

# Key Questions?

- **Can clinically relevant codes/groups of diseases be extracted and analysed?**
- **What caveats have to be placed on the information derived?**
- **Does the information have international comparability?**



# Data sources - patient-level data

## National Feeds



Radiotherapy Data (RTDS)

Cancer Waiting Times

Chemotherapy Dataset (SACT)

ONS - Cancer and non-cancer deaths

Cancer screening programmes - Bowel, Cervix and Breast

National PET-CT imaging

National cancer audits - Lung, Head and Neck, Upper GI and Colorectal

Hospital Episode Statistics (HES)

## Local Feeds



Data from MDT software systems

Pathology full-text reports

Local imaging systems

Patient Administration Systems

Local clinical data systems

## National Pilots

Recurrent/Metastatic Breast Audit Pilot

CRUK Stratified Medicine (Sept 2011)



# Encore



# 'Cross-cutting' Groups

- **Radiotherapy**
- **Chemotherapy**
- **Pathology (with RCPATH)**
- **Radiology (with RCR)**
- **Co-morbidity**
- **National Cancer Staging Panel**
- **Primary Care (with RCGP)**
- **Health Economics (with Macmillan)**



# The Problems

- **Incomplete ascertainment of all new cases (primary data resides in multiple laboratories and clinical databases)**
- **Lack of a standardized approach to diagnosis.**
- **Major benefit of network-based, integrated laboratories is ability to provide high-level ascertainment of new cases.**
- **Ascertainment of new cases and follow-up is required to derive incidence and prevalence data:**
  - **Cannot be derived from Death Certification Only data.**

# WHO Classification

- NCIN and COSD dataset
  - Challenges for Haematology:
    - Complex area of malignancy diagnosis:
      - 12 major disease groups with ~143 sub-diagnoses.
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- **MPN's**
  - **My & Ly neoplasms with Eosinophilia**
  - **MDS/MPN**
  - **MDS**
  - **AML**
  - **AL-Ambiguous lineage**
  - **Precursor Lymphoid B & T**
  - **Mature B-cell Lymphomas**
    - Including overlap lymphomas
  - **Mature T-cell and NK cell Lymphomas**
  - **Hodgkin Lymphoma**
  - **Histiocytic and Dendritic cell neoplasms**
  - **Immunodeficiency associated LPD's**



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# QUALITY AND VALIDITY OF THE INFORMATION

# Can the disease and code change in the process?

- **Depends:**

- **How many data hand-offs are there between?**

1. **What the patient actually has?**
2. **What the histologist/clinician decide it is?**
3. **What is it submitted as?**
4. **What ICD-O 3 and ICD10 code is it assigned?**
5. **Additional information for confirmation, staging and prognosis?**
  1. **When does the information arrive in Registry?**
  2. **Does later information change MDM submitted diagnosis?**
6. **Accurately coded, defined it and retrieved?**

# The MDT

## 1. The ideal: Clinicians in MDT:

- >Diagnosis, stage + prognosis simultaneously
- >Coded real-time into IT software system in meeting by informed clinician:
  - >Transferred to Registry database by automated interface



# MDM REALITY

## 1. Less optimal but much more common:

>**Diagnosis** – Clinician, and recorded on paper in meeting. *(MDT Coordinator/Admin support)*

>**Stage and prognosis later:**

*(MDT Coordinator, Cancer Data staff, etc)*

>1. Recorded/coded onto local software programme eg Somerset, Infoflex etc.

*(Cancer data clerk, Admin staff)*

>2. **Manual secondary transfer** to Registry database. *(Cancer data clerk, Admin staff)*

# In the Registry

- Multiple pieces of information aggregated:
  - MDT outcomes, monthly Registry returns, histopathology, cytogenetics reports.
- Timing of arrival of information
  - How is this interpreted?
  - Hierarchy of information - What trumps what?
- Histopathology reports vs constellations of diagnostic clinical criteria.

