients +  
hereditary risk



Germline data

## NCRAS information

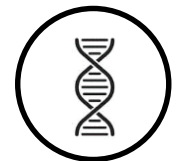


Encryption



Added to  
cancer  
record

Germline data



**LINK**

# Primary care prescription data:

## Data items

~80 million  
records a month

Pseudo ID (NHS number &  
DOB)  
Prescription form ID

### Patient characteristics

Patient age  
Sex  
Exemption category

### Drug information

Drug name  
Dose  
Quantity  
Form (tablets etc)  
BNF code  
Net ingredient cost  
Standard drug identifiers from dm+d

### Prescriber information

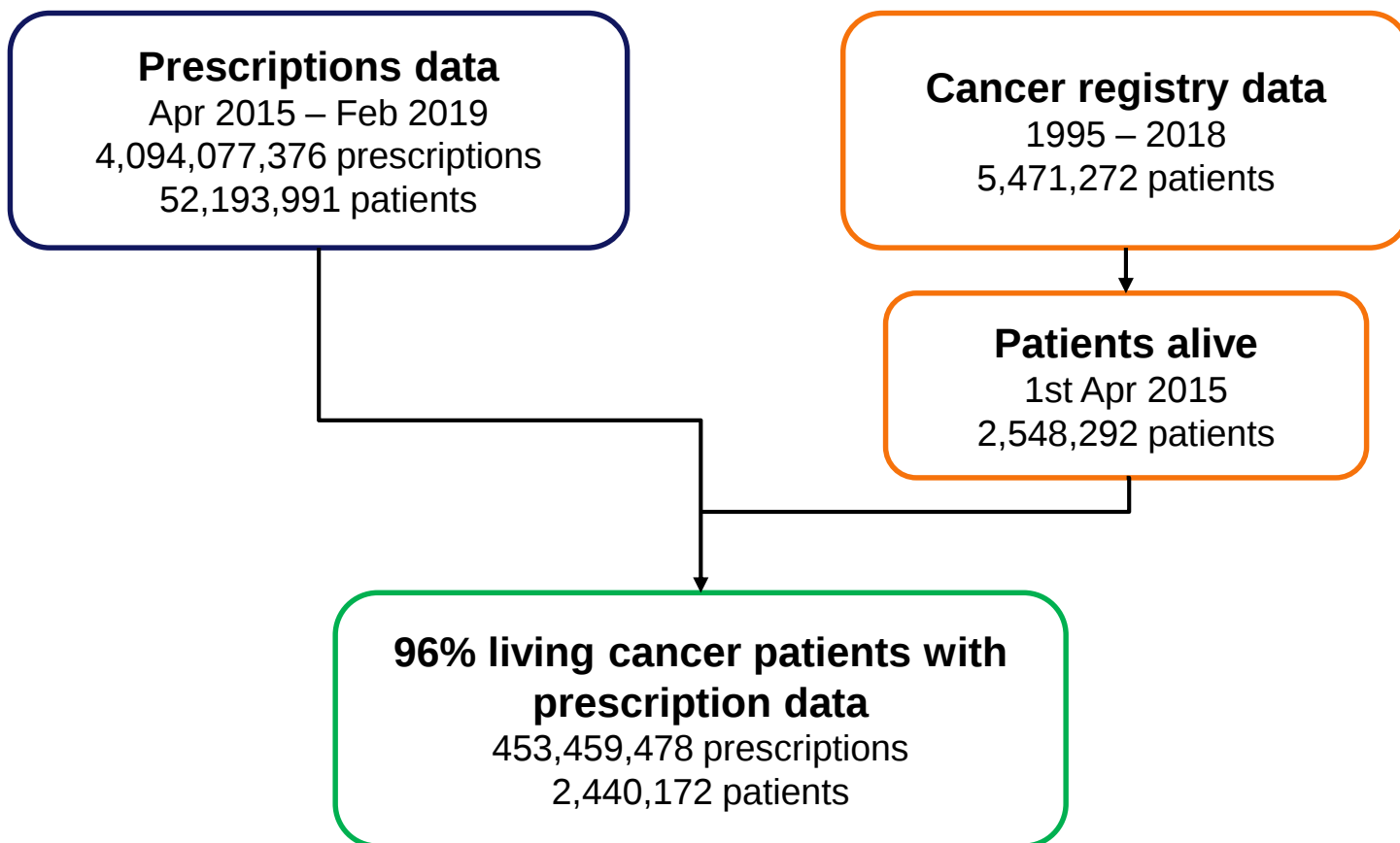
Postcode  
Practice name  
Prescription form type

### Dispenser information

Date dispensed  
Organisation responsible for payment

Data profile: <https://bmjopen.bmj.com/content/8/7/e020980>

# Linking prescriptions data to cancer records



# Identification of Endocrine Therapy

Cancer Epidemiology 61 (2019) 185–189



Contents lists available at ScienceDirect

Cancer Epidemiology

journal homepage: [www.elsevier.com/locate/canep](http://www.elsevier.com/locate/canep)



Endocrine therapy in the years following a diagnosis of breast cancer: A proof of concept study using the primary care prescription database linked to cancer registration data



Gabriella Enayati<sup>a,\*</sup>, Katherine E. Henson<sup>a</sup>, John P. Pegg<sup>a</sup>, Jackie Charman<sup>a</sup>, Kieran Horgan<sup>b</sup>

<sup>a</sup> use – 6th Floor, 133-155 Waterloo Rd, London, SE1 8UG, United Kingdom  
<sup>b</sup> Leif St, Leeds, LS9 7TF, United Kingdom  
<sup>c</sup> Old Road Campus, Oxford, OX3 7LF, United Kingdom

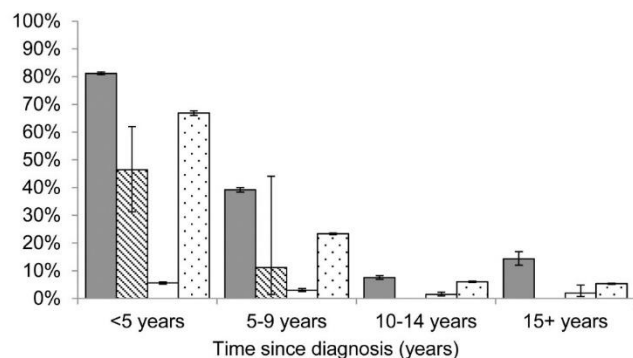
cancer registration data were linked to the Primary Care Prescription Database (PCPD) in order to identify endocrine therapy (ET) prescribed in women after a diagnosis of breast cancer was studied. Cancer registrations for women diagnosed with breast cancer during 1995–2015, who were linked to ET prescriptions issued during April–July 2015.

Of 17 survivors of breast cancer diagnosed during 1995–2015, 37% were prescribed ET. Among women whose breast cancer diagnosis was after 31st July 2010, 81% of those with receptor positive (ER+ve) disease were prescribed ET compared with only 6% of those with receptor negative (ER-ve) disease. Older women usually received aromatase

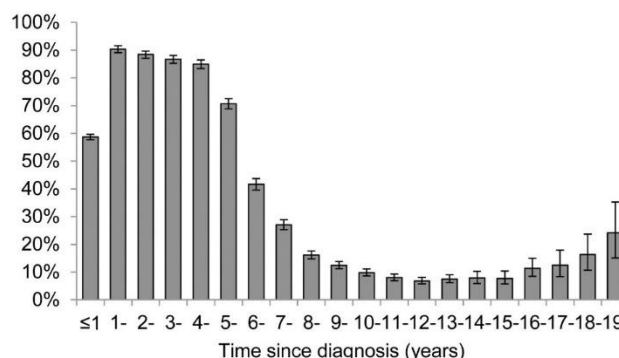
therapy if ET use observed in these data corresponds to that expected. This provides confidence in the use of PCPD for epidemiological research.

Percentage of patients prescribed endocrine therapy (95% confidence interval)

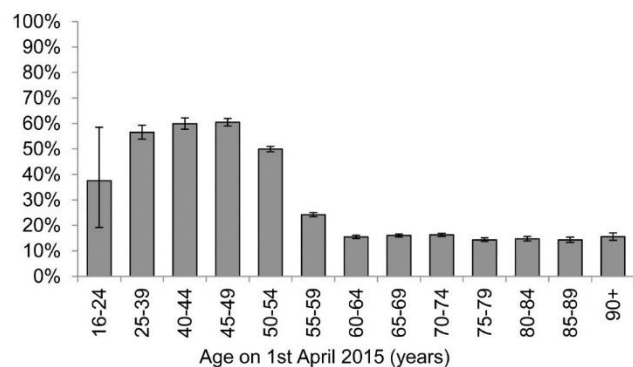
A. All women



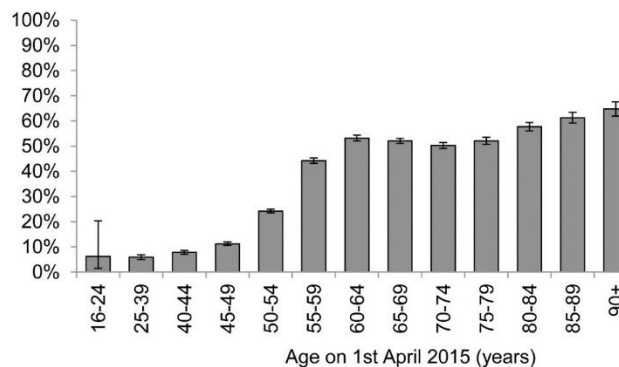
B. ER+ve disease



C. Tamoxifen in ER+ve disease

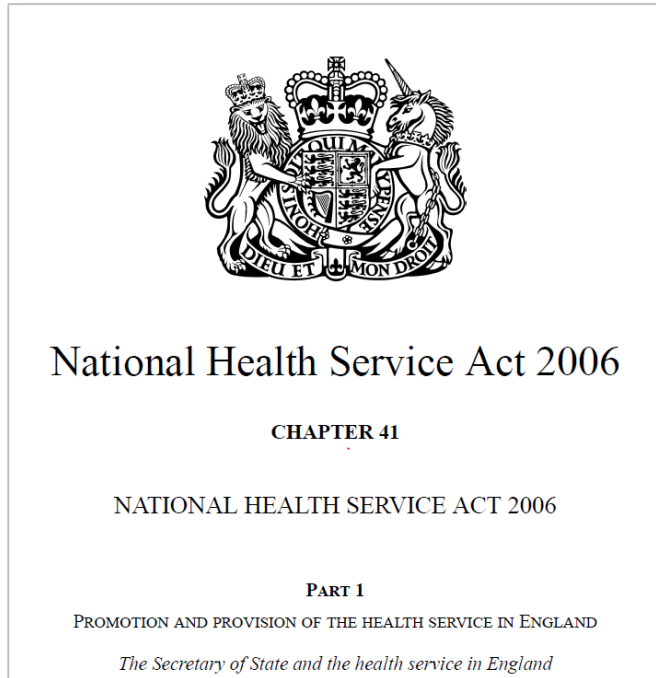


D. Aromatase inhibitors in ER+ve disease



ER+ve ER borderline ER-ve ER unknown

# Coverage - data on all cancer patients



- Legal permission to collect information on all cancer patients without consent (NHS Act 2006 Section 251)
- Activity must:
  - Have a medical purpose
  - Be in the public interest or in the interests of improving patient care
  - Be compliant with DPA/GDPR
  - Impracticable to obtain consent and anonymised information cannot be used
- Yearly review with Confidentiality Advisory Group - Health Research Authority

- Data collection embedded in NHS and mandated by contractual requirements

# Coverage:

## Data on all cancer patients nationally

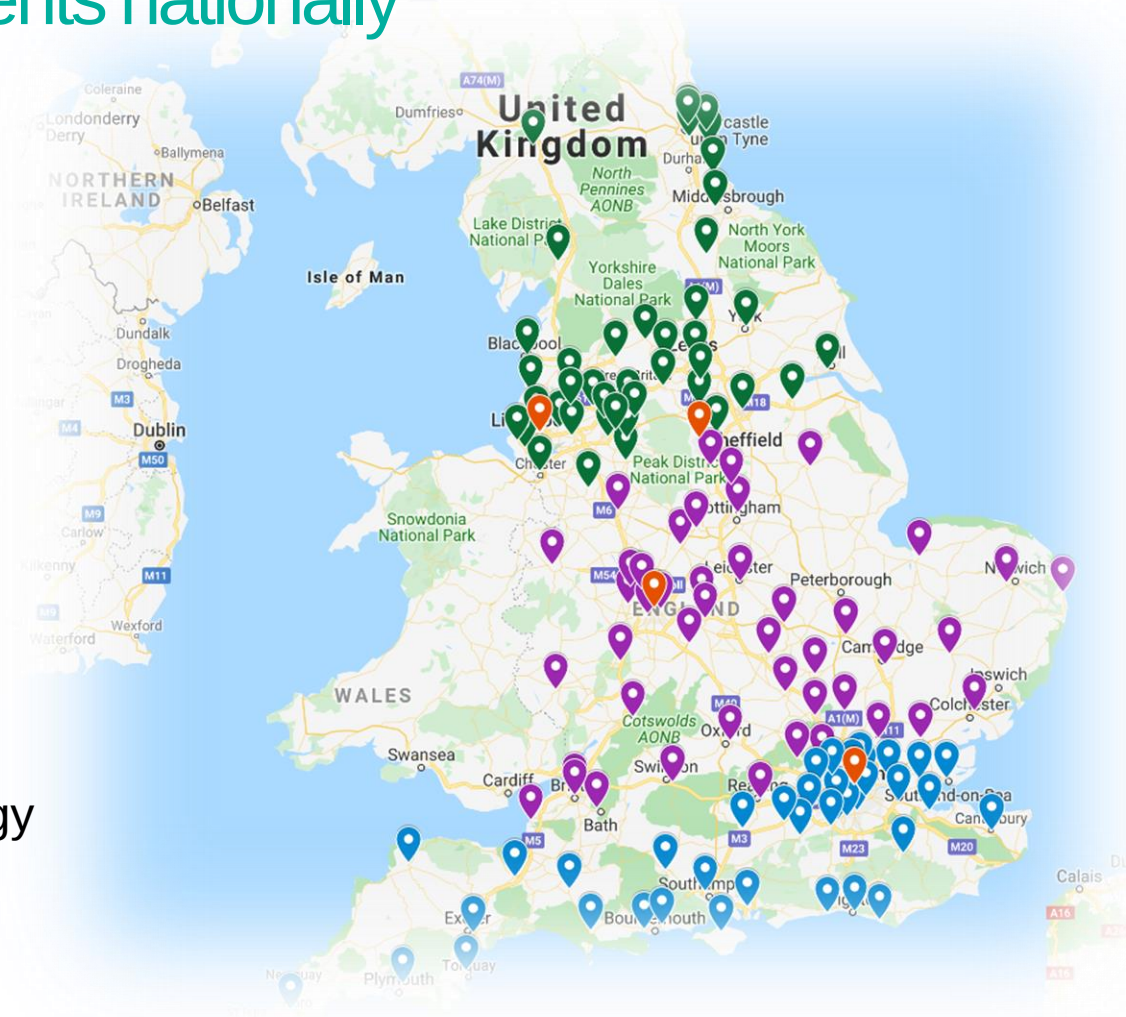
### SACT:

