Systemic Anti-Cancer Therapy Information Standard and Chemotherapy Dataset

National Cancer Action Team
Part of the National Cancer Programme

NHS

NCIN
national cancer intelligence network
Using information to improve quality & choice

Improving Outcomes: A Strategy for Cancer

January 2011

6.19.....

- to improve the collection and publication of data on chemotherapy activity, outcomes and costs, the chemotherapy dataset will be introduced in April 2012 and this should provide commissioners, providers and others with invaluable information; and
- to enhance the information available to patients on the benefits and toxicities of treatment

SACT development background

- Cancer 10% NHS budget
- Chemotherapy £100,000,000+ annually
- Who has what, where, when and why?
- What does it cost and what are the benefits?
- NAO report – critical
  - Chemotherapy (SACT) dataset
  - National regimen list
  - Payments by results

SACT development strategy

- National implementation group – all disciplines
- Develop a dataset which is rich enough to be useful but small/generic enough to be collectable from all providers for all tumour sites
- Capable of collecting data on all current and predictable management
- Robust enough to achieve implementation
- Not intended to replace audit or research

SACT development strategy 2

Each field had to pass:

- Is it collectable electronically?
- Is it applicable to most tumour sites?
- Will the content be consistent?
- What would you do with it that justifies national collection?
- Can it linked meaningfully to other datasets?

Systemic Anti-Cancer Therapy Dataset [SACT]

- Includes all drugs given with an anti-cancer affect
  - Cytotoxics
  - Drugs affecting the immune response
  - Hormones and hormone antagonists
  - Bisphosphonates

Dataset coverage

- Solid tumours
- Haematological malignancy
- Paediatric tumours
- Inpatient, daycase, outpatient and community settings

