Public Health England

National Cancer Intelligence Network

Cancer Informatics in the ‘new NHS’: PHE and NCIN 18 months on….

Mick Peake
Clinical Lead, National Cancer Intelligence Network

The Health & Social Care Bill 2012: Two New Organisations from April 2013

- **NHS England**
  - "The purpose of NHS England is to use the £80bn commissioning budget to secure the best possible outcomes for patients"
  - To ensure the whole commissioning architecture is in place; will also commission some services directly
- **Public Health England (PHE)**
  - Information & Intelligence to support local PH and public making healthier choices
  - National Leadership to PH, supporting national policy
  - Development of PH workforce
  - A civil service function, not NHS

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Data Drivers

- Government
  - A spotlight on the role of data and transparency
- Commissioning
  - NHS Outcomes Framework
- Regulation
  - New regulation framework (CQC & Monitor)
- The ‘public’, patients and families
  - (e.g. ‘Friends and family test’)

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Providers of information in the new NHS

- Main sources/providers
  - Health & Social Care Information Centre (HSCIC)
  - National Audits
  - ONS
  - PHE (Civil Service)- Cancer Registries
  - NHS England Business Intelligence Teams (ATS/CSU)
- Information Intermediaries (e.g. CRUK, Dr Foster, MacMillan)

Public Health England

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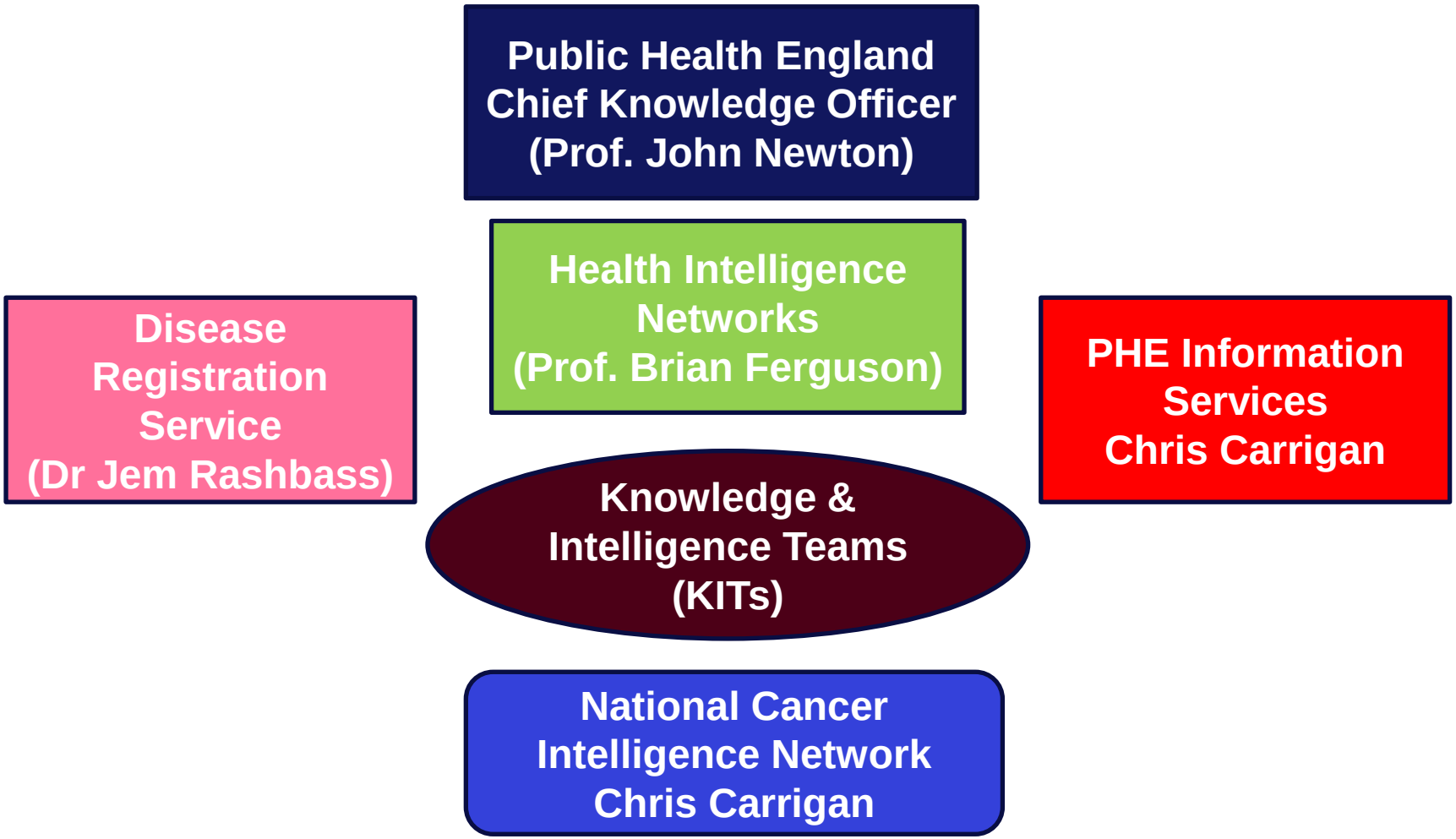
Knowledge Directorate