Data from **137 NHS trusts**  
(all centres providing SACT treatment)

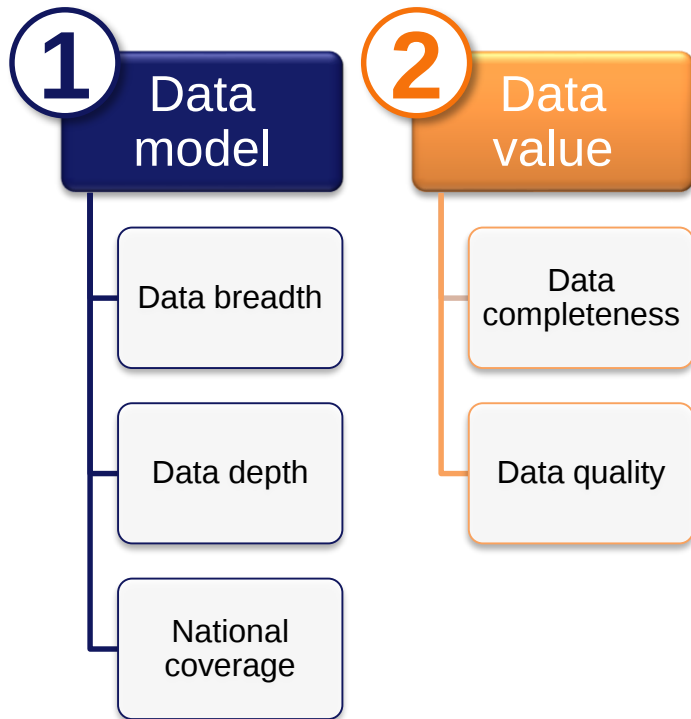
### Molecular:

Data from

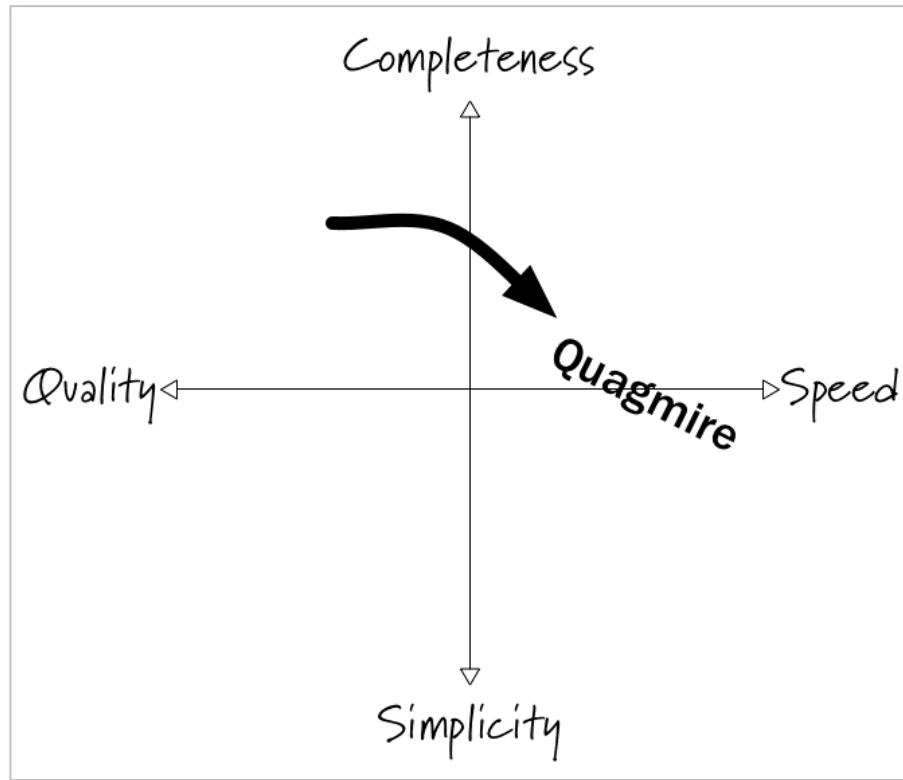
- Regional Molecular Genetics Labs (Somatic and germline)
- Molecular section of Pathology Labs (Somatic)



# Principles for cancer data collection:



# Data completeness $\neq$ Data quality



Maximising  
completeness AND  
quality...

# Ensuring high data quality: Working to support data providers



# Ensuring high data quality: Reporting back to data providers

## Pathology Indicators:

Engagement Indicator:  
Pathology sent in a suitable format?

**Non Compliant**

Completeness Metrics:  
Lesion Size

0%

Grade

0%

Excision Margin

0%

## COSD Indicators:

Engagement Indicator:  
COSD sent in the correct format and  
version?

**Compliant**

Completeness Metrics:  
Full Stage

82%

Perf. Status

92%

CNS Contact

71%

## SACT Indicators:

Engagement Indicator:  
SACT sent in on time?

**Compliant**

Completeness Metrics:  
Perf. Status

97%

Intent

100%

Weight Known

99%

## RTDS Indicators:

Engagement Indicator:  
RTDS sent in a full year of data?

**Compliant**

Completeness Metrics:  
DTT Date

100%

Treatment Region

99%

Intent

100%

# Ensuring high data quality: Validating data on submission

## Upload error report for batch 1472

Critical : 15  
Local : 15 ( 10 Distinct )

Error summary

Errors Information Local Mappings Click to download all Downloads

Filter  
All (limited to top 1000)

Showing sample records for all local mapping errors

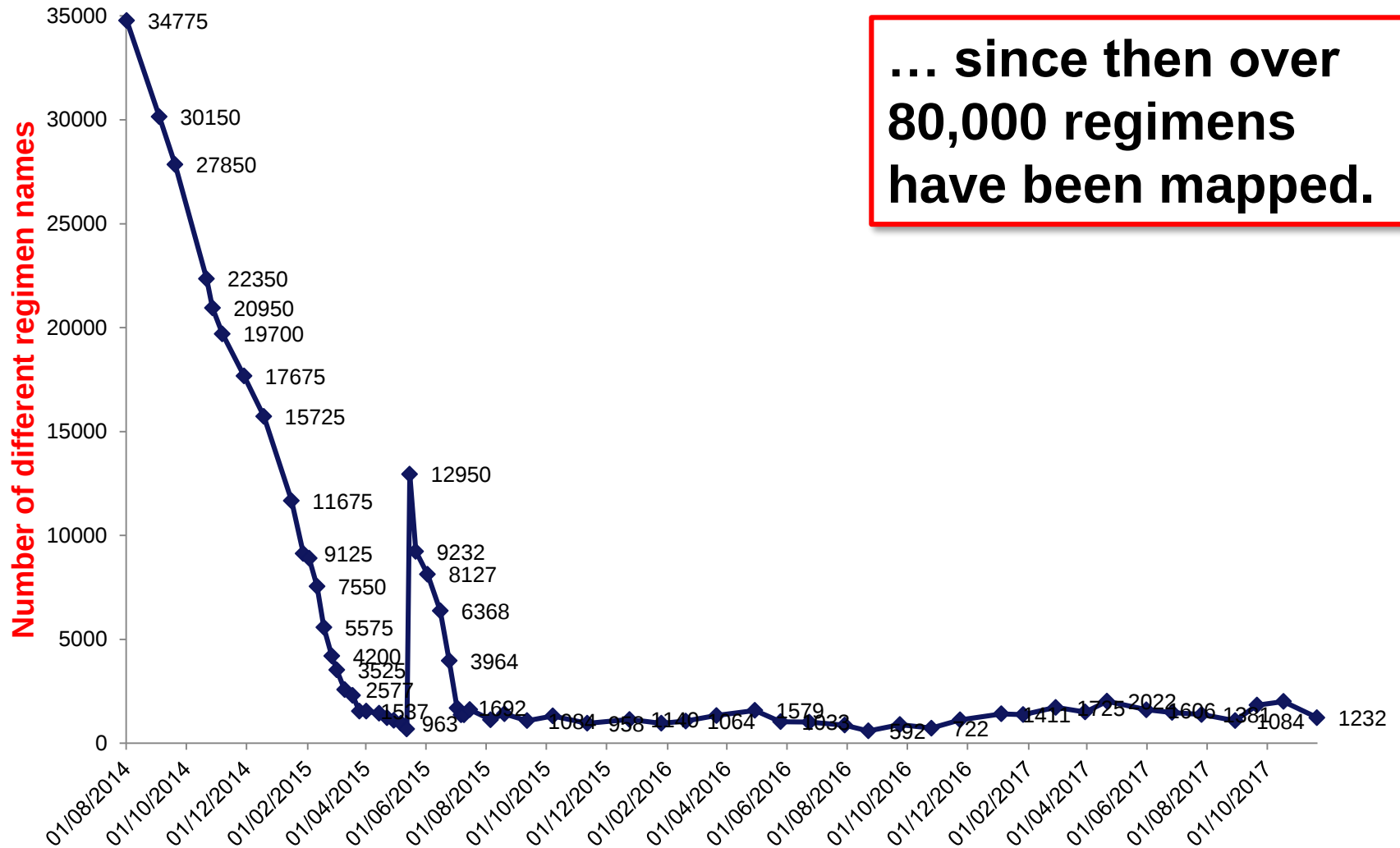
| NHS No.   | D.O.B      | Regimen name            | Start date | Error    | Error field            | Error description                                 | Field value                           |
|-----------|------------|-------------------------|------------|----------|------------------------|---------------------------------------------------|---------------------------------------|
|           | 01/01/1950 | Zoledronic acid, Pr...  | 2017-09-19 | Critical | nhsnumber              | can't be blank                                    |                                       |
|           | 01/01/1950 | Zoledronic acid, Pr...  | 2017-09-19 | Critical | nhsnumber              | can't be blank                                    |                                       |
|           | 01/01/1950 | FOLFOLX: Oxaliplatin... | 2017-09-01 | Critical | nhsnumber              | can't be blank                                    |                                       |
|           | 01/01/1950 | FOLFOLX: Oxaliplatin... | 2017-09-01 | Critical | nhsnumber              | can't be blank                                    |                                       |
| 123456781 | 01/01/1950 | Zoledronic acid, Pr...  | 2017-09-08 | Critical | histology_icdo3        | Zmorphology "9711" does not exist                 | 97113                                 |
| 123456781 | 01/01/1950 | Zoledronic acid, Pr...  | 2017-01-31 | Local    | orgcode_ofdrugprovider | does not exist                                    | PQ111 Map                             |
| 87654321  | 01/01/1950 | VMP: SC Bortezomib ...  | 2017-06-29 | Critical | administrationdate     | cannot be before start date of cycle - 12.10.2017 | 21.09.2017                            |
| 234565432 | 01/01/1950 | Azacitidine for MDS...  |            | Critical | startdateofcycle       | can't be blank                                    |                                       |
| 234565432 | 01/01/1950 | Azacitidine for MDS...  | 2017-09-21 | Local    | postcode               | Unrecognized postcode                             | OX42GX Map                            |
| 234565432 | 01/01/1950 | Pixantrone monother...  | 2017-09-21 | Local    | regimenname            | OX42GX does not exist                             | Pixantrone monotherapy... Regimen Map |