- Excludes non cancer chemotherapy

Definitions

- **Programme**

  Pre-planned sequence of treatment with a purpose

- **Regimen**

  A group of drugs given in a specific way

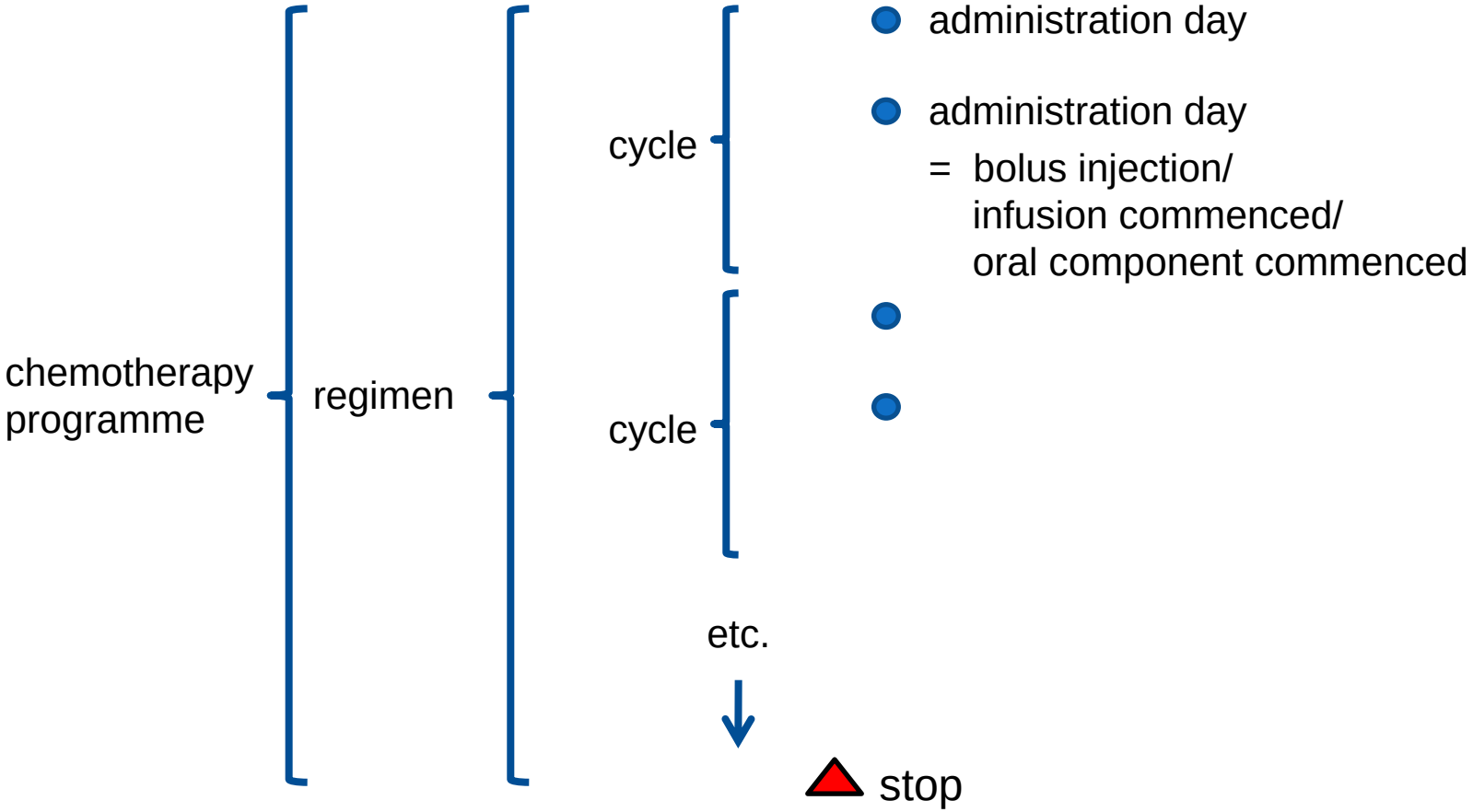
- **Cycle**

  Repeating elements within a regimen

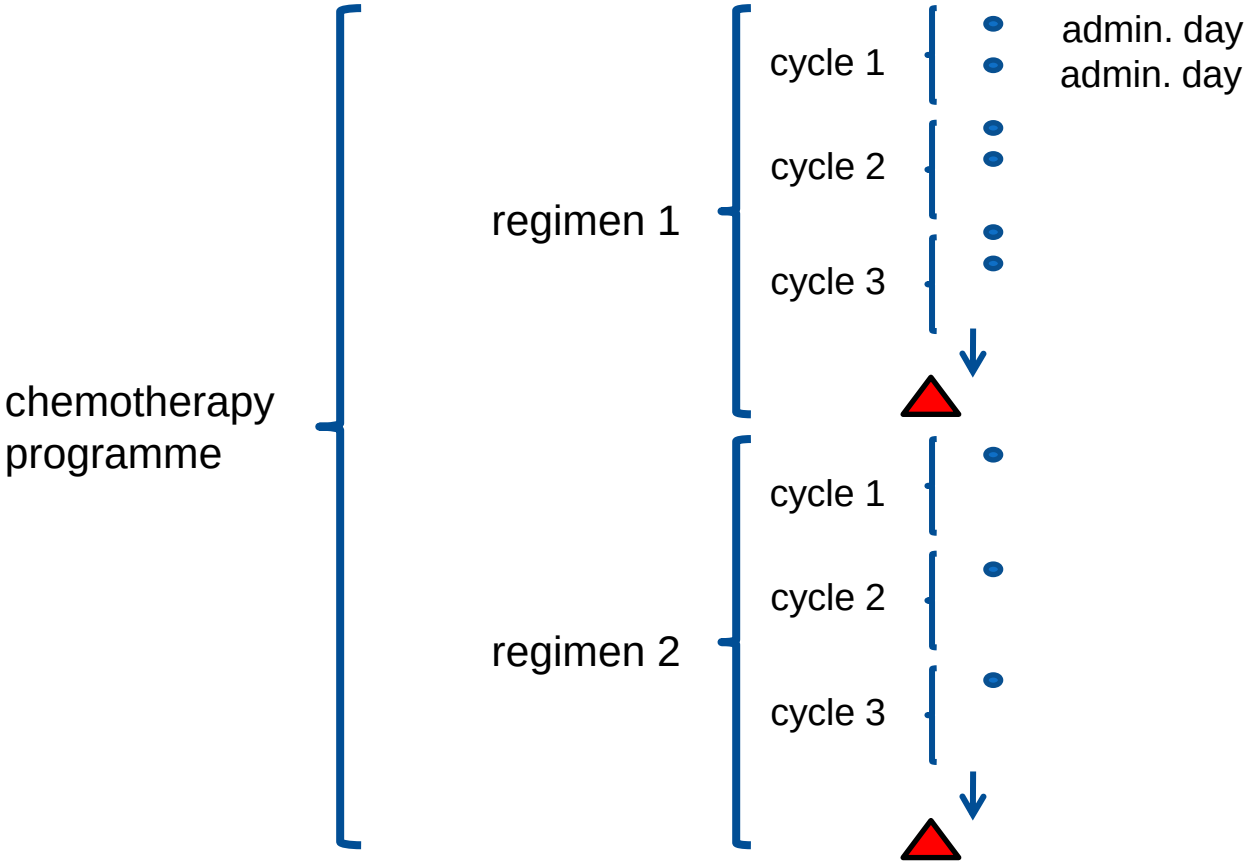
- **Administration date**

Note the term “course” is not used

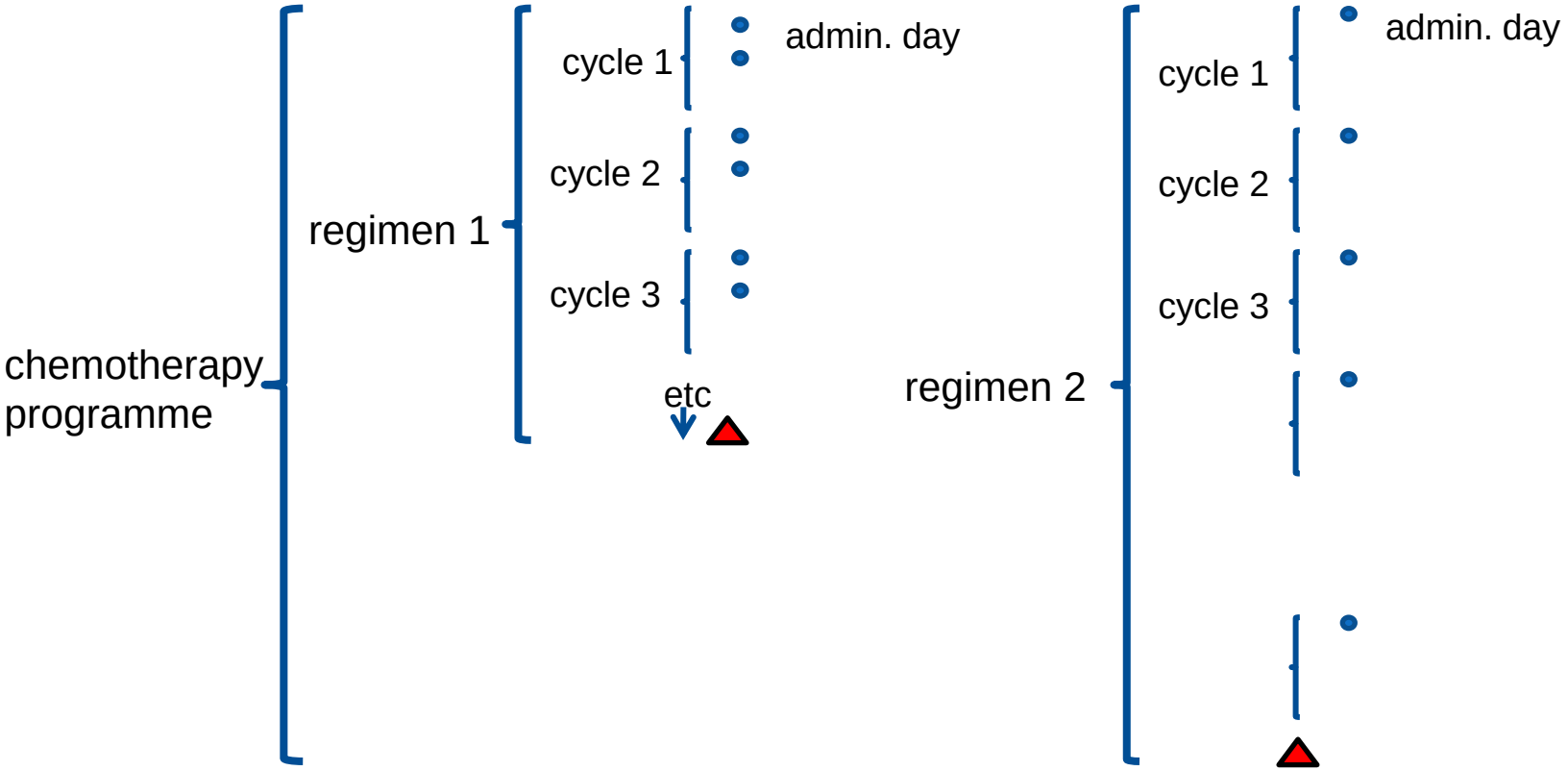
Dataset structure - 1

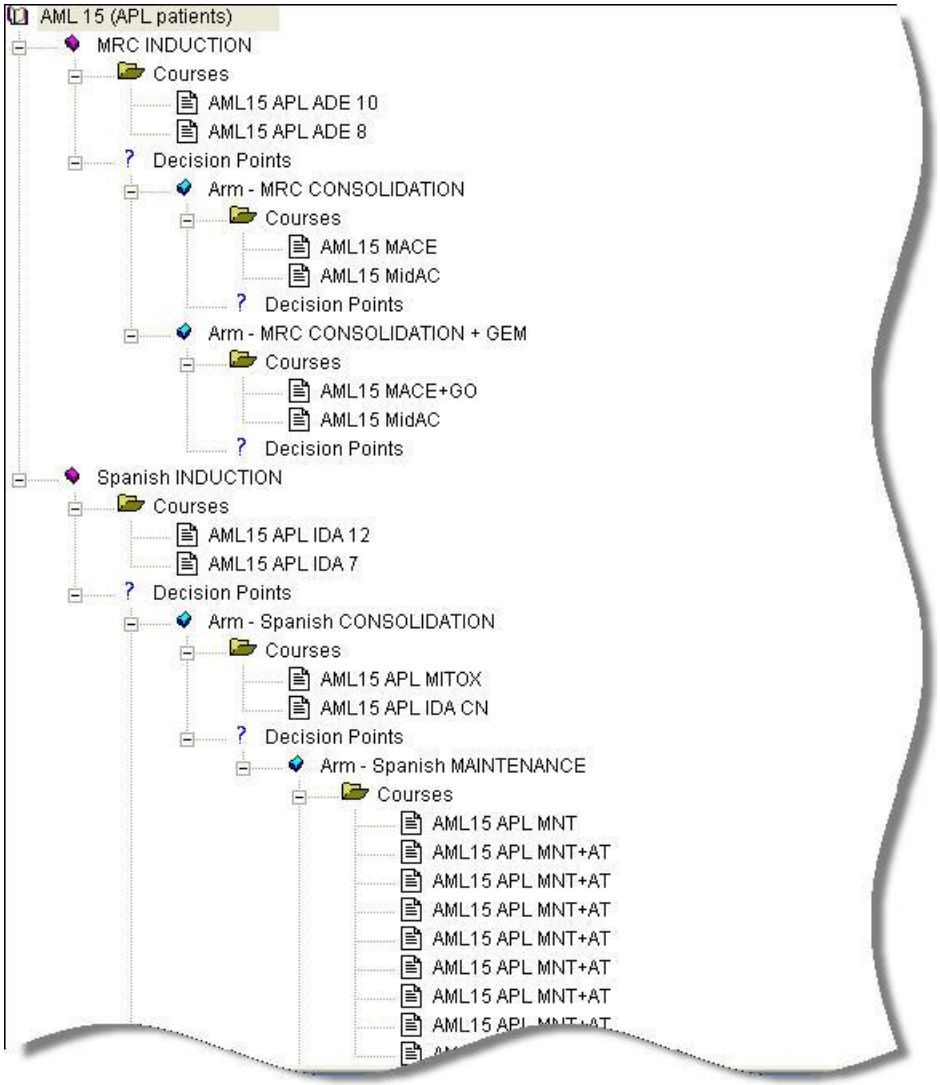


Dataset structure - 2



Dataset structure - 3





A typical protocol tree view of a complex treatment protocol with decison points.

Information Standards Board [ISB]

All NHS datasets must go through this process which comprises:

- Requirement Stage
  - Definitional testing
- Draft Stage
  - Piloting
- Full Stage
- Issue of an ISN to the NHS

Where does SACT link?

- National Chemotherapy Implementation Group (NCIG)
- Chemotherapy Information Group co-ordinates governance, management and maintenance of SACT dataset
- NCIN Site Specific Clinical Reference Groups (SSCRGs)
- Commissioning link to Payment by Results (PbR)

Where does SACT fit?