- National Cancer Registration Service
- Analytical workforce from 8 registries moved into regional Knowledge and Intelligence Teams (KITs)
  - SSCRG Lead Area Work Programmes
  - Local contribution
- Health Intelligence Networks (HINs):
  - Mental Health, Maternal & Child Health, Cardiovascular & Diabetes, End of Life, **NCIN**

Public Health England: Emerging 'Intelligence' Structures



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The English National Cancer Registration System

- Comprehensive data collection and quality assurance over the entire cancer care pathway on all patients treated in England
- Single national system across England
- Routine electronic sources in registry practice
- Single integrated workforce – split off from the analytical work force
- Director of Disease Registration
- Evolving operational links with hospital leads
- Pan-England roll-out completed September 2013

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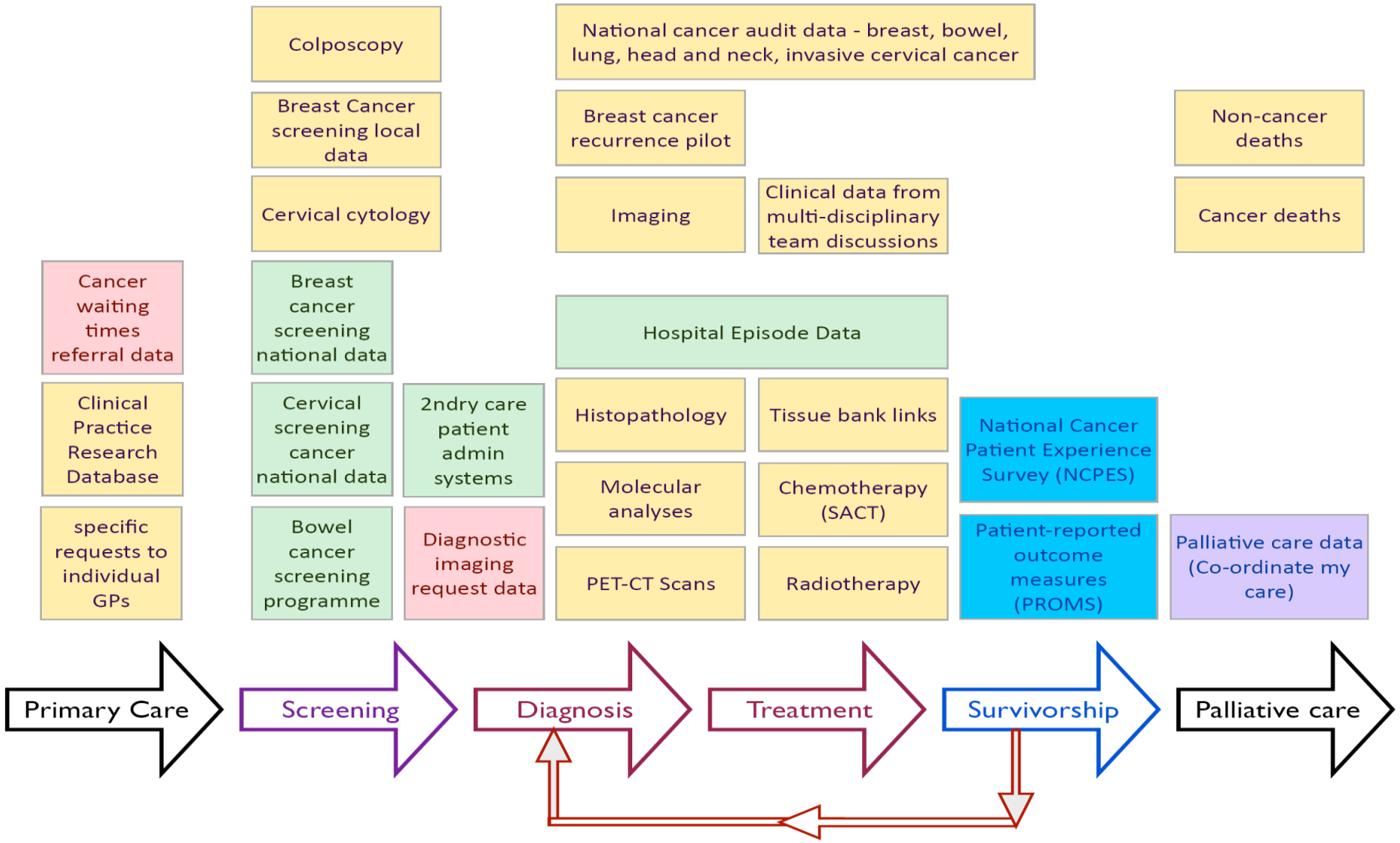
National Cancer Registration Service: Data Sources