Critical error – cannot be mapped

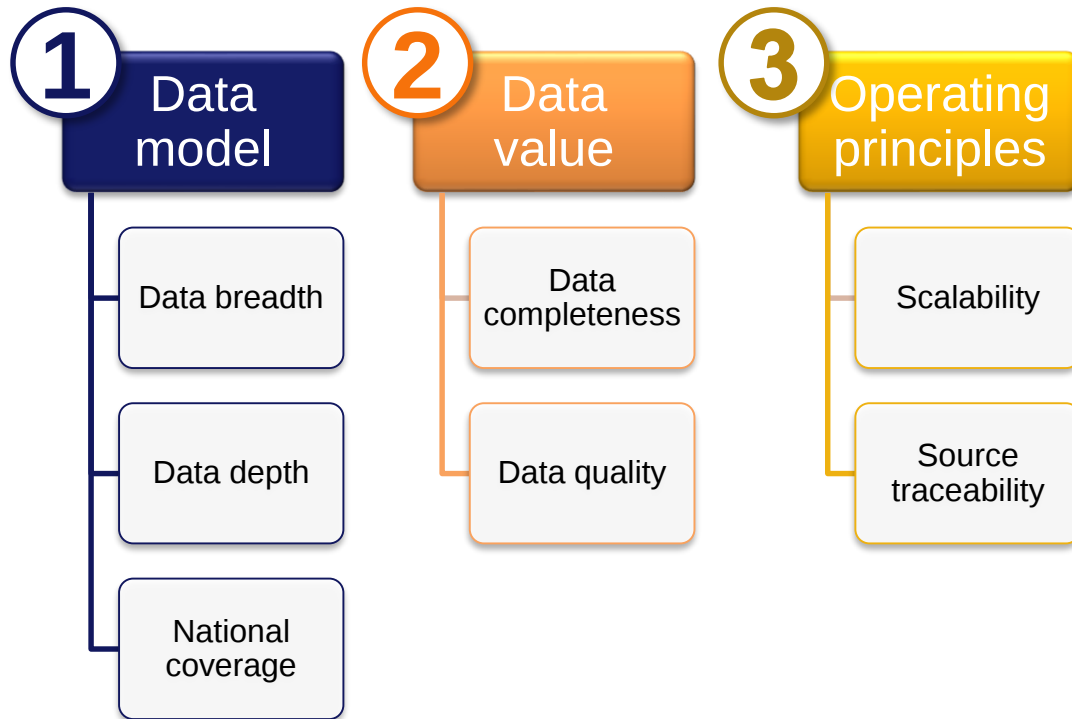
Local error – can be mapped

Regimen mapping – can only be completed by registered mapper(s)

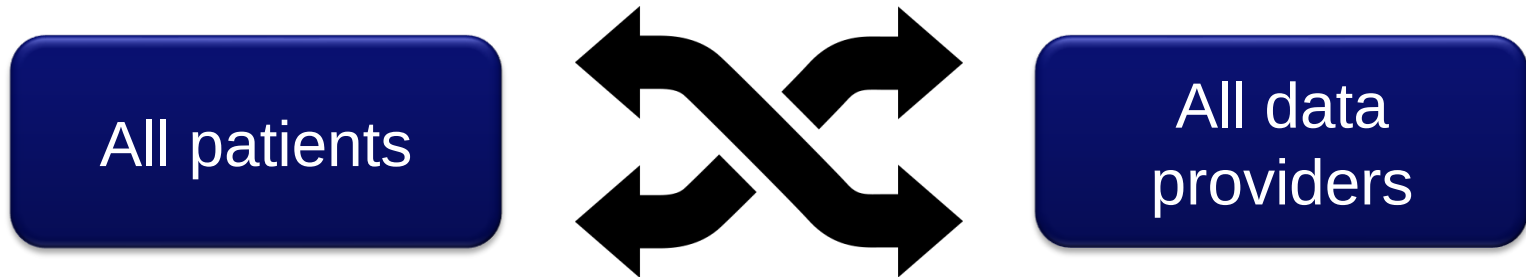
# Ensuring high data quality: Mapping regimens since August 2014



# Principles for cancer data collection:



# Scalability and generalisability:



## Approaches:

- Schema specification
- Supplementary data collection
- Minimal submission burden
- **Adaptation to local systems**

# Adapting to local systems:

[illegible][illegible]

## 1. Input data:

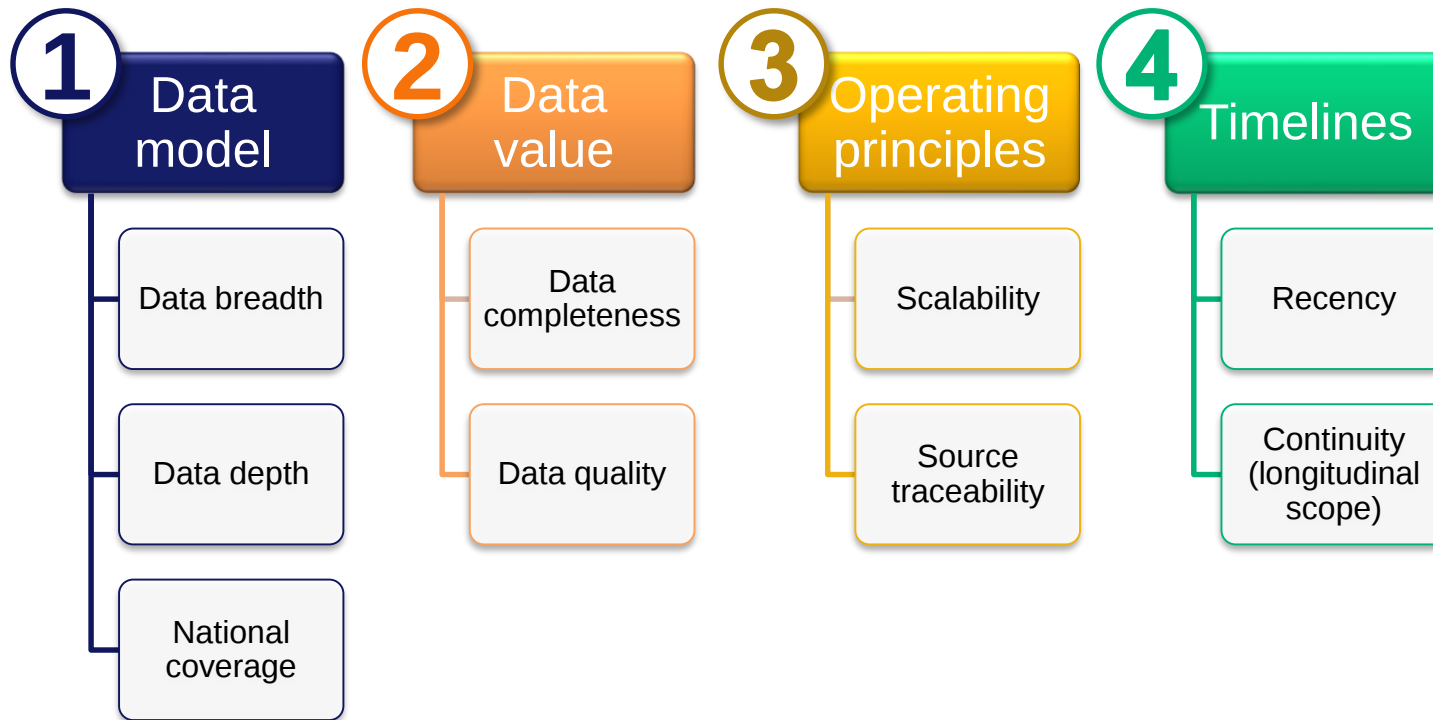
## Electronic data from labs

## Each data extract in a unique format...

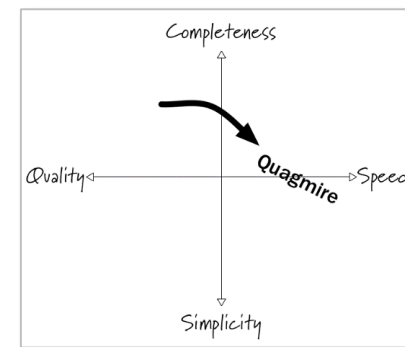
## 2. Transformation mapping:

Transform data into standard schema for cancer registration system (ENCORE)

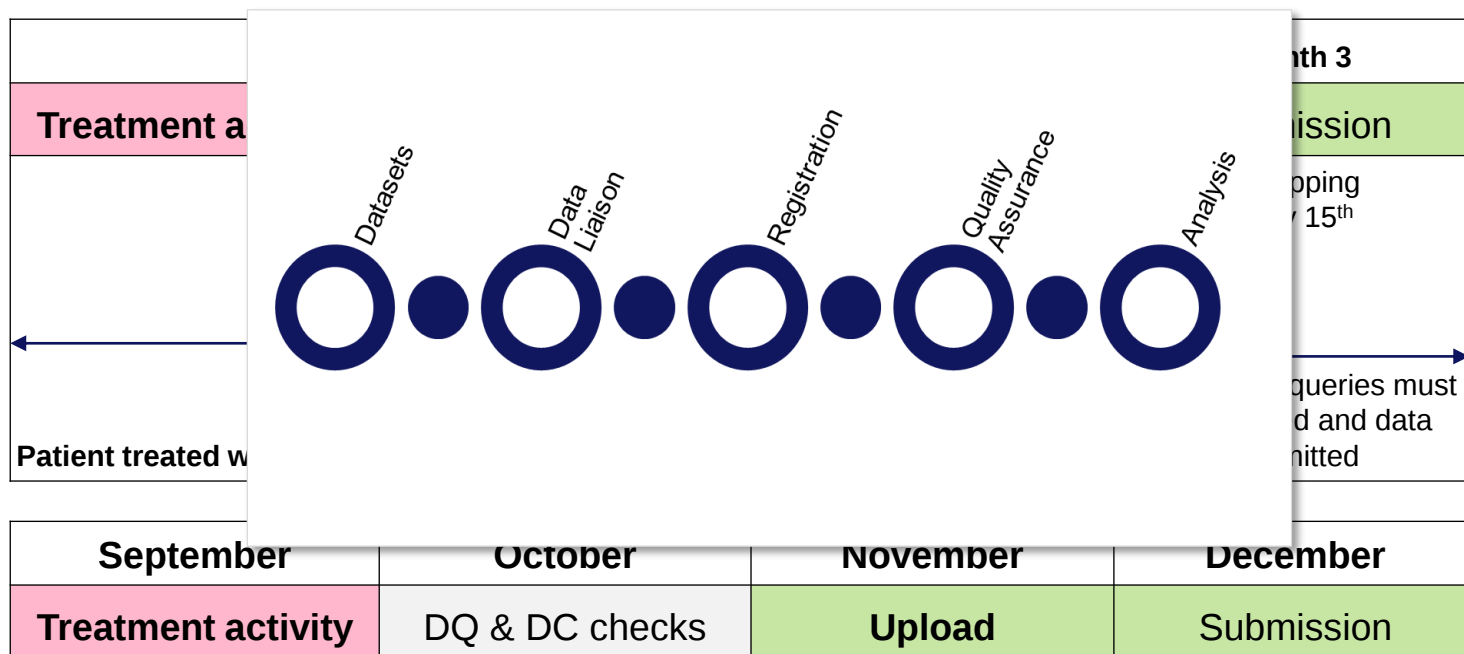
# Principles for cancer data collection:



# Recency:



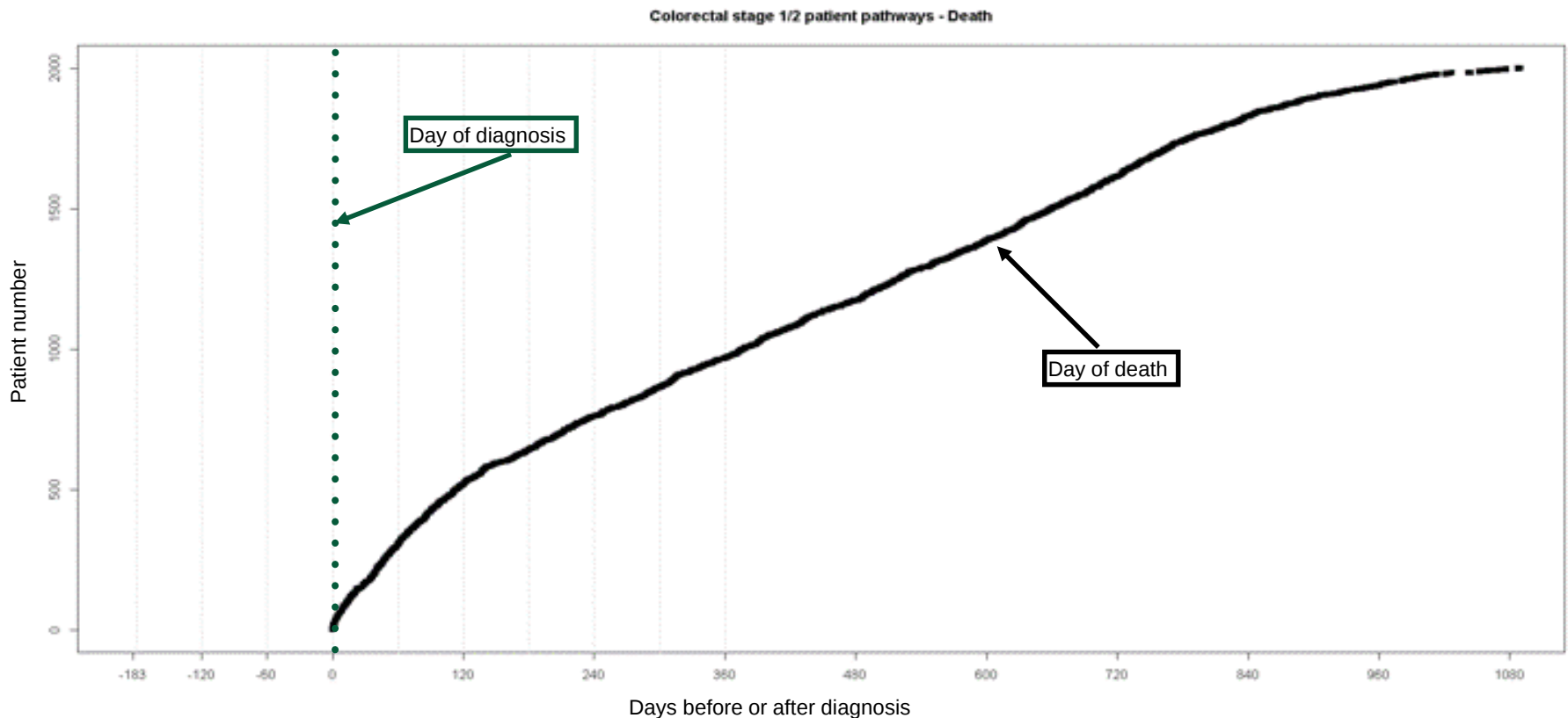
## SACT monthly data submission



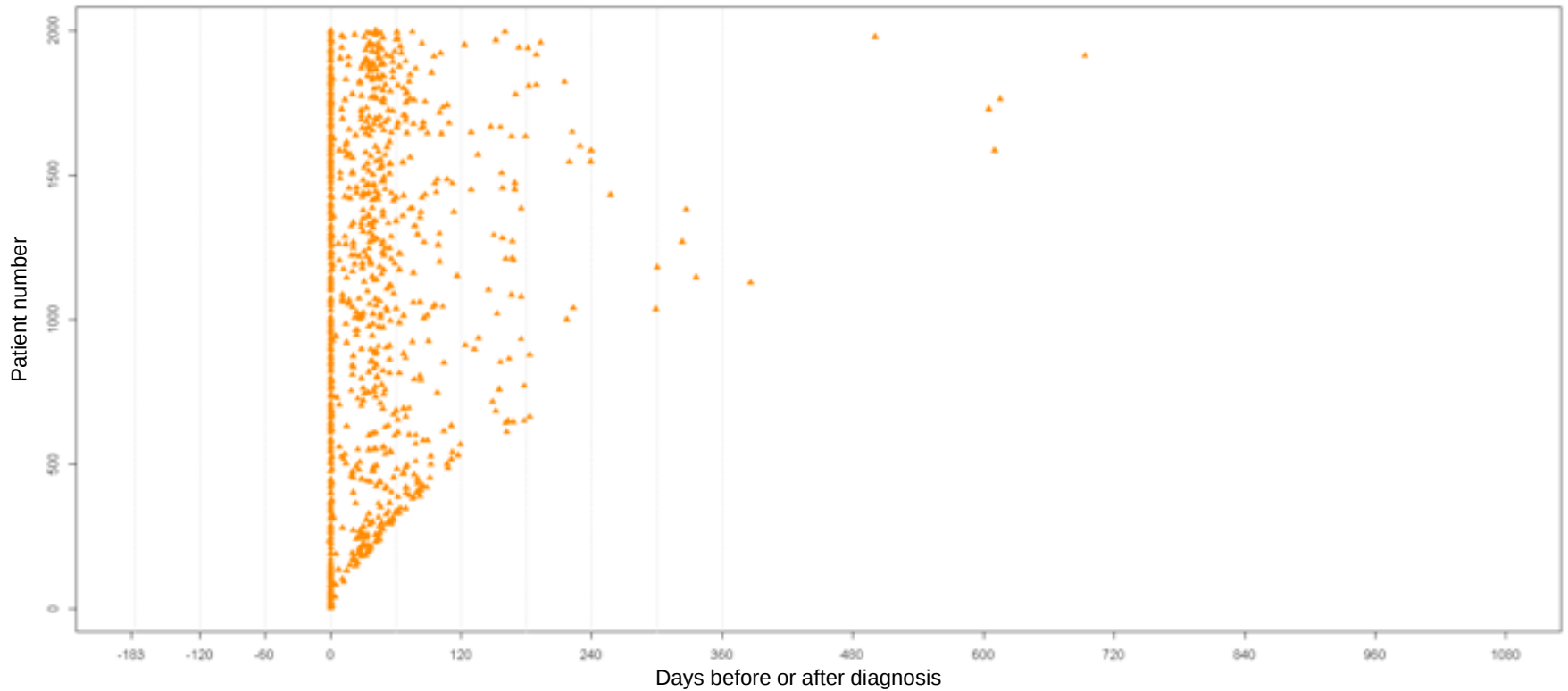
Example:

# Continuity:

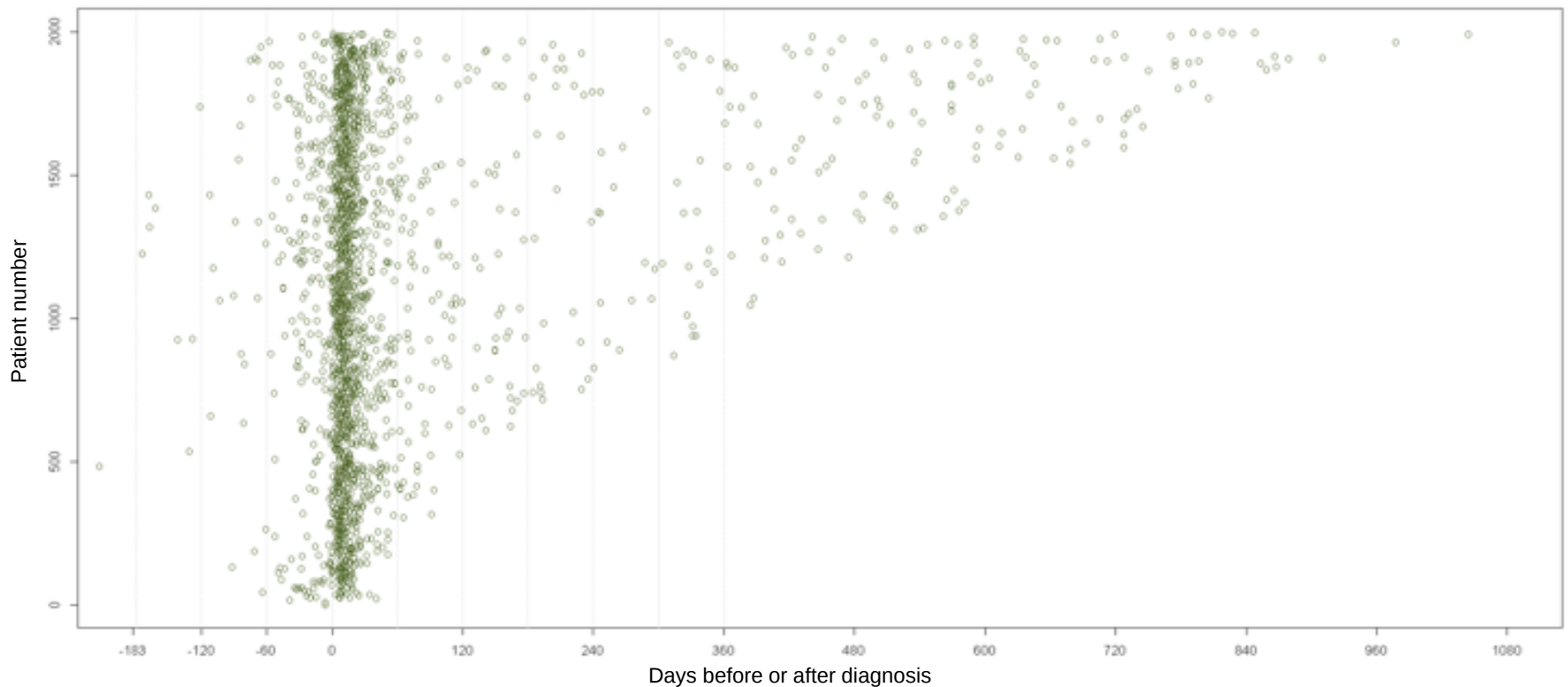
Ongoing monthly data collection collecting the complete patient pathway:



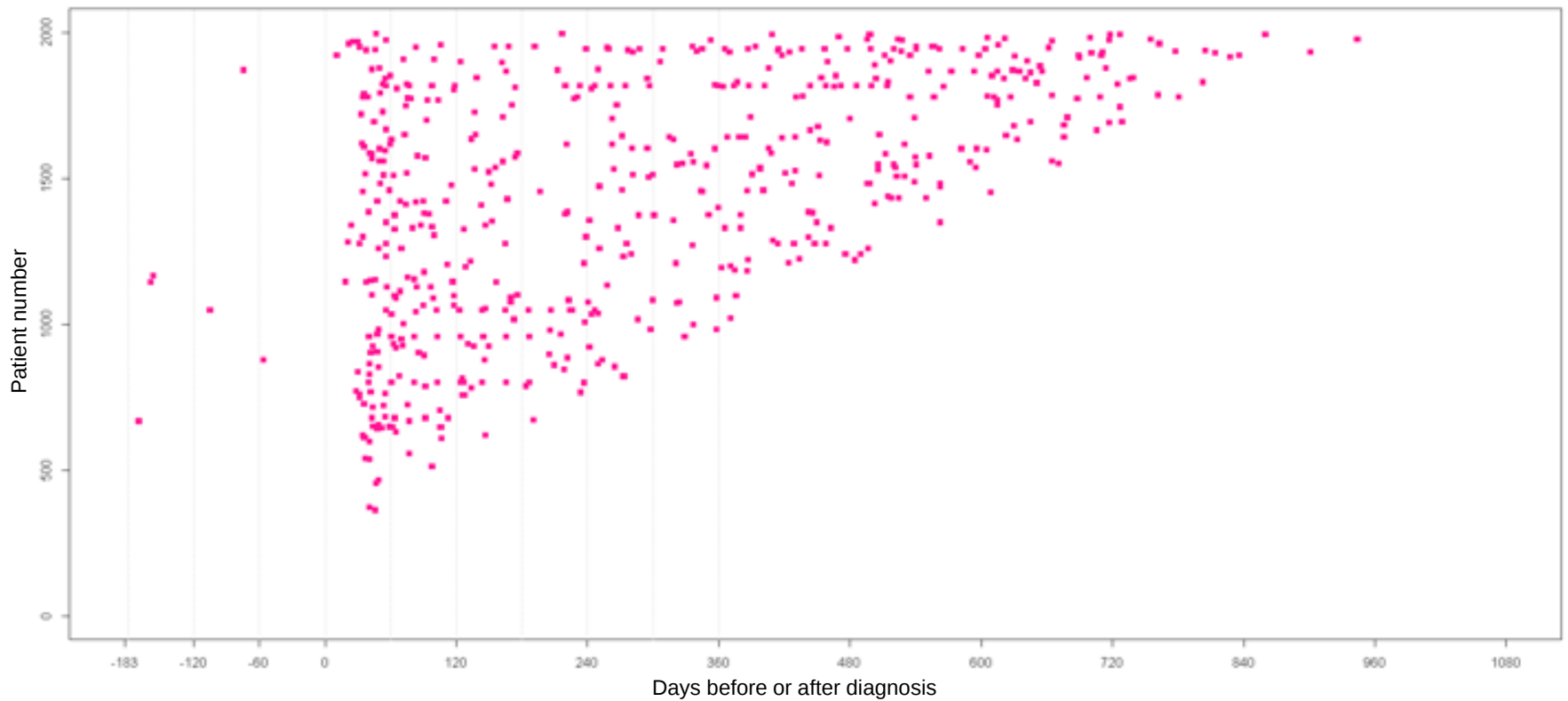
# Patients have surgery



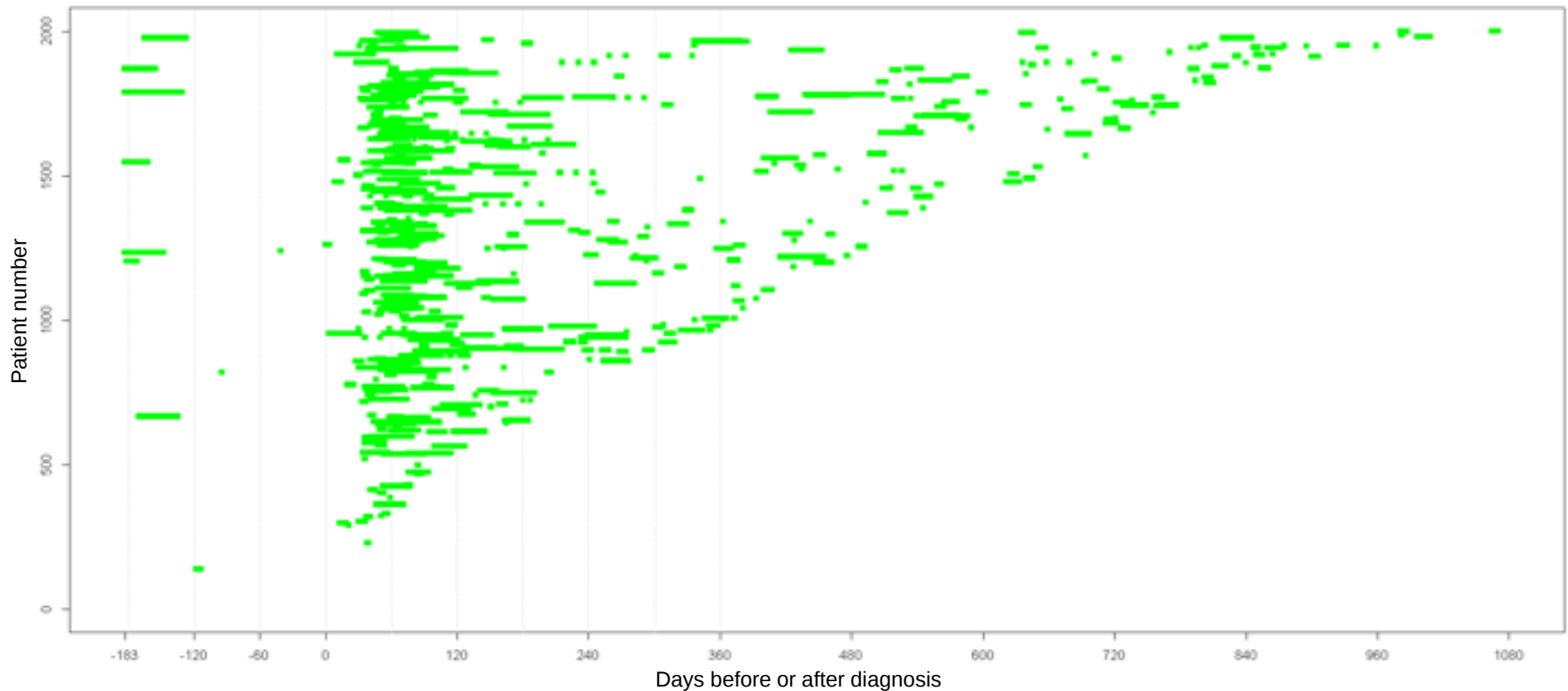
# Patients are discussed at a multi-disciplinary team meeting