- The data will flow from e-prescribing and other hospital systems
- The dataset will be part of the NCIN matrix of interoperable datasets
- A national chemotherapy regimen list will be common to all chemotherapy collection

Data collection and analysis

- The Chemotherapy Intelligence Unit (CIU), has been established which is based at Oxford
- Data will be sent from trusts on a monthly basis and initial quality checks will be carried out before being incorporated
- A suite of routine analyses and reporting is being developed and will be issued as soon as feasible

Implementation

SACT Implementation 1

The SACT dataset is divided into six sections:

1. Demographics – including commissioner and provider initiating treatment
2. Clinical status
3. Programme and regimen
4. Cycle
5. Drug details
6. Outcome

SACT Implementation 2

Current situation	Sept 2011 – April 2012	April 2012 – Sept 2012	Sept 2012 – April 2013	April 2013 – Sept 2013	Sept 2013 – April 2014	From April 2014 onwards
Trusts with fully implemented e-prescribing systems	Trial downloads (voluntary basis)	Start full downloads	Continue full downloads	Continue full downloads	Continue full downloads	Continue full downloads
Trusts with partially implemented e-prescribing systems	Preparation	Start partial downloads	Start full downloads	Continue full downloads	Continue full downloads	Continue full downloads
Electronic clinical system but no e-prescribing		Preparation	Start partial downloads, dataset sections 1-4 & 6	Continue partial downloads	Continue partial downloads	Start full downloads
Basic hospital systems only		Preparation	Start partial downloads, dataset sections 1-3 & 6	Continue partial downloads	Continue partial downloads	Start full downloads

SACT Implementation 3

NHS Trusts with fully implemented e-prescribing systems

These trusts will be required to submit data in all clinical areas by **April 2012**. That includes all inpatient, outpatient and community services for all solid tumours, haematological and paediatric malignancy.

NHS Trusts with partially implemented e-prescribing systems i.e. not all hospital sites or not all tumour types. These trusts will be required to submit data in all clinical areas that have e-prescribing implemented by **April 2012.** They will be expected to develop full coverage of all tumour sites and services by **September 2012**.

SACT Implementation 4

Electronic clinical systems but no e-prescribing
Systems capable of capturing some information on chemotherapy. These trusts will be required to submit partial data from **September 2012**. They will be expected to develop the functionality to submit full downloads by **April 2014**.

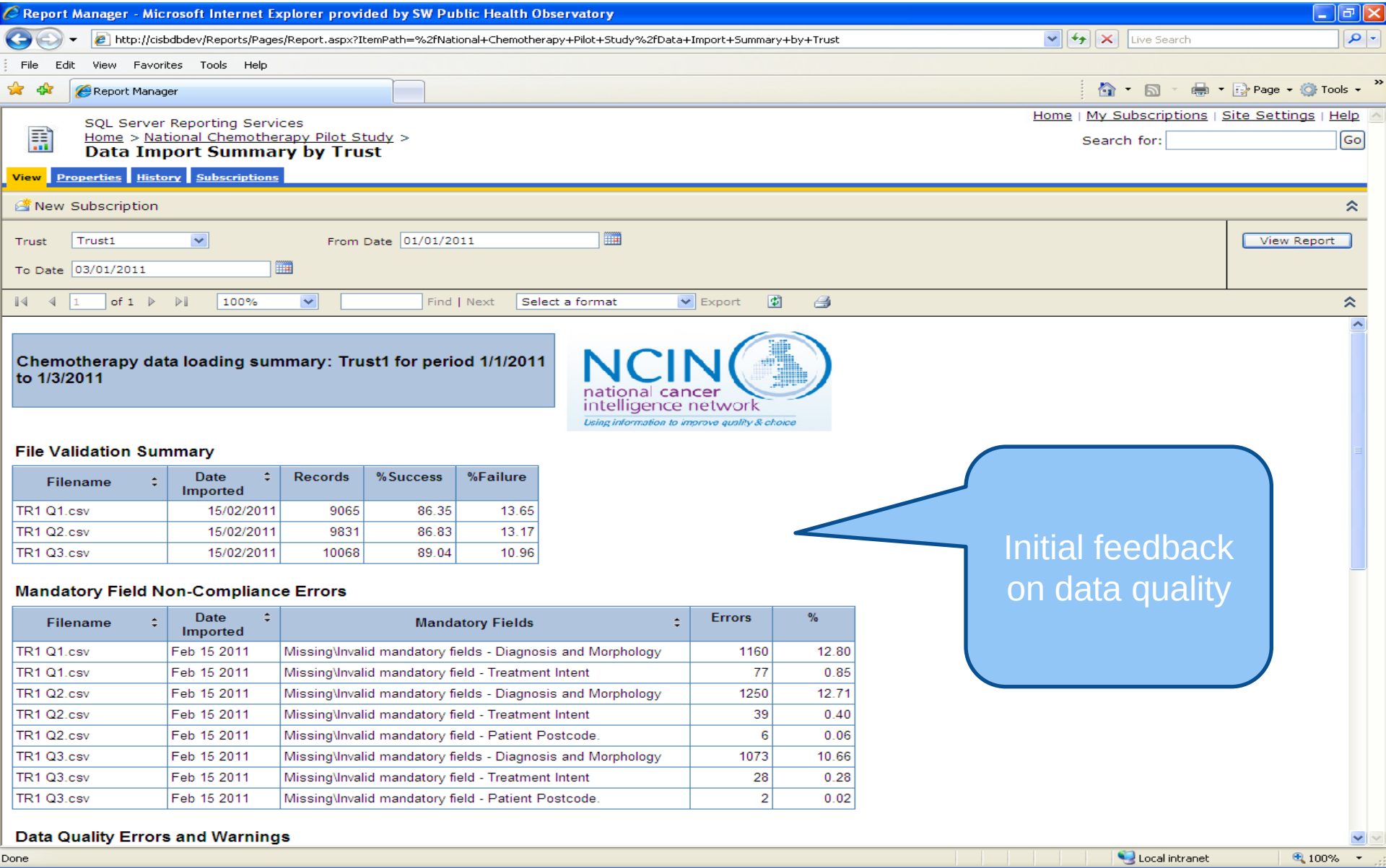
Basic hospital systems only
Systems capable of recording demographics, cancer waiting times and commissioning data. These trusts will be required to submit partial data from **September 2012.** They will be expected to develop the functionality to submit full downloads by **April 2014**.

SACT Database design

The main data relationships are as follows:

- Each Patient can have more than one organisation (hospital) during the course of the chemotherapy treatment
- Each Patient can have one or more diagnoses (tumours)
- Each Patient can have one or more programmes (generated in the database)
- Each programme can have one or more regimens
- Each Regimen will have associated Outcomes
- Each Regimen can have more than one cycle
- Each Cycle can have one or more Administration days
- Each Administration day will have one or more Drug details

Provider dashboard reporting



Analysis

Provisional initial analyses

- Based on mandatory fields
- Overall analyses i.e. based on all data received from all trusts sending monthly returns
  - Regimens commenced by diagnosis group
  - Cycles given by diagnosis and regimen
  - Age spectrum of cycles given by diagnosis
- Analyses by provider
  - Regimens commenced by diagnosis group
  - Cycles given by diagnosis and regimen

Second phase analyses

- Analysis by intent
- Analysis by performance status ? age banded
- Regimen summaries – reasons for stopping and regimen modification
- Early deaths following treatment
- Clinical trial entry