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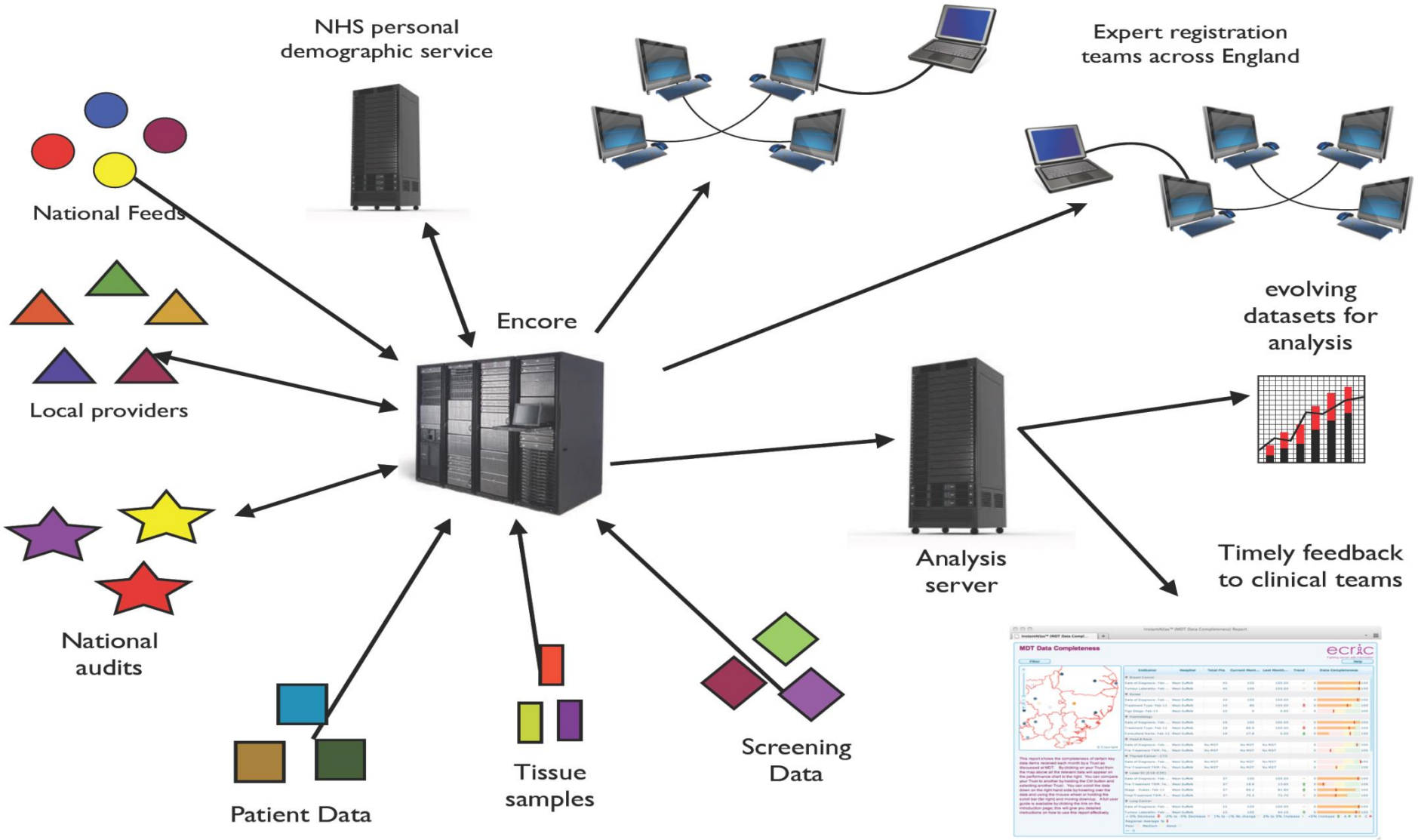
NCRS – ENCORE