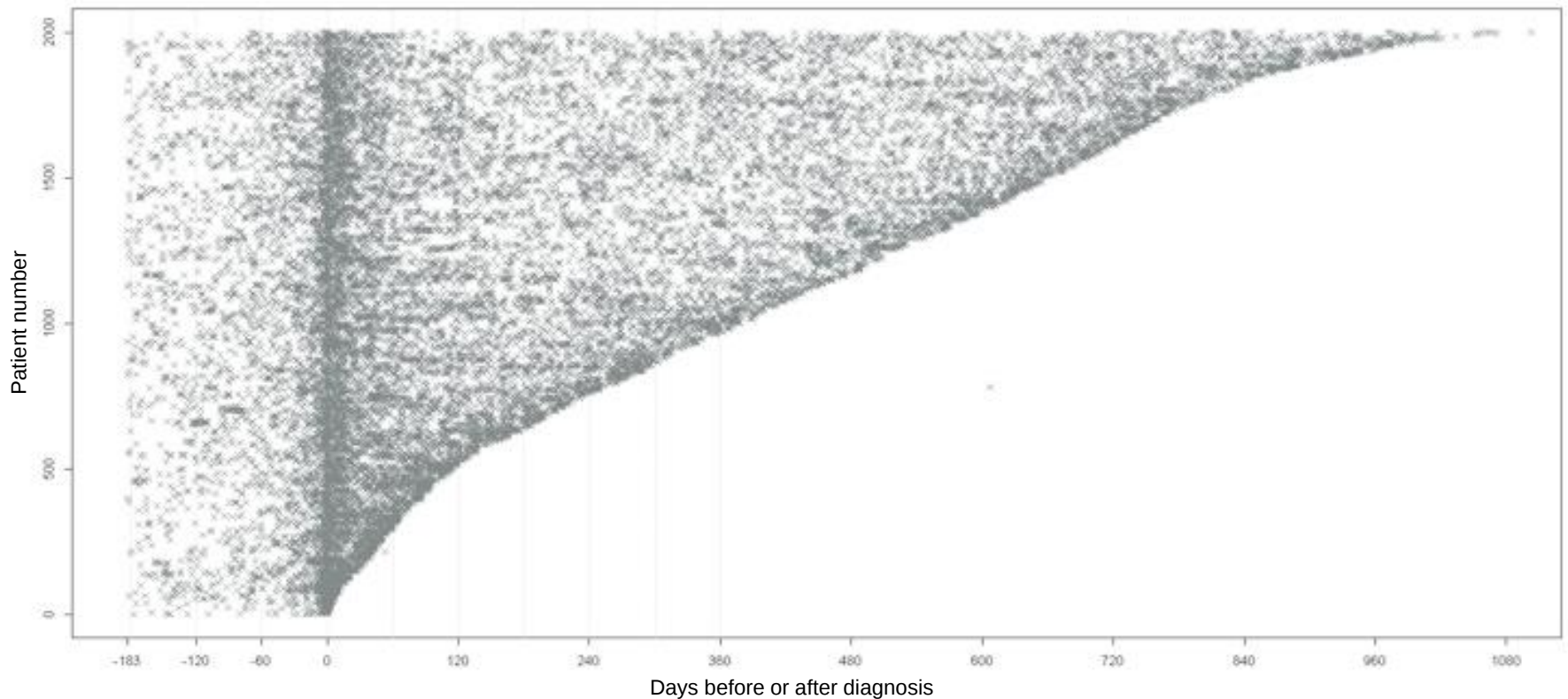
# Patients have SACT



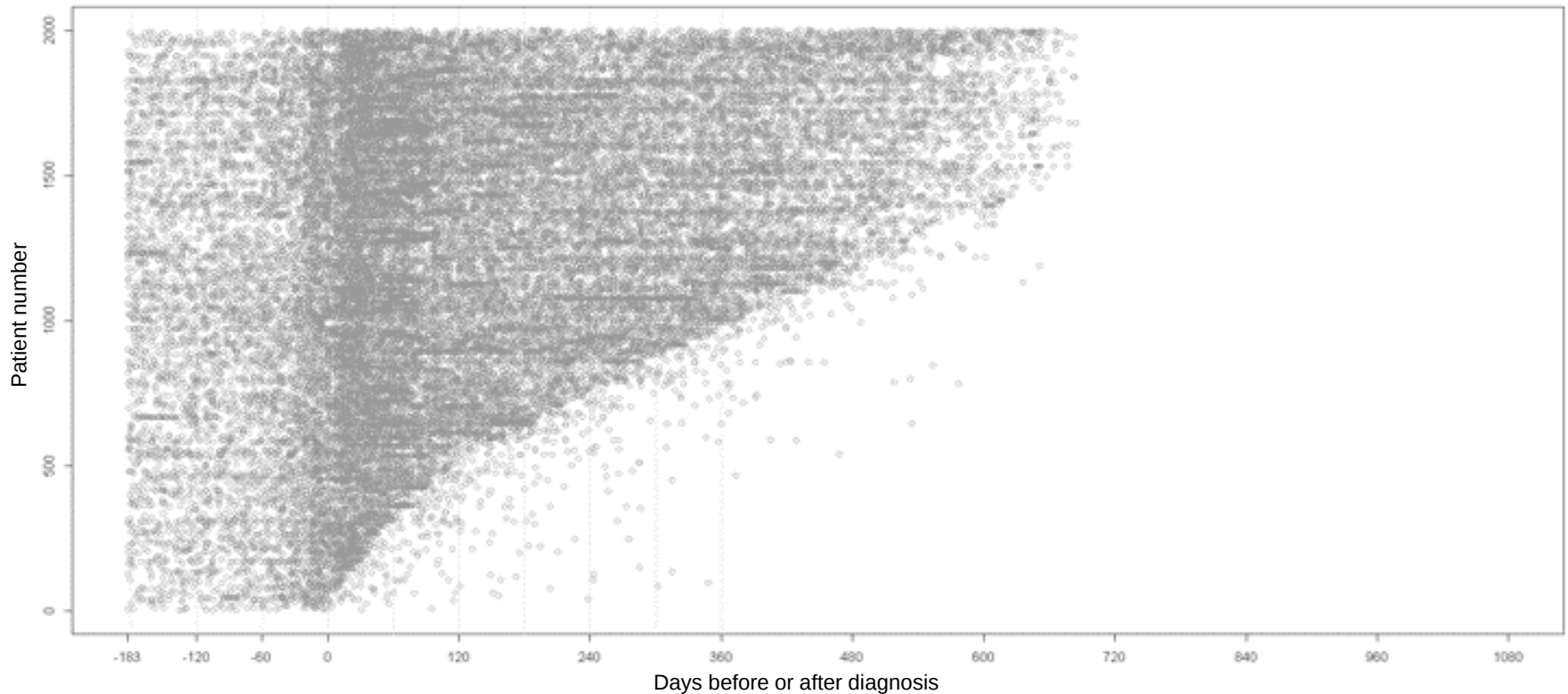
# Patients have radiotherapy



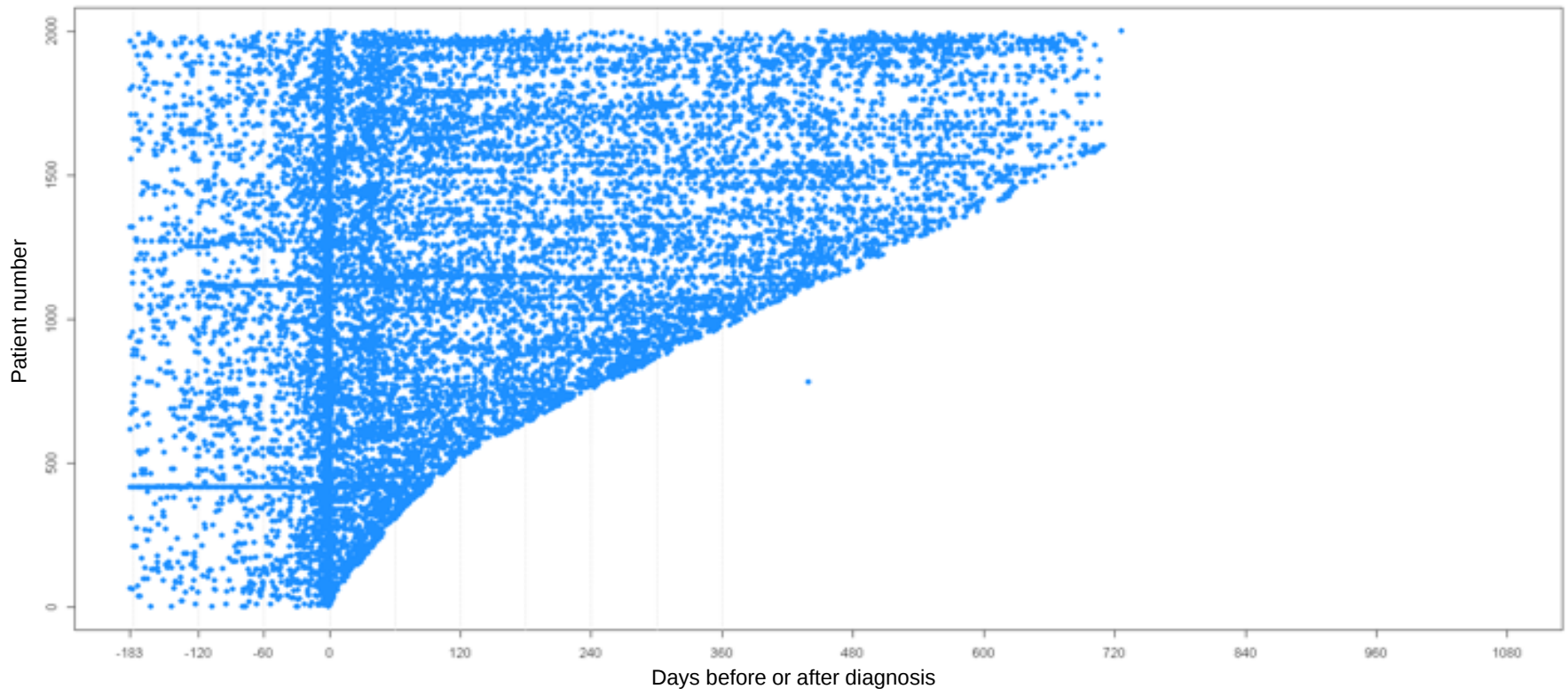
# Patients have imaging investigations



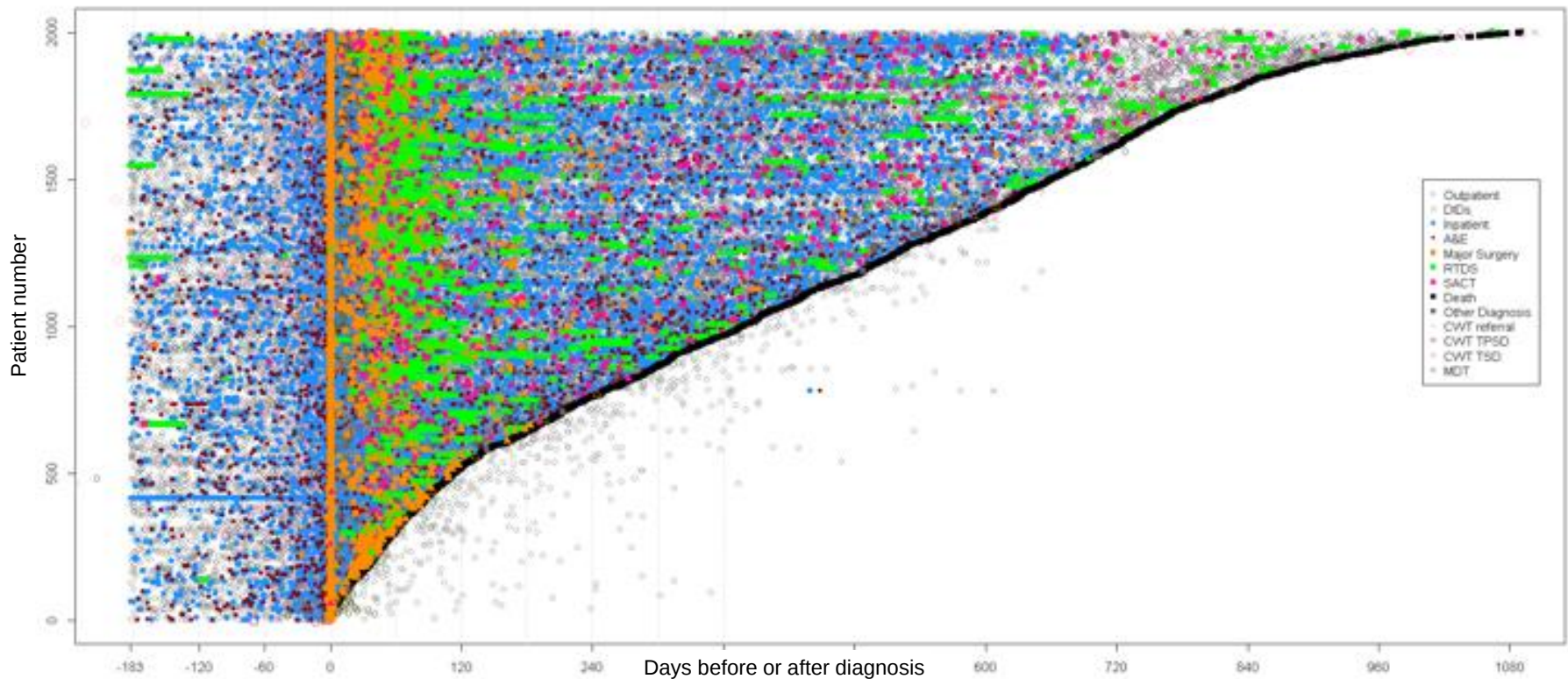
# Patients get given out-patient appointments



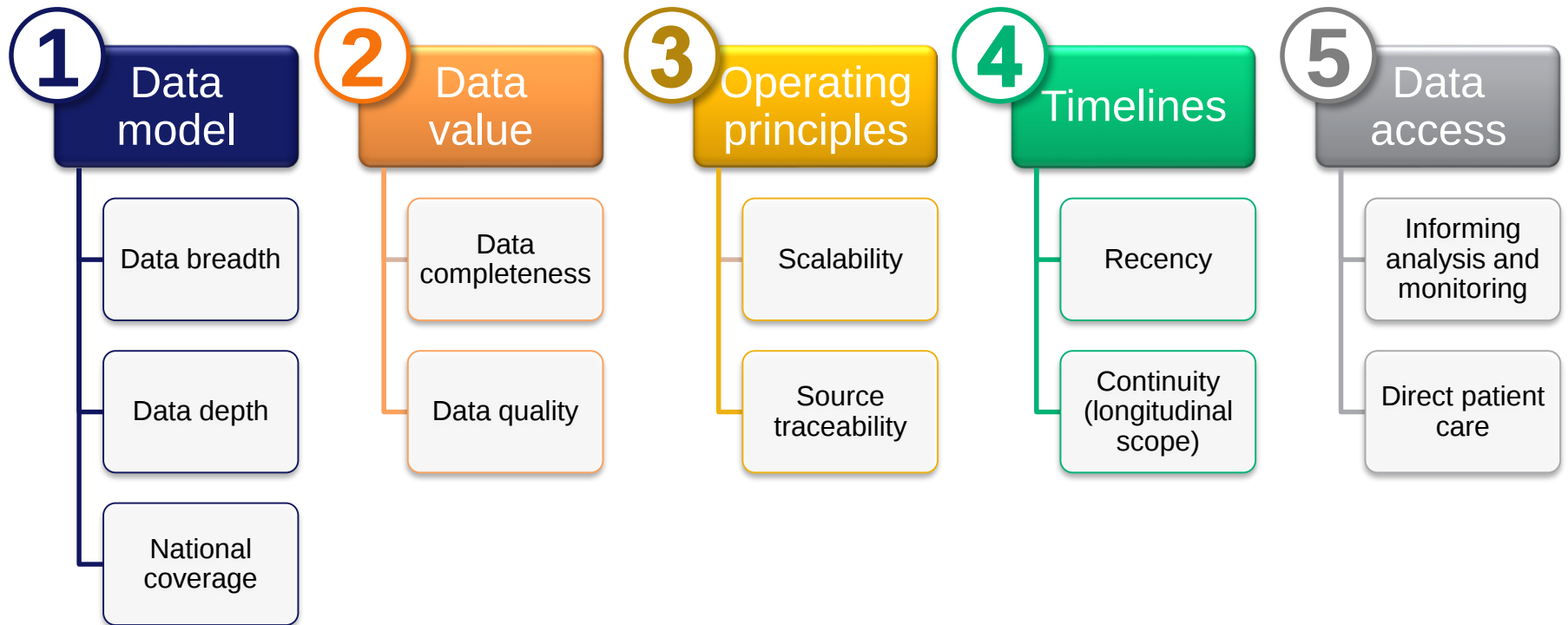
# Patients come to their out-patient appointments



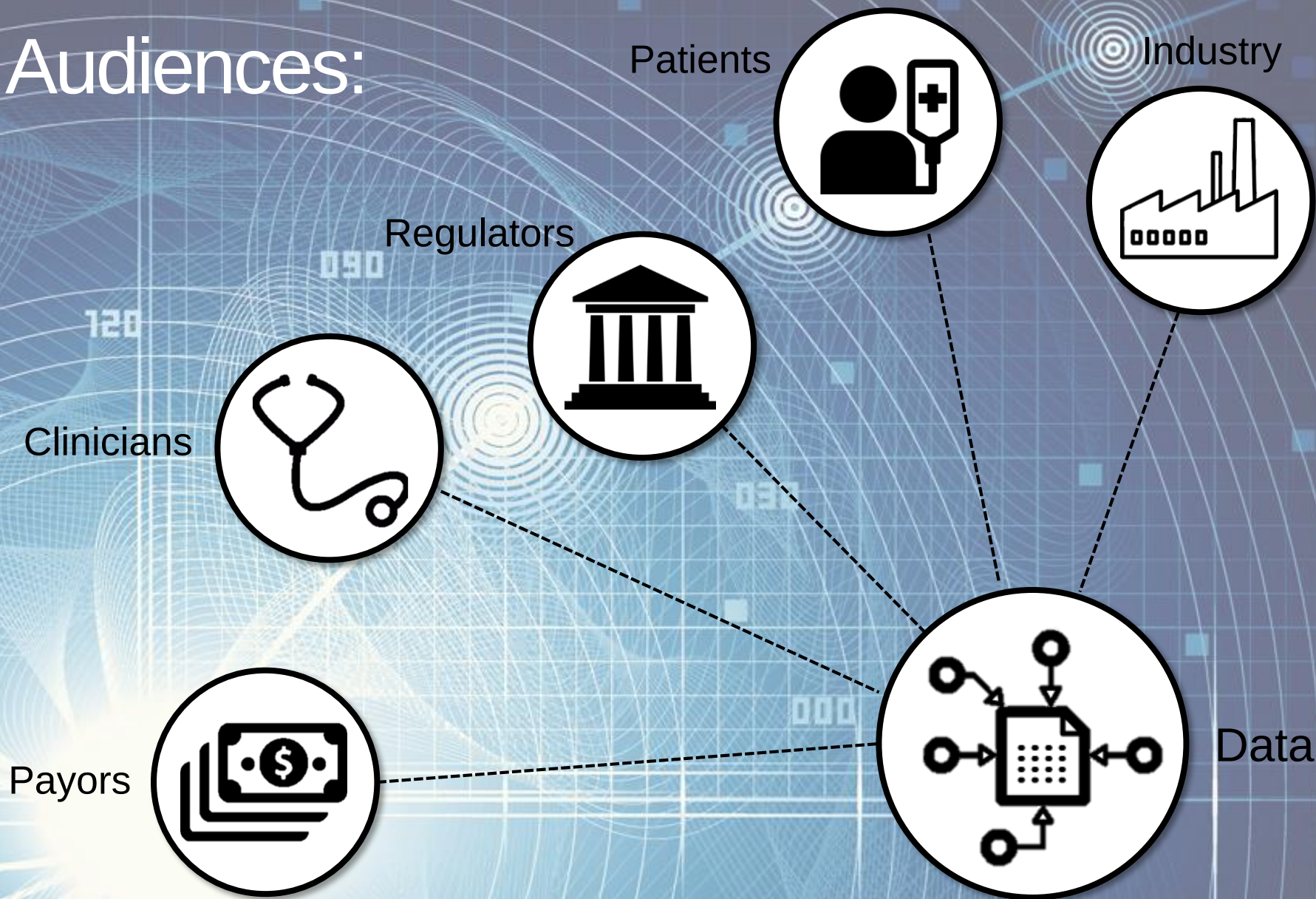
# Putting it all together ....