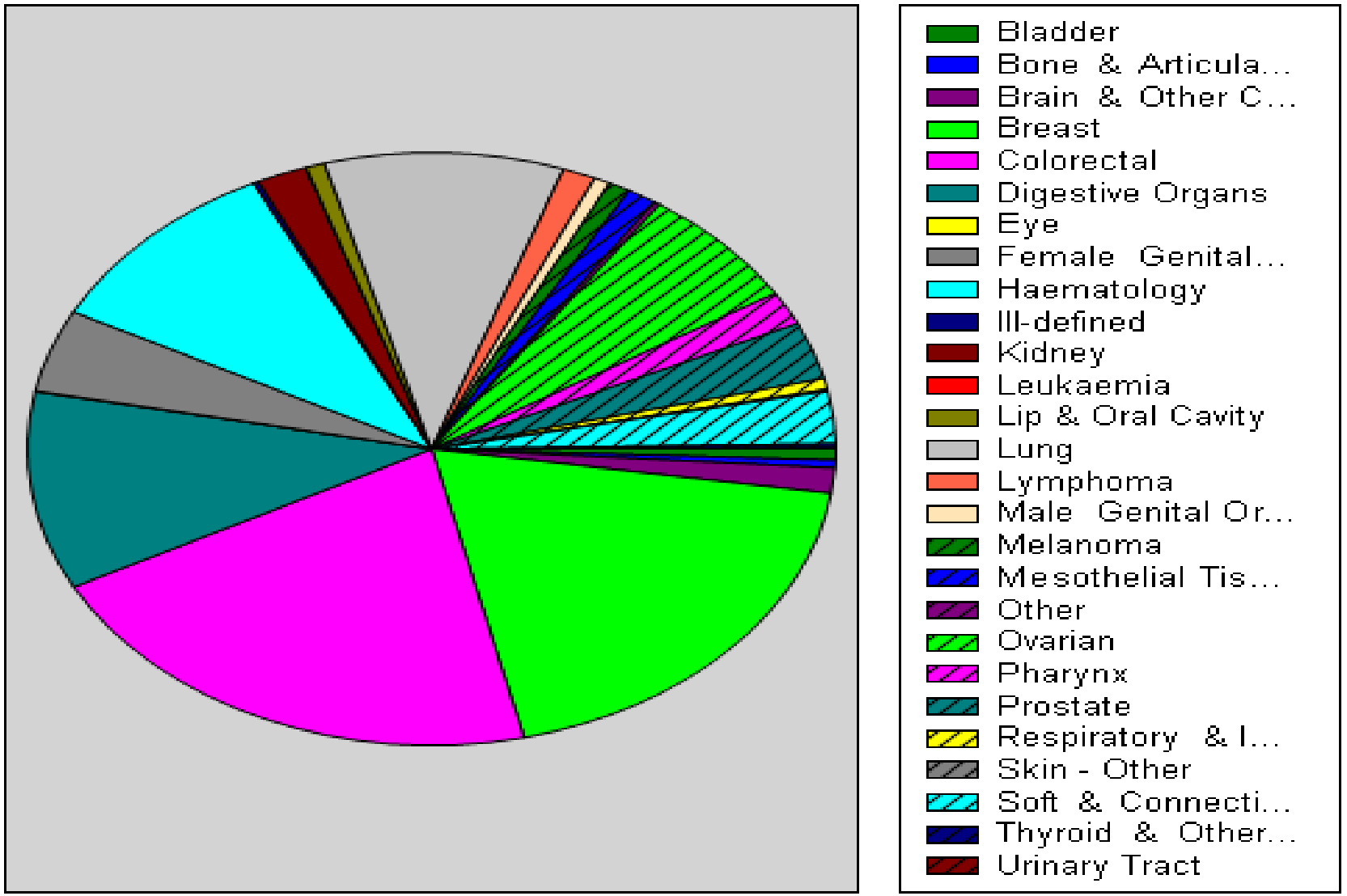
Population based analysis

Once returns are being received from all providers, population based analyses are possible and can be linked to incidence and other demographics e.g.

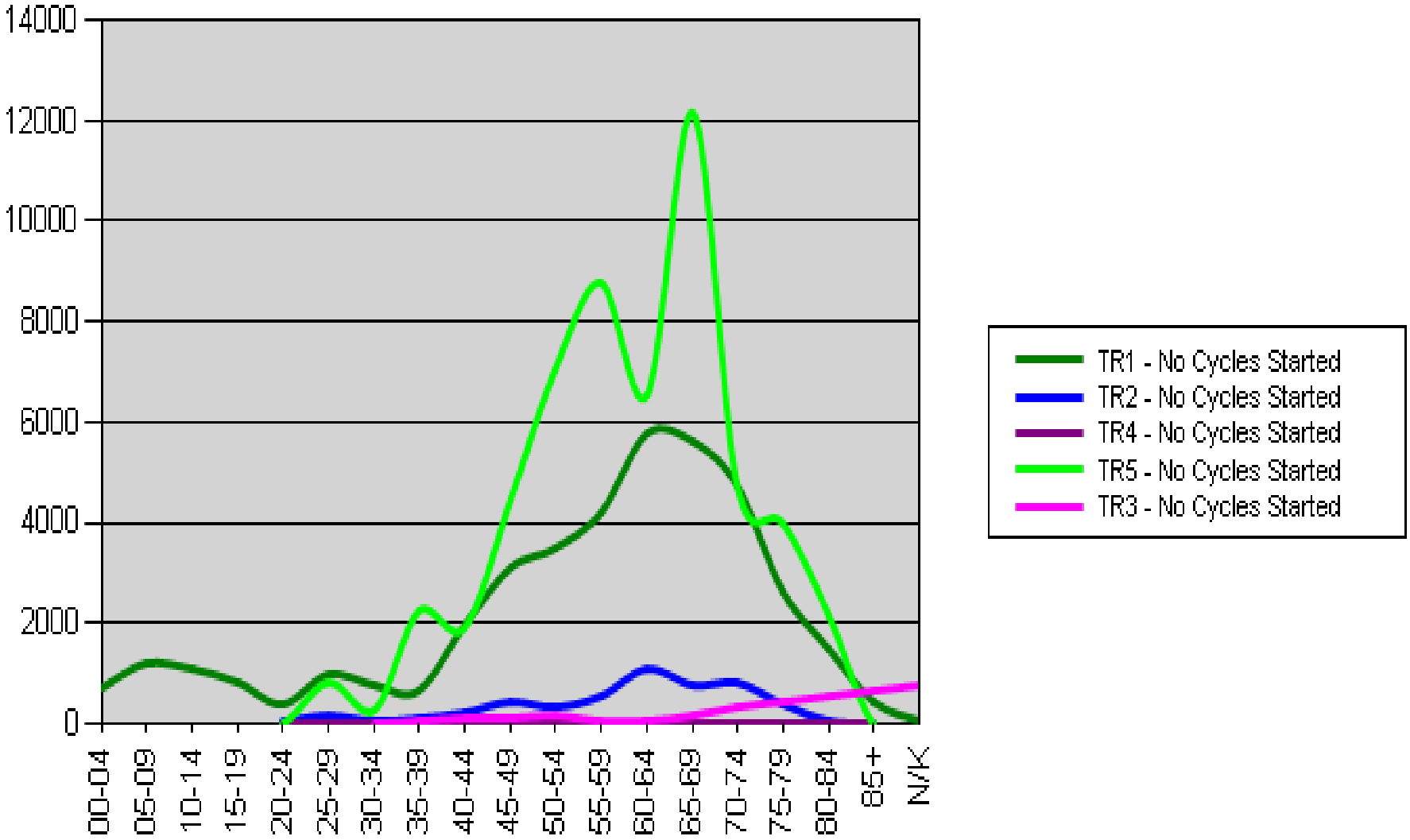
- Treatment rates per 100,000 population by diagnosis (cycles given or regimens started)
- Treatment rates by deprivation, ethnicity, etc
- Treatment completion
- Early deaths