(English National Cancer Online Registration Environment)



NHS England – current structures

- One national office in Leeds
- **4** regions, directly commission primary care & specialist services
- **10** specialised commissioning hubs within **27** Area Teams
- **12** clinical senates – clinical advice/leadership at strategic level to CCGs and HWBs
- **12** strategic Clinical Networks (up to 5 years)
- **12** Academic Health Science Networks
- **18** Commissioning Support Units – support to CCGs
- **27** Area Teams will support CCG development
- **211** Clinical Commissioning Groups (CCGs)
- **152** Health and Well Being Boards

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Specialist Commissioning

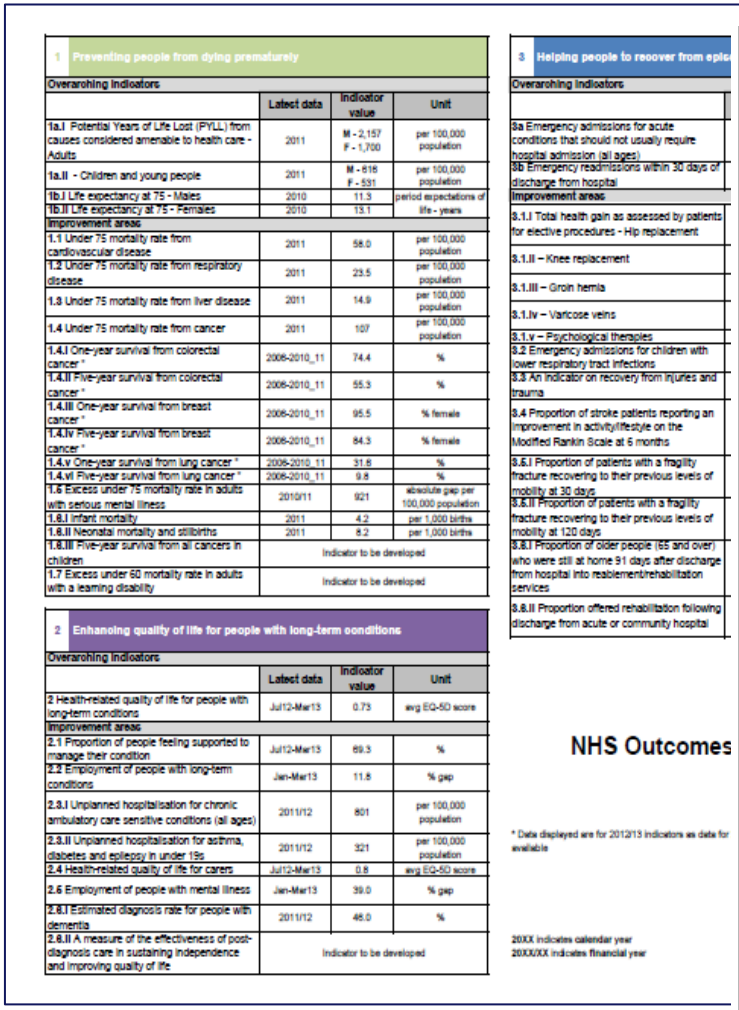
- **National Service Specifications** (e.g. radiotherapy, chemotherapy, mesothelioma, upper GI cancer, specialised urology, surgery….)
- **Clinical Reference Groups -** 12 relating to cancer (e.g. chemotherapy, radiotherapy, upper GI surgery, thoracic surgery…….)