# Principles for cancer data collection:



# Audiences:



# Our responsibilities as a data custodian are two-fold



# Routes to access data:

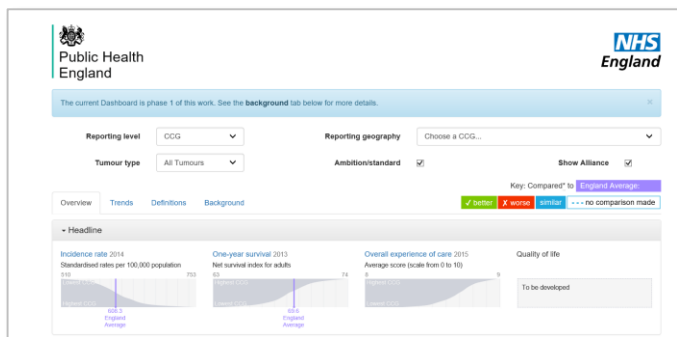


## NCRAS homepage

- Overview of NCRAS datasets and ongoing work
- Links to reports and all sources listed below

## Reports to data providers (CancerStats2)

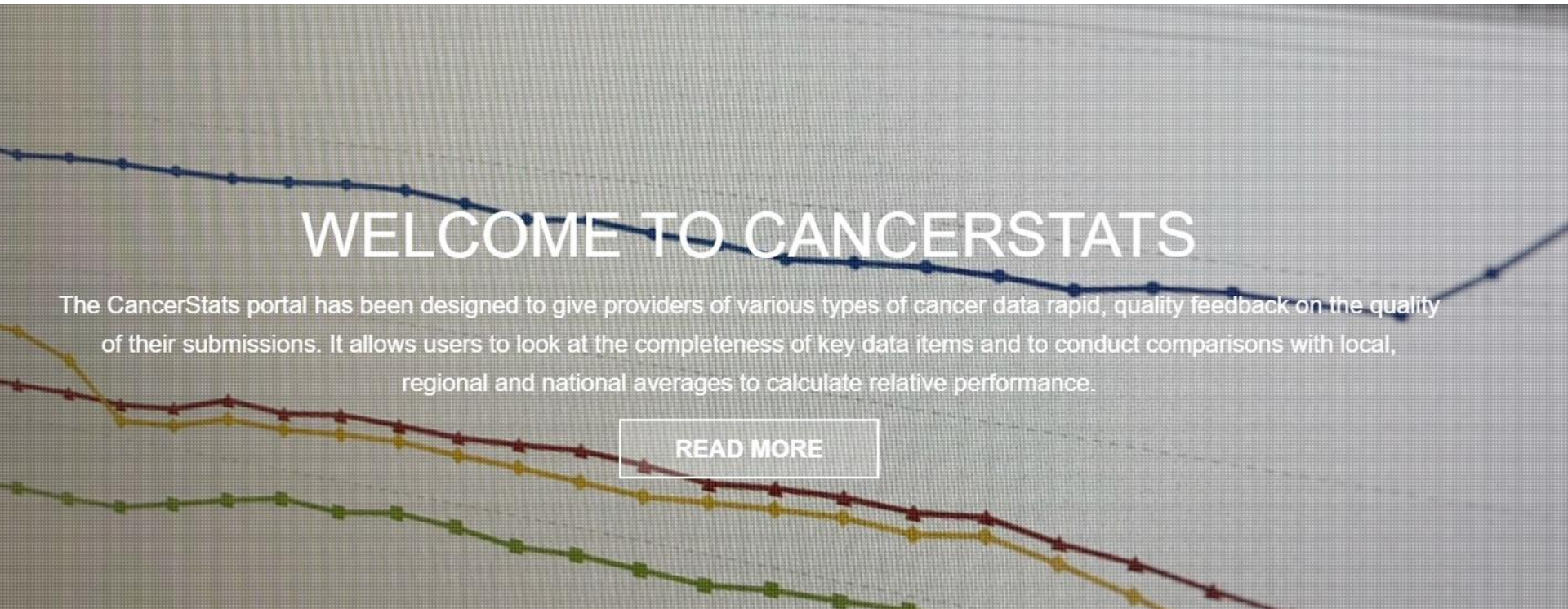
- Dynamic reporting portal for users within the NHS
- Includes reports on many NCRAS datasets: COSD, Radiotherapy (RTDS), SACT, Incidence/Mortality, National Audits, Cancer Alliance Reporting (CADEAS)