Examples from pilot study

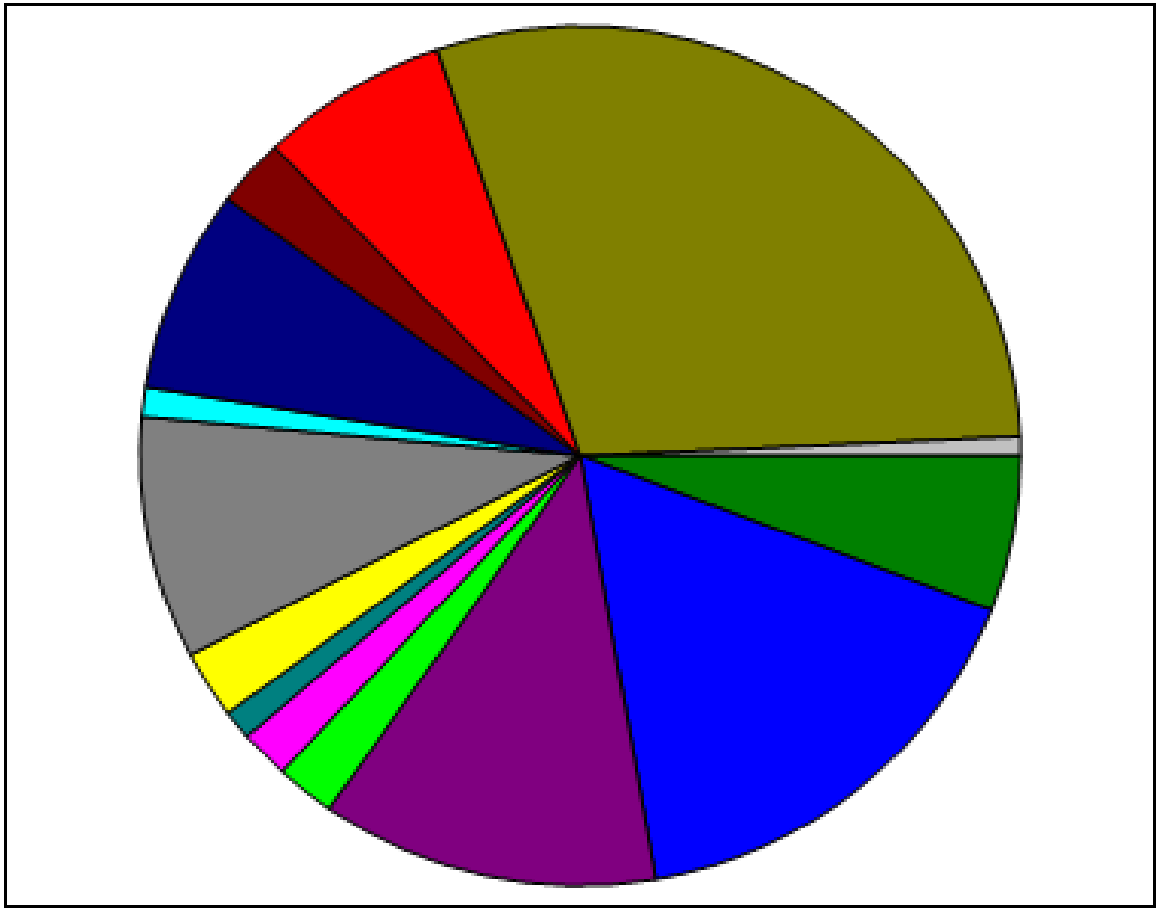
Cycles given by tumour group



Cycles given by patient age band

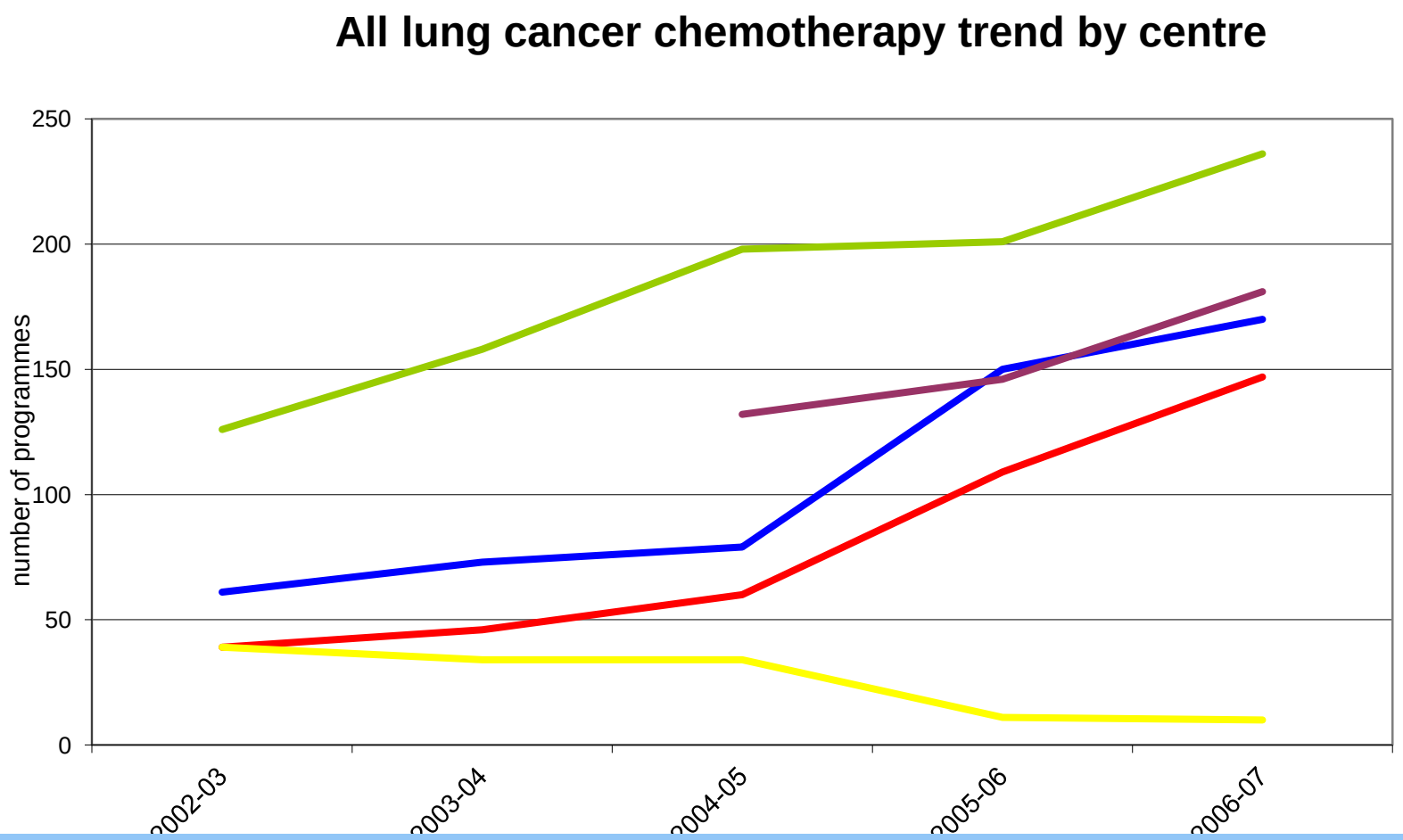


Ovarian chemotherapy regimens delivered - by grouped regimen

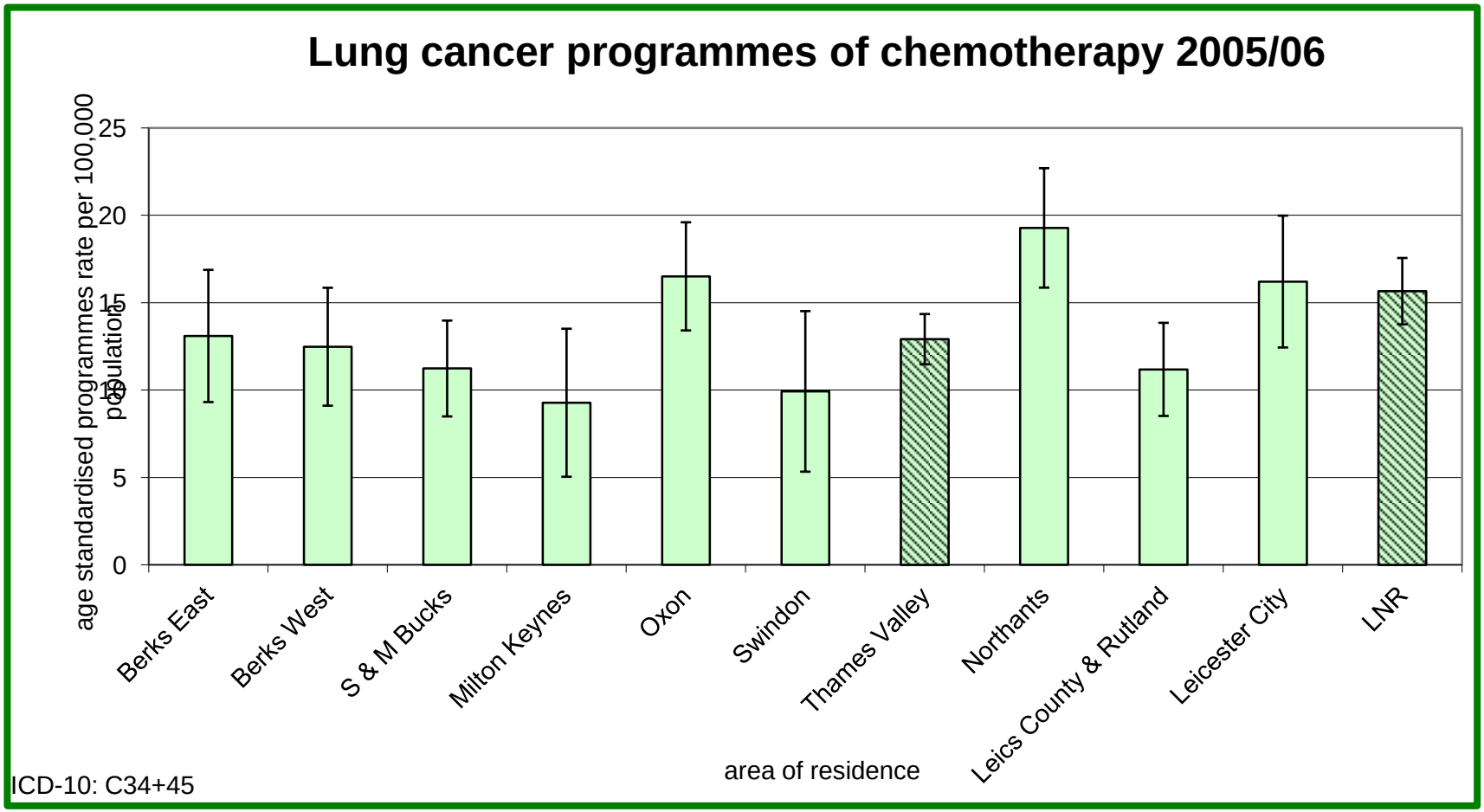


Examples from CIA programme

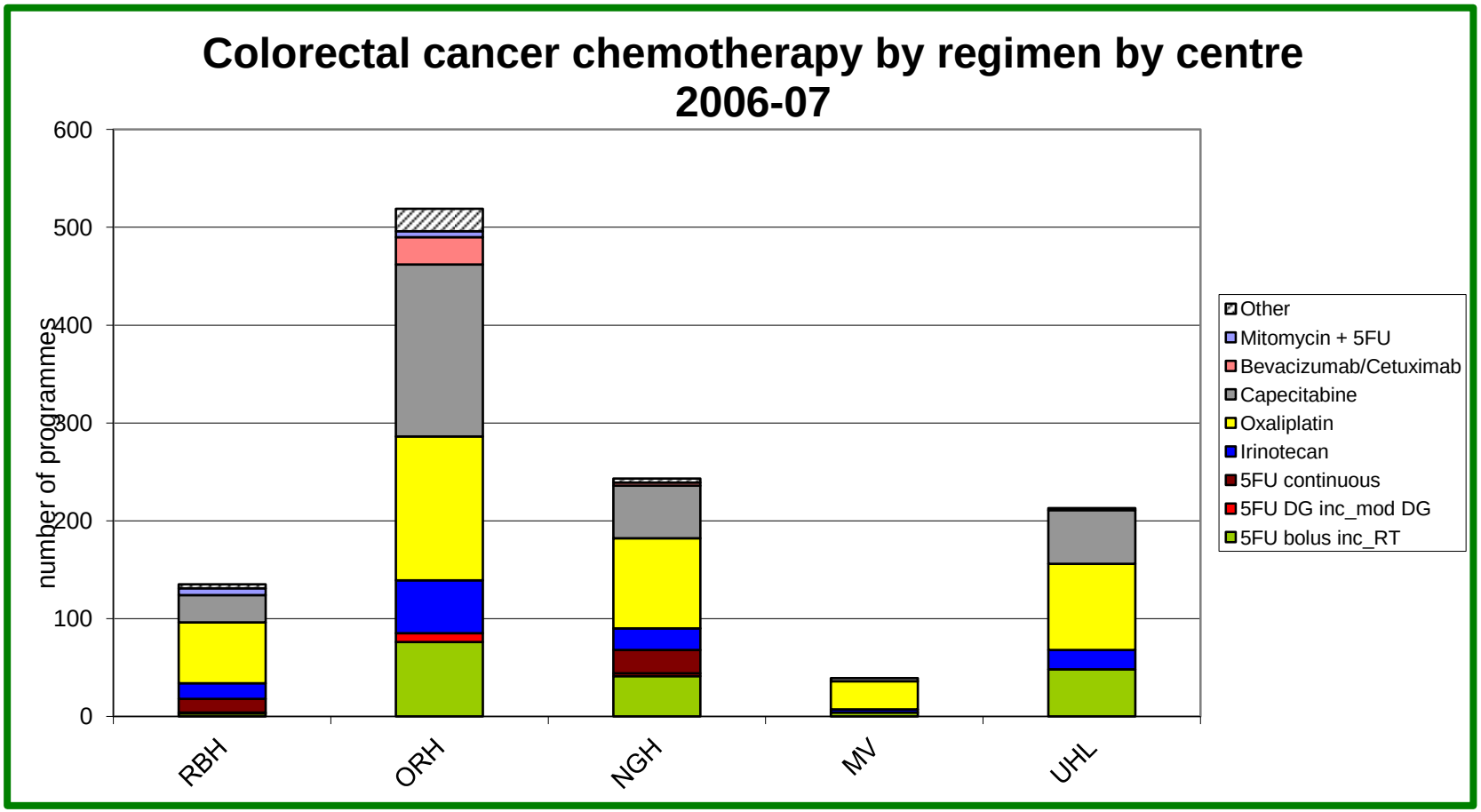
Lung chemotherapy trend



Rates per PCT

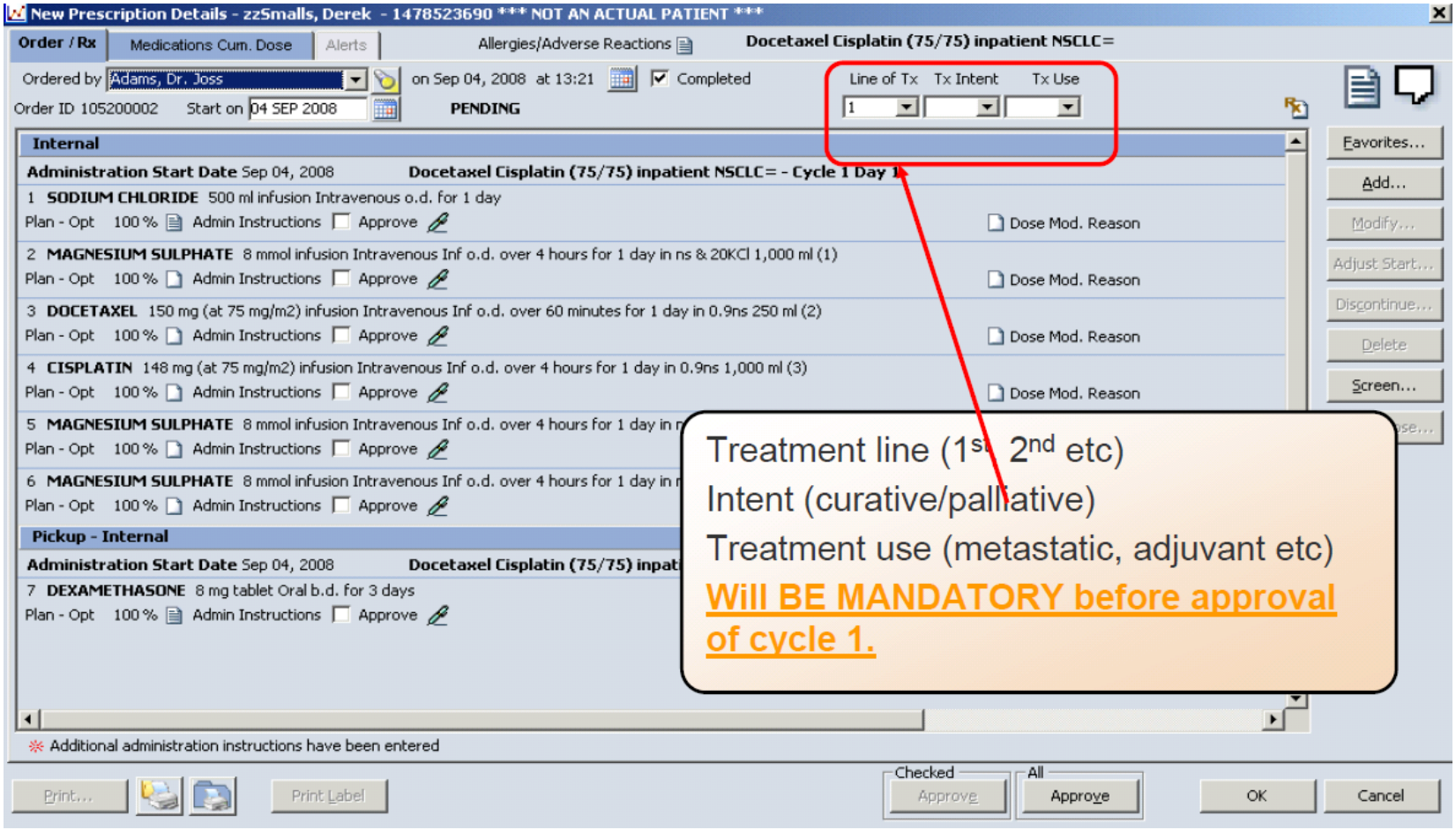


Regimens commenced by trust

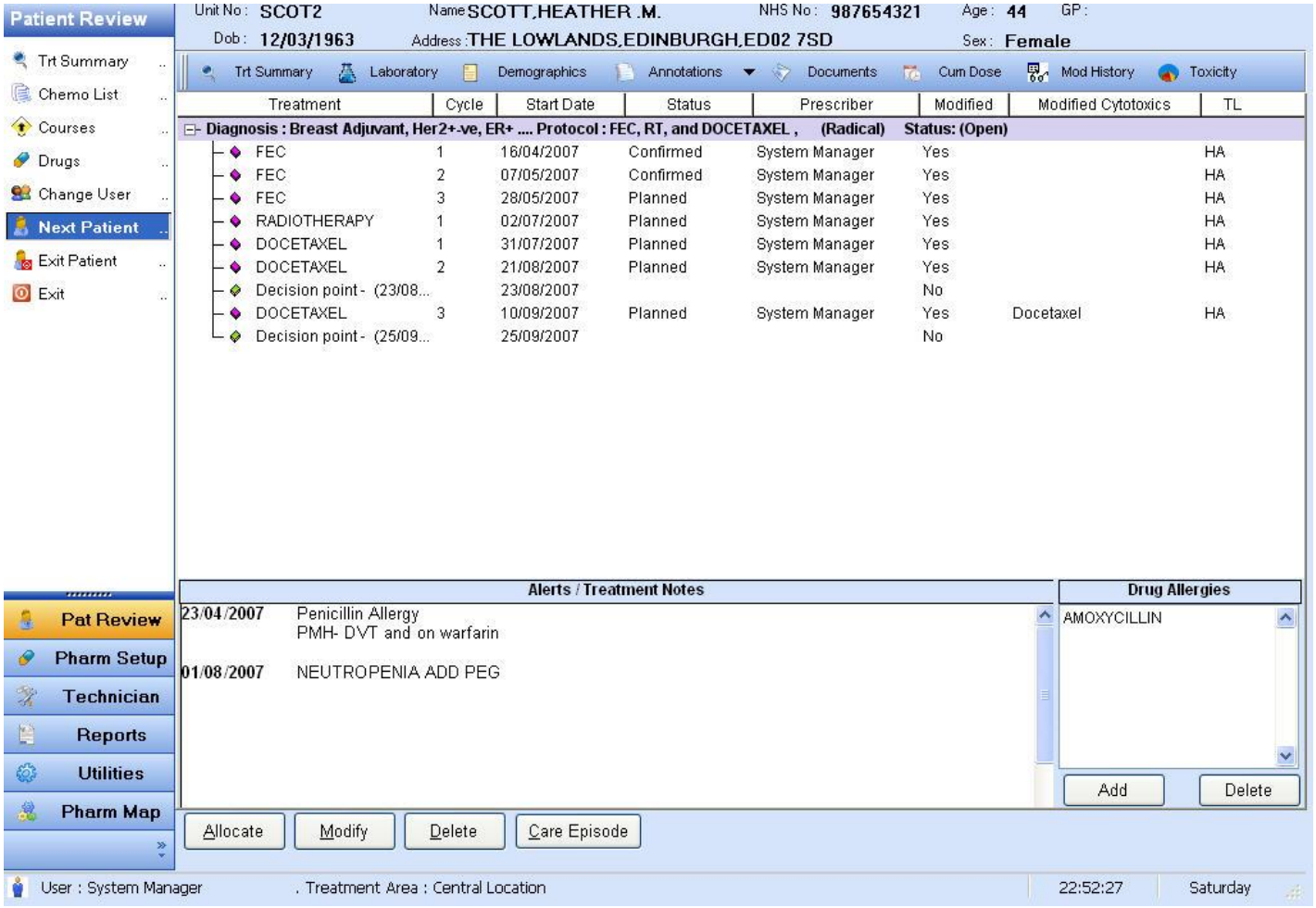


Screen shots from electronic systems

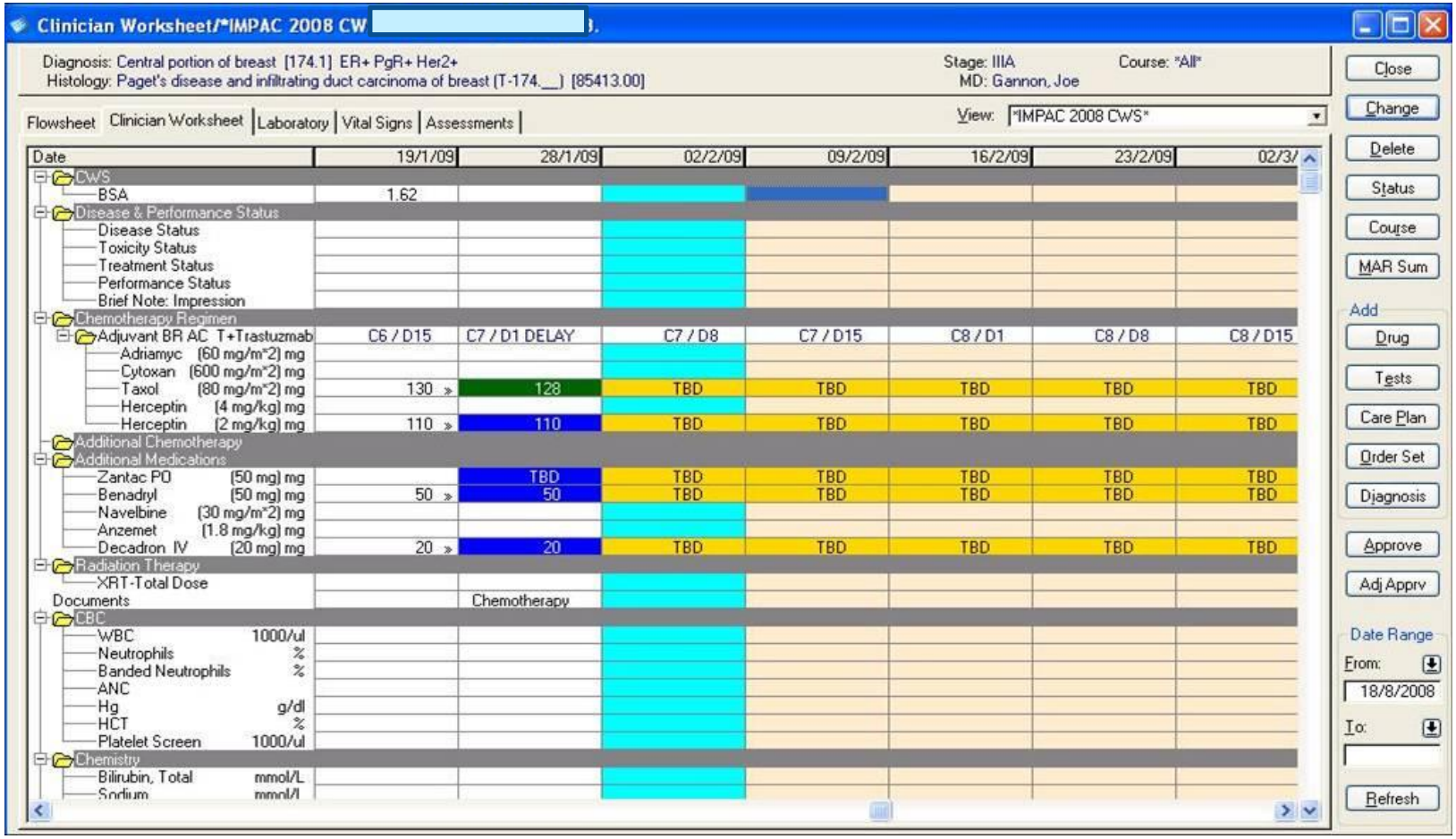
ARIA screen shot



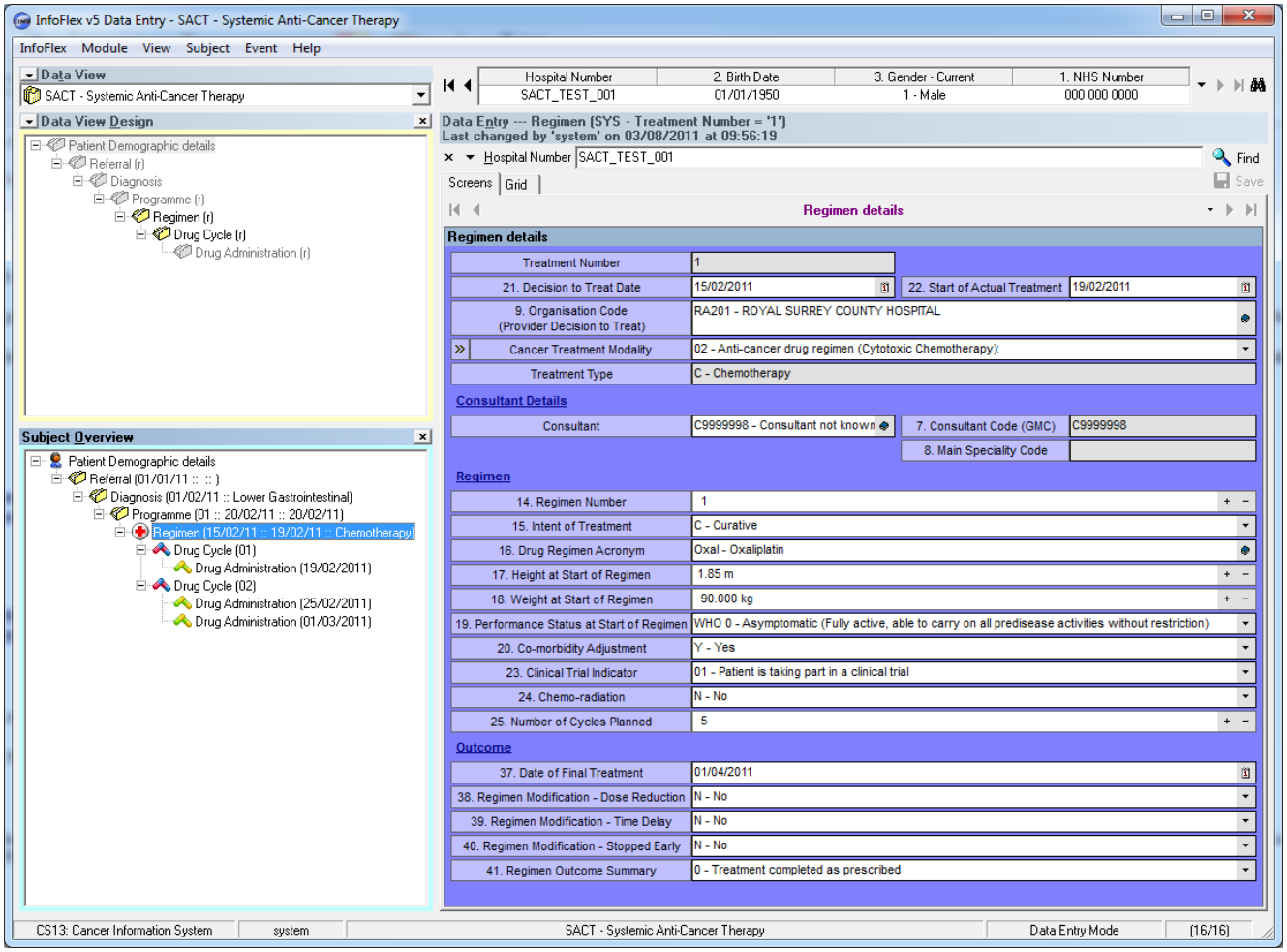