# Coding Implications

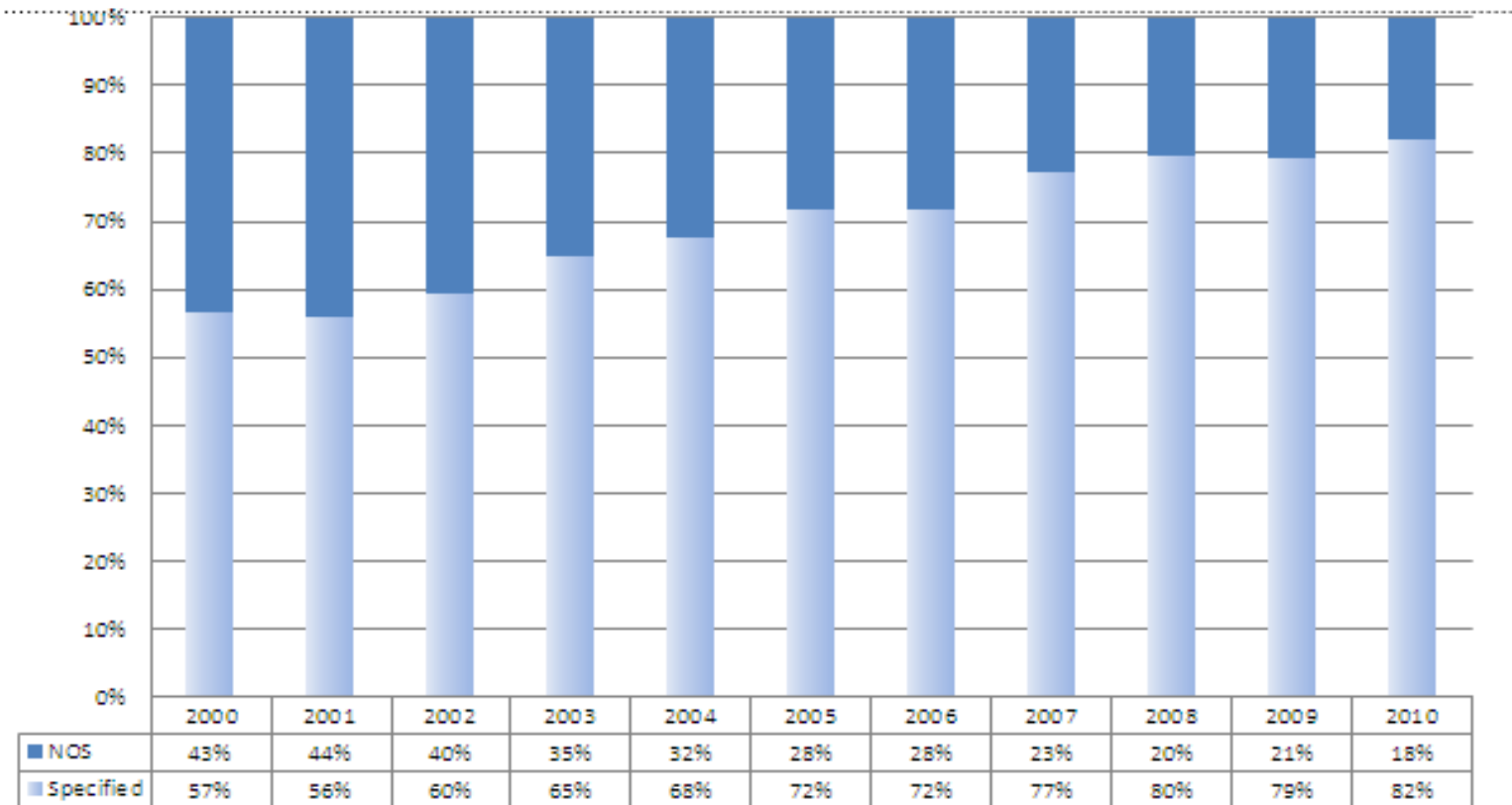
- **Coding from aggregated data but!**
  - No clinical input
  - What about diseases that don't have solid tissue histology like Lymphomas
    - eg CML, PRV, ET, Myeloma
    - Constellation of diagnostic criteria – not all are pathology based!
      - eg: ET persistent thrombocytosis of  $>450 \times 10^9/L$  for  $>3/12$  and reactive causes excluded.

# Variable Clinical/ Pathological Assessments

- CLL – PB only findings
- CML – PB findings only
- Myeloma – a constellation of pathology and non-pathology diagnostic criteria
- DLBC NHL – the NOS problem

# NHL 'NOS' Morphology - England

With newer immunohistochemistry techniques it is now rare to be unable to subtype lymphomas into histological subgroups.