## Public reports (CancerData)

- Open access tool reporting routine incidence and mortality data, as well as hosting the National Cancer Taskforce Dashboard which includes a number of metrics
- Aggregate data released under Open Government Licence

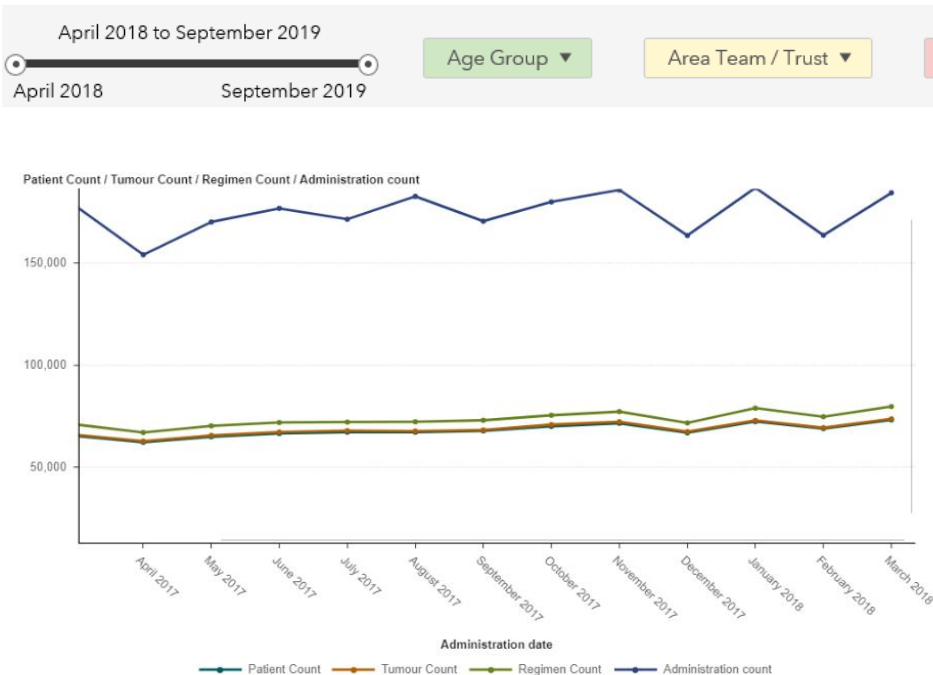
# Trust reports



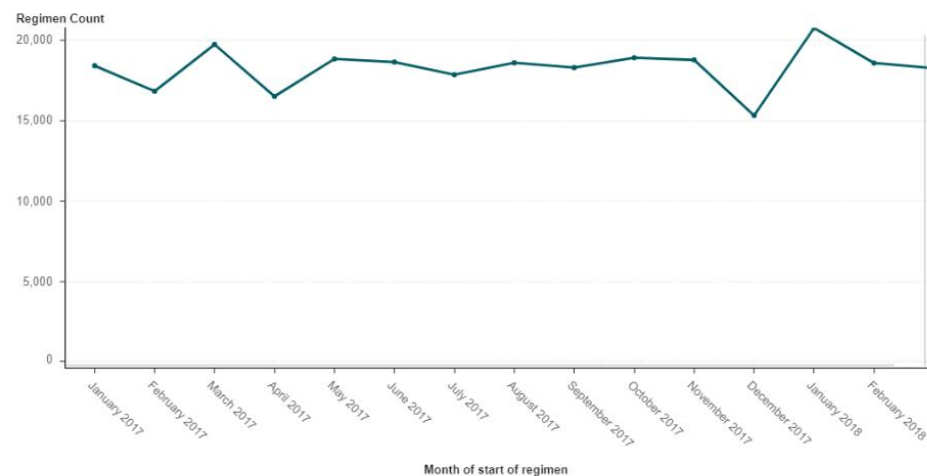
# Trust reports:

## SACT treatment activity

### Patient, tumour regimen and administration count by month



### New regimens by month



# Trust reports:

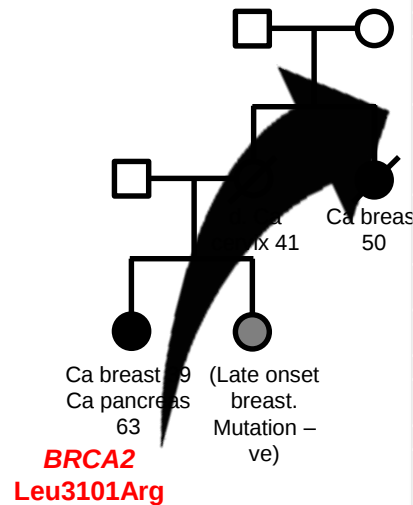
## SACT treatment activity

### Treatment activity by day of the week



# Direct patient care:

## Supporting variant interpretation by genomics labs



### National collation of evidence

#### Identifying variant in NCRAS data

| Sex | Ethnicity                  | Age at Dx | Tumour site                                                                         | Tumour details                                             | Family history / other notes                                      | Lab | Molecular Test Type | Test Scope    | Year of BRCA test |
|-----|----------------------------|-----------|-------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------|-----|---------------------|---------------|-------------------|
| F   | White British              | 36        | breast, R                                                                           | G3 IDC, TNBC                                               | Grandmother Hx Ca breast in 40s                                   | 1   | Diagnostic          | Full Screen   | 2017              |
| F   | White British              | 31<br>34  | humerus, R<br>breast, R                                                             | G2 chondrosarcoma<br>G3 IDC, ER+ PR+                       |                                                                   |     |                     |               |                   |
| F   | White British              | 34        | breast, R                                                                           | G2 LC, ER+ PR+                                             |                                                                   | 1   | Diagnostic          | Full Screen   | 2016              |
| F   | White British              | 26<br>41  | cervix<br>breast, L                                                                 | SCC<br>G3 adeno                                            |                                                                   |     |                     |               |                   |
| F   | White British              | 47        | caecum                                                                              | G3 adeno, MMR+, MSS, KRAS-wt                               |                                                                   | 2   | Diagnostic          | Full Screen   | 2012              |
| F   | White British              | 37        | breast                                                                              | G2 IDC.                                                    |                                                                   | 2   | Diagnostic          | Full Screen   | 2016              |
| F   | White British              | 45        | breast, R                                                                           | G3 IDC. ER- HER2 borderline IHC                            |                                                                   | 2   | Diagnostic          | Full Screen   | 2014              |
| F   | White British              | 67        | tubo-ovarium or primary peritoneal origin                                           | high grade serous cystadenocarcinoma                       | FH of breast and ovarian ca                                       | 2   | Diagnostic          | Full Screen   | 2012              |
| F   | White British              | 74        | oesophagus                                                                          | SCC.                                                       | Same maiden name as case above.                                   | 2   | Family Studies      | Targeted test | 2013              |
| F   | White British              | 33        | breast, R                                                                           | G2 IDC, ER+ PR+ HER2-                                      |                                                                   | 2   | Diagnostic          | Full Screen   | 2015              |
|     |                            |           |                                                                                     | (No match to NCRAS)                                        |                                                                   | 2   | Family Studies      | Targeted test | 2012              |
| F   | Not stated                 | 40        | breast, R                                                                           | G3 IDC                                                     |                                                                   | 3   | Diagnostic          | Full screen   | 2014              |
|     | Any Other White Background | 42<br>48  | breast, L<br>breast, R                                                              | DCIS<br>LCIS                                               |                                                                   |     |                     |               |                   |
| F   | White British              | 55        | breast, L                                                                           | G3 IDC, TNBC                                               |                                                                   | 3   | Predictive          | Targeted test | 2014              |
| F   | White British              | 43<br>47  | breast, R<br>skin                                                                   | G2 IDC<br>BCC                                              |                                                                   | 3   | Diagnostic          | Full screen   | 2016              |
| F   | White British              | 55        | ovary, bilateral                                                                    | high grade serous adenocarcinoma                           | FH ovarian/breast Ca. Diagnosed following risk reduction Lap BSO. | 3   | Diagnostic          | Full screen   | 2016              |
| F   | White British              | 75        | female genital tract, NOS                                                           | high grade serous cystadenocarcinoma                       | surname in common with case above                                 | 3   | Predictive          | Targeted test | 2016              |
| F   | White British              | 55        | breast, R                                                                           | G3 IDC. ER+, HER2-                                         | underwent risk reduction surgery. TLH BSO.                        | 3   | Predictive          | Targeted test | 2016              |
| F   | White British              | 51<br>60  | probably peritoneal; possibly left fallopian tube or ovary endometrium<br>breast, L | high-grade serous carcinoma<br>G1 adenocarcinoma<br>G3 IDC |                                                                   | 4   | Diagnostic          | Full Screen   | 2015              |
| F   | White British              | 68        | ovary                                                                               | high grade serous carcinoma                                |                                                                   | 5   | Diagnostic          | Full screen   | 2013              |
| F   | Unknown                    | 71        | breast, L                                                                           | G3 IDC.                                                    |                                                                   | 6   | Diagnostic          | Full screen   | 2009              |

# Public reports

## Incidence and survival statistics



Public Health  
England



The current Dashboard is phase 1 of this work. See the **background** tab below for more details.

Reporting level

CCG

Reporting geography

Choose a CCG...

Tumour type

All Tumours

Ambition/standard



Show Alliance



Key: Compared\* to **England Average:**

Overview

Trends

Definitions

Background

✓ better

✗ worse

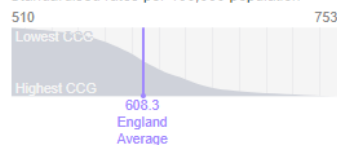
similar

--- no comparison made

### ▼ Headline

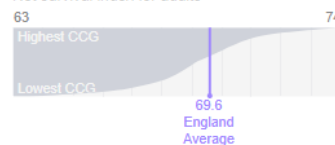
#### Incidence rate 2014

Standardised rates per 100,000 population



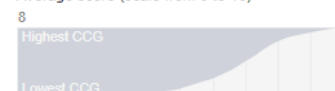
#### One-year survival 2013

Net survival index for adults



#### Overall experience of care 2015

Average score (scale from 0 to 10)



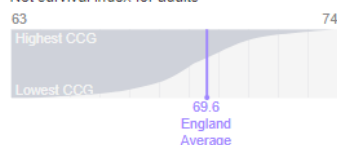
#### Quality of life

To be developed

### ▼ Survival

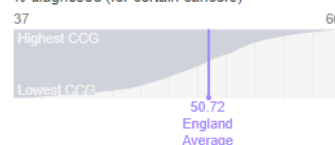
#### One-year survival 2013

Net survival index for adults



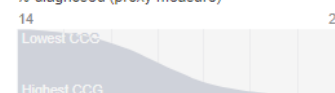
#### Cancers diagnosed at stage 1 or 2 2014-Q4

% diagnosed (for certain cancers)



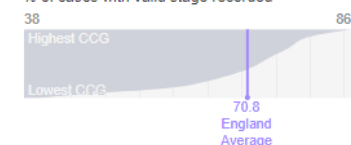
#### Cancers diagnosed through emergency presentation FY2016-Q1

% diagnosed (proxy measure)



#### Cancers staged 2013

% of cases with valid stage recorded



# Routes to access data:

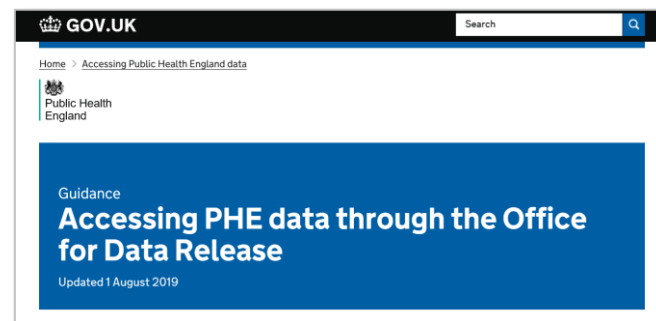


## Ad hoc data requests (NCRAS enquiries)

- Responds to routine enquiries for aggregate data requiring <0.5day analytical work
- Data release under Open Government Licence

## Direct data access (Office for Data Release)

- Responds to requests to access identifiable or de-personalised data PHE data for secondary purposes - which could not be openly released
- Data can be:
  - individual-level
  - aggregate-level
- Data releases reported through the Data Release Register



# Office for Data Release: Data Release Register

## Content:

- Applicant's organisation
- Applicant's organisation type
- Technical summary
- **Lay summary overview**
- **Why is this project being conducted?**
- **How will the data be used?**
- **Anticipated public health benefit(s) and/or impact of conducting the project**
- Funders and collaborators
- Data source
- Type of data
- **Legal basis for the release of personally identifiable data**
- National data opt-out programme applied
- Date of release