CIS screen shot



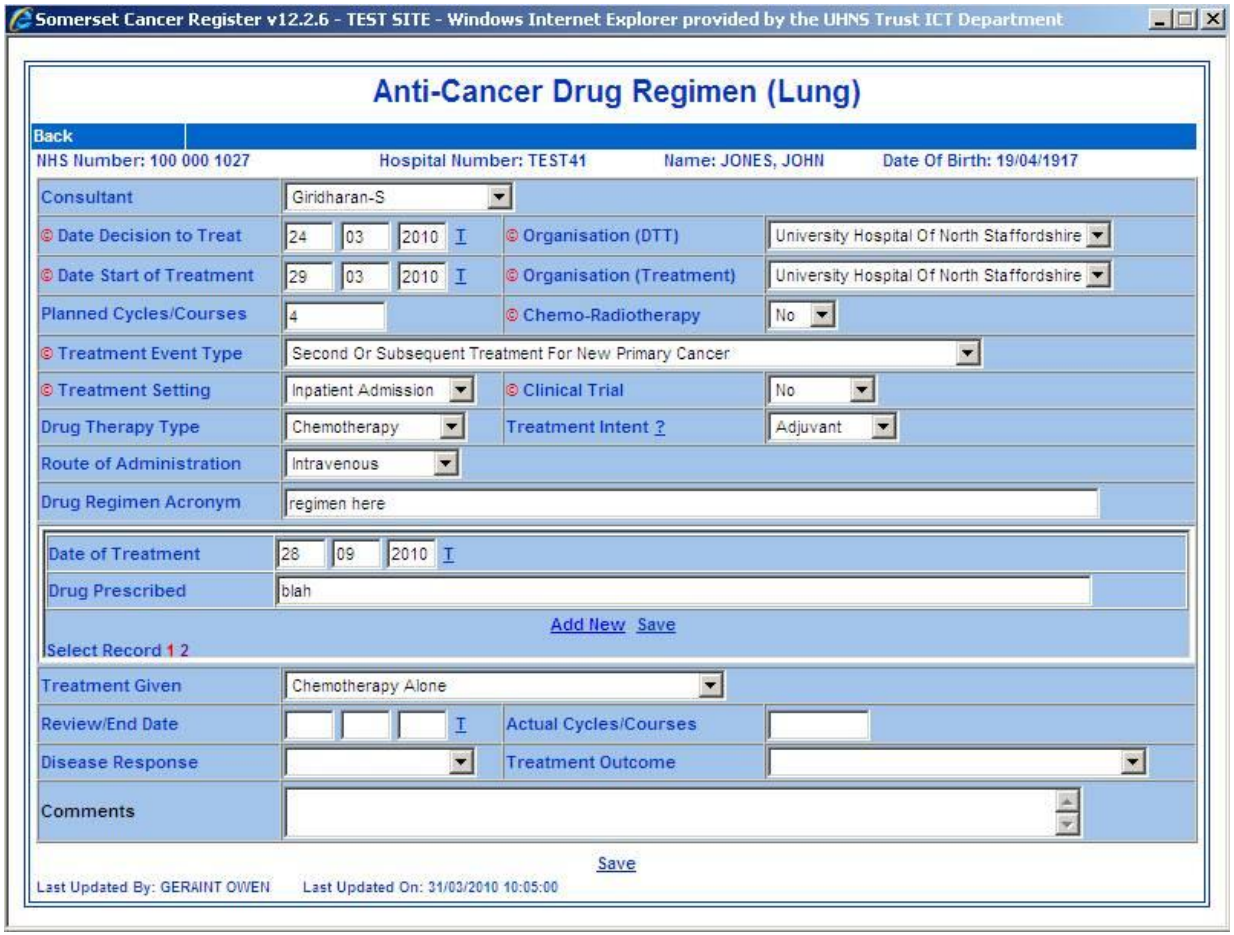
Elekta screen shot



InfoFlex screen shot



Somerset screen shot



End

Questions

? How to get your chemotherapy treatment data recording complete and accurate

- From MDT systems
- From e-prescribing systems ?culture change
- extended/oral/outliers

? national regimen list ?what level of aggregation to include in SACT returns

? reporting priorities for Haematology (you can only get out what you put in)

Dataset

Demographics

1	NHS number	M
2	Date of birth	M
3	Gender - current	R
4	Ethnicity	R
5	Patient postcode	M
6	GP practice code	R
7	Consultant GMC code	R