- Nobody is treated for NOS - Nobody dies of NOS

# Haematological malignancies

## – Solid or liquid or both?

- ICD-10 codes – Topography
- ICD-O3 – Morphology
  - Don't always equate
- Used individually don't always distinguish between disease subtypes.
- Historical use of ICD-10
- More recent introduction of ICDO-3
- ICDO-3 does not have a single code for each Haematological diagnosis and has been highly adapted by WHO (In use in 2004 but only verified and published in 2012)

# Q: What would a good registration system look like?

- **Complete ascertainment new cases**
  - **Accurate data on Diagnosis, Stage and PI's.**
    - **Contemporaneous**
      - # Linkage to other datasets**

# Future

## Building Blocks present but must:

- Continue drive for accurate, clinically useful information.
- **Improve ‘front-end’ data collection/registration processes.**
- Be able to dissect out clinically useful subgroups
  - eg CML/CMML, FL, DLBC.
- Have measures that reflect data quality.
- Sufficient detail for:
  - Complete ascertainment, accurate diagnosis, staging and prognosis.
- Integrated links to **SACT** and **RT** Datasets





# Haematology 2014-15

## Work Programme:

### **1. National measures for Haematology Clinical Service**

#### **Profiles: A 'MUST DO'**

- SACT completeness
- COSD completeness
- Entry to national trials
- 1 and 5 year survival data for AML, DLBC , HL and MM
- Place of death

### **2. Routes to diagnosis: Preliminary analysis of emergency presentation for MM and NHL.**

### **3. Models of Care: AML - Inpatient vs Ambulatory treatment.**

### **4. Variations in Clinical Practice: Use of radiotherapy in NHL.**

### **5. Clinical Outcomes: Hodgkin's Lymphoma - All cause deaths-** (younger patients 15 – 45 with sufficient years of follow up).

# Haematology 2014-15

## Parallel Projects

- 1. Defining and refining Clinical Lines of Enquiry to develop Service Profiles**
- 2. CCG Clinical Outcomes Indicator Sets**
- 3. COSD 1-3 Conformance Reports**
- 4. Level 4 Performance Reports**

# CCG Outcomes Indicator Set

## 1. Preventing people from dying prematurely:

- Under 75 mortality from cancer
- One year survival from all cancers
- Diagnosis via emergency routes
- Record of stage at diagnosis
- Early detection

## 2. Enhancing quality of life for long-term conditions:

- Ensuring people feel supported to manage their condition

## 3. Helping people recover from ill-health and injury:

- Emergency readmissions within 30 days of discharge from hospital.



# CCG Outcomes Indicator Set

## 4. Ensuring that people have a positive experience of care:

- **Improving people's experience of outpatient care**
  - Patient experience of outpatient services.
- **Improving hospitals' responsiveness to personal needs**
  - Responsiveness to in-patients' personal needs.
- **Improving the experience of care for people at the end of their lives**
  - Bereaved carers views on the quality of care in the last 3 months of life.
- **Improving people's experience of accident and emergency service**
  - Patient experience of A&E services
- **Improving people's experience of integrated care**
  - *In development. No CCG measure at present*

## 5. Treating/caring for in safe environment, protecting from avoidable harm:

- **Reducing the incidence of avoidable harm**
  - Incidence of healthcare associated infection: MRSA
  - Incidence of healthcare associated infection: C Difficile



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# Summary - 1



- There is a need for accurate and timely data collection for service planning.
- Haematology is the most complex diagnostic, staging/prognostication dataset (COSD).
- Encore has unified all the Cancer Registries and coding protocols – target 3/12 for full coding.



# Summary - 2

- Strong shift in emphasis from ‘clinical interest’ projects to **‘quality and commissioning’ projects**:
  - Cancer Peer Review Measures, Clinical Lines of Enquiry, Service Profiles, and CCG Outcome indicator sets.
- NHS England is **contracting** with Trusts for the mandated datasets:
  - ***The onus is on clinicians and Trusts to submit completed diagnosis, ICD-O3 and ICD10 codes and staging information.***
  - ? Penalties through commissioning.

- **“Improved ‘Front-end’ clinical data capture is the key to more useful ‘Back-end’ data analysis for clinical purposes, service development and patient care.”**