# Routes to access data:

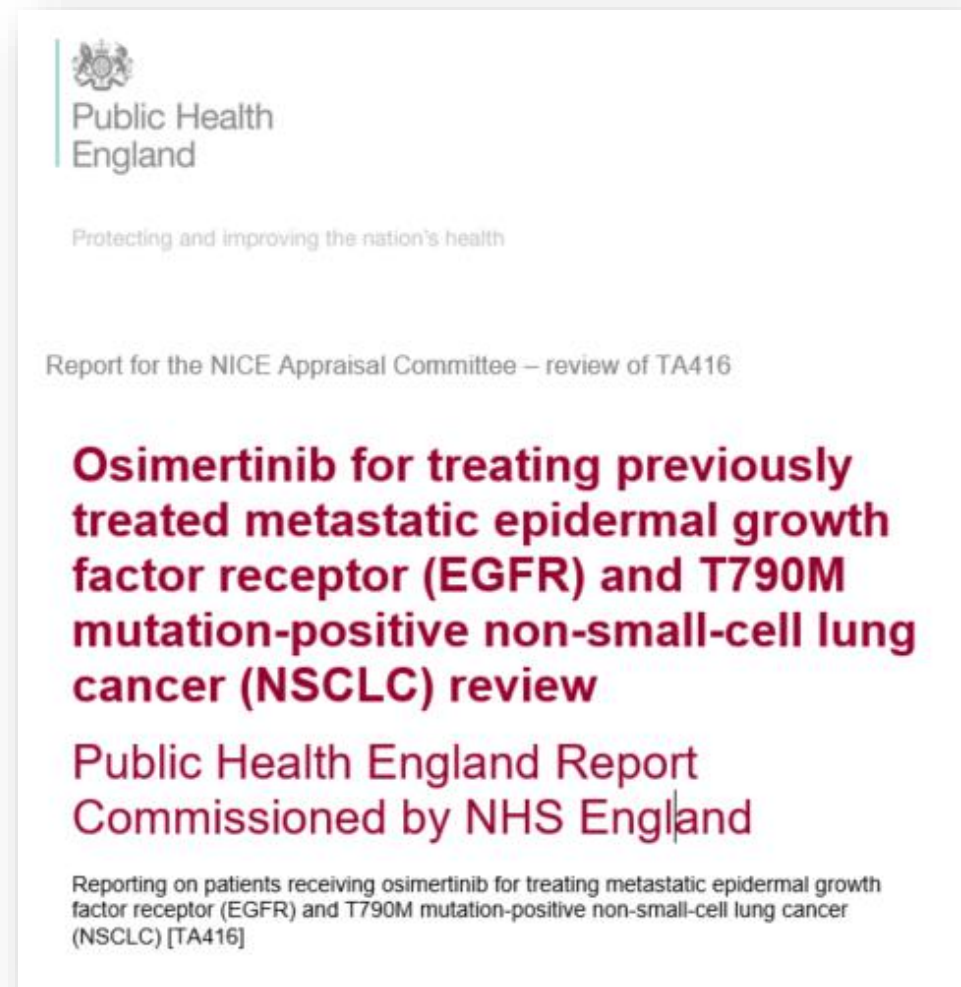


## Analytical partnerships

- Partner analysts embedded in NCRAS to conduct projects which align with PHE's overall objectives

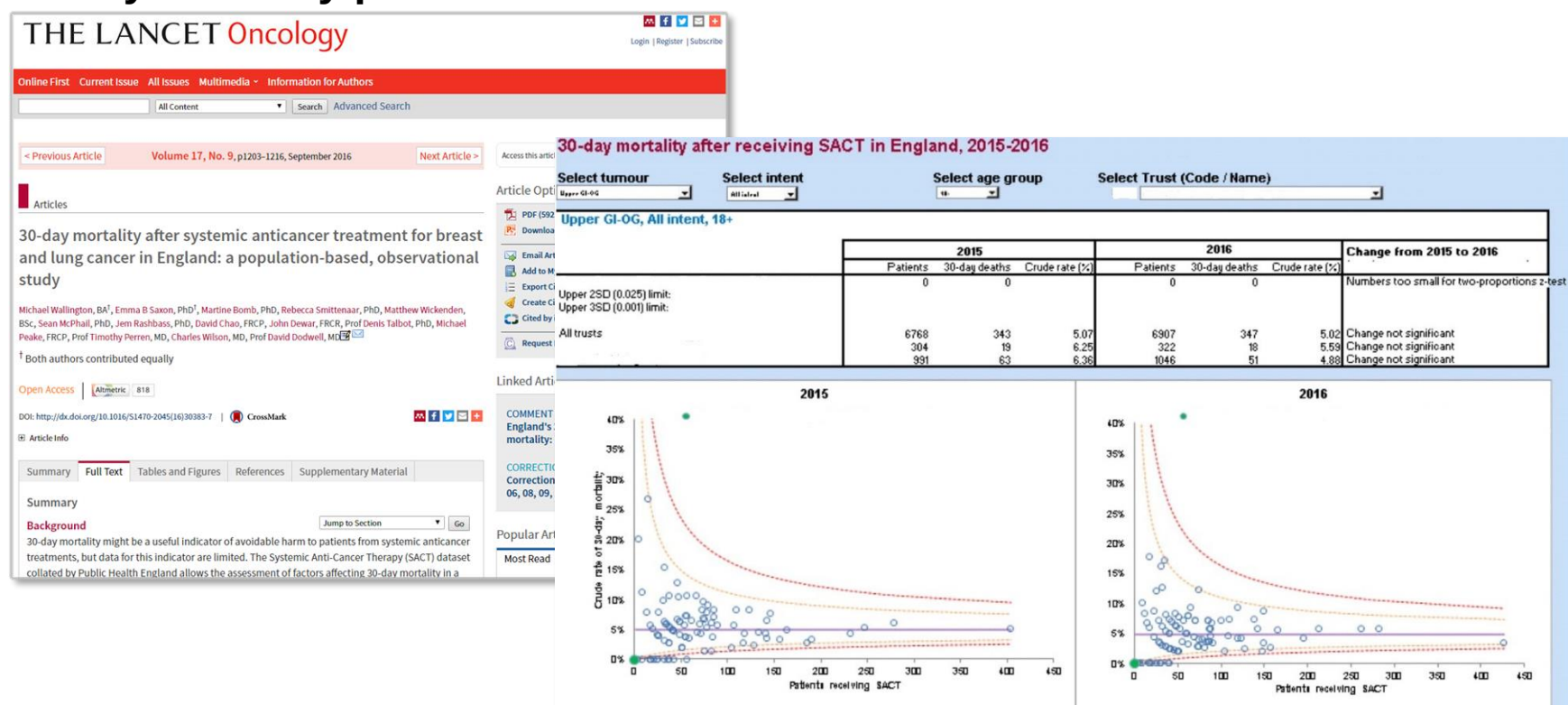
# Reports to inform HTA appraisal:

## The Cancer Drugs Fund Reporting to NICE



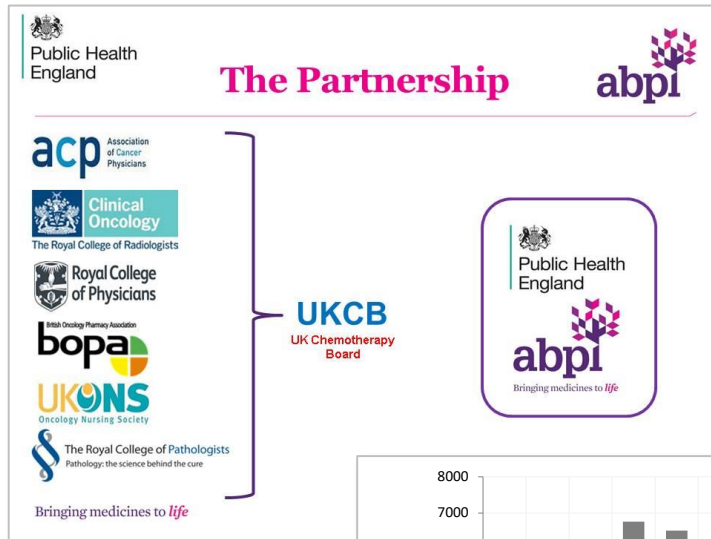
# Analysis outputs

## 30 day mortality post SACT

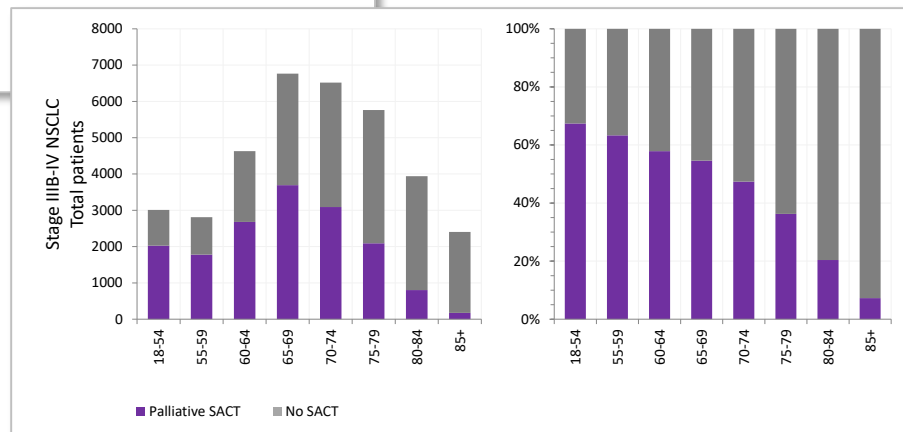


# Analysis outputs

## Age is not a barrier to chemotherapy



- Does age independently predict access to SACT?
- Is there variable prescribing of systemic therapy particularly to the elderly?



# What I will discuss:

1

The National Cancer Registration and Analysis Service (NCRAS) England

- A brief background

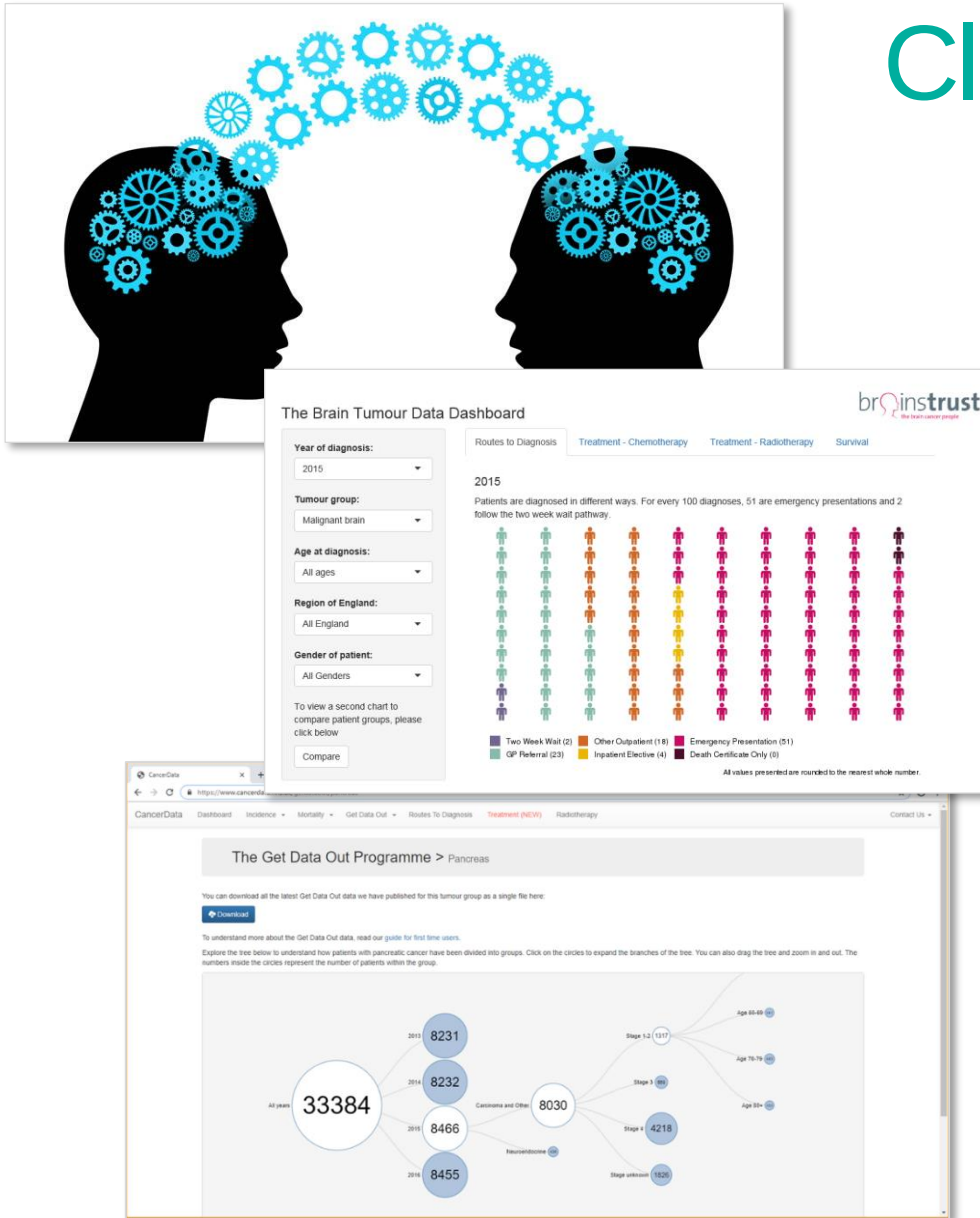
2

NCRAS principles for data collection

- How does this facilitate monitoring of tumour agnostic treatments?

# Closing the loop:

- Collecting high quality data relies on co-operation from many individuals across the healthcare infrastructure
- We often focus on getting the data in
- Must consider how you will get data back out – particularly to providers





Public Health  
England

Protecting and improving the nation's health

# Any questions?

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