8	Consultant speciality code	R
9	Organisation code of provider	M

M mandatory - record will be rejected without this field
R required - must be completed if available and all fields complete by April 2014
O optional - should be completed where relevant to clinical management

Clinical Status

10	Primary diagnosis	M or field 11
11	Morphology	M or field 10
12	Stage of disease	R

Programme and regimen

13	Programme number	R
14	Regimen number	R
15	Intent of treatment	R
16	Regimen	M
17	Height at start of regimen	R
18	Weight at start of regimen	R
19	Performance status at start of regimen	R
20	Co-morbidity adjustment	R
21	Date decision to treat	R
22	Start date of regimen	M
23	Clinical trial	R
24	Chemo-radiation	R
25	Number of cycles planned	R

Cycle details

26	Cycle number	M
27	Start date of cycle	R
28	Weight at start of cycle	O
29	Performance status at start of cycle	R
30	OPCS procurement code	R

Drug administration details

31	Drug name	R
32	Actual dose per administration	R
33	Administration route	R
34	Administration date	R
35	Organisation code of provider	R
36	OPCS delivery code	R

Outcome

37	Date of final treatment	R
38	Regimen modification - dose reduction	R
39	Regimen modification - time delay	R
40	Regimen modification - stopped early	R
41	Regimen outcome summary	R
42	Date of death	R