……..under review

Clinical Reference Groups - cancer

- Radiotherapy – *Peter Kirkbride and Adrian Crellin*
- PET-CT - *Wai Lup Wong*
- Specialised Cancer - *Sean Duffy*
- Blood and Marrow transplantation - *Antonio Pagliuca*
- Thoracic surgery - *Richard Page*
- Upper GI Surgery - *William Allum*
- Sarcoma - *Jeremy Whelan*
- CNS tumours - *Paul Grundy*
- Specialised urology - *Vijay Sangar*
- Complex gynaecological services - vacant
- Chemotherapy - *Peter Clark*
- Complex Head & Neck - *Peter Thomson*
- Teenage and Young People Cancer - *Rachael Hough*

NHS Outcome Framework 2013/14 Dashboard



1 Preventing people from dying prematurely

Overarching indicators

	Latest data	Indicator value	Unit
1a.i Potential Years of Life Lost (PYLL) from causes considered amenable to health care - Adults	2011	M - 2,157 F - 1,700	per 100,000 population
1a.ii - Children and young people	2011	M - 616 F - 531	per 100,000 population
1b.i Life expectancy at 75 - Males	2010	11.3	period expectations of life - years
1b.ii Life expectancy at 75 - Females	2010	13.1	
Improvement areas			
1.1 Under 75 mortality rate from cardiovascular disease	2011	58.0	per 100,000 population
1.2 Under 75 mortality rate from respiratory disease	2011	23.5	per 100,000 population
1.3 Under 75 mortality rate from liver disease	2011	14.9	per 100,000 population
1.4 Under 75 mortality rate from cancer	2011	107	per 100,000 population
1.4.i One-year survival from colorectal cancer *	2006-2010_11	74.4	%
1.4.ii Five-year survival from colorectal cancer *	2006-2010_11	55.3	%
1.4.iii One-year survival from breast cancer *	2006-2010_11	95.5	% female
1.4.iv Five-year survival from breast cancer *	2006-2010_11	84.3	% female
1.4.v One-year survival from lung cancer *	2006-2010_11	31.8	%
1.4.vi Five-year survival from lung cancer *	2006-2010_11	9.8	%
1.6 Excess under 75 mortality rate in adults with serious mental illness	2010/11	921	absolute gap per 100,000 population
1.8.i Infant mortality	2011	4.2	per 1,000 births
1.8.ii Neonatal mortality and stillbirths	2011	8.2	per 1,000 births
1.8.iii Five-year survival from all cancers in children	Indicator to be developed		
1.7 Excess under 60 mortality rate in adults with a learning disability	Indicator to be developed		

2 Enhancing quality of life for people with long-term conditions

Overarching indicators

	Latest data	Indicator value	Unit
2 Health-related quality of life for people with long-term conditions	Jul12-Mar13	0.73	avg EQ-5D score
Improvement areas			
2.1 Proportion of people feeling supported to manage their condition	Jul12-Mar13	69.3	%
2.2 Employment of people with long-term conditions	Jan-Mar13	11.8	% gap
2.3.i Unplanned hospitalisation for chronic ambulatory care sensitive conditions (all ages)	2011/12	801	per 100,000 population
2.3.ii Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s	2011/12	321	per 100,000 population
2.4 Health-related quality of life for carers	Jul12-Mar13	0.8	avg EQ-5D score
2.6 Employment of people with mental illness	Jan-Mar13	39.0	% gap
2.8.i Estimated diagnosis rate for people with dementia	2011/12	46.0	%
2.8.ii A measure of the effectiveness of post-diagnosis care in sustaining independence and improving quality of life	Indicator to be developed		

3 Helping people to recover from epis

Overarching indicators

3a Emergency admissions for acute conditions that should not usually require hospital admission (all ages)

3b Emergency readmissions within 30 days of discharge from hospital

Improvement areas

3.1.i Total health gain as assessed by patients for elective procedures - Hip replacement

3.1.ii – Knee replacement

3.1.iii – Groin hernia

3.1.iv – Varicose veins

3.1.v – Psychological therapies

3.2 Emergency admissions for children with lower respiratory tract infections

3.3 An indicator on recovery from injuries and trauma

3.4 Proportion of stroke patients reporting an improvement in activity/lifestyle on the Modified Rankin Scale at 6 months

3.5.i Proportion of patients with a fragility fracture recovering to their previous levels of mobility at 30 days

3.5.ii Proportion of patients with a fragility fracture recovering to their previous levels of mobility at 120 days

3.8.i Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into reablement/rehabilitation services

3.8.ii Proportion offered rehabilitation following discharge from acute or community hospital

NHS Outcomes

* Data displayed are for 2012/13 indicators as data for available

20XX indicates calendar year
20XX/XX indicates financial year

1 Preventing people from dying prematurely

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1.4.vi Five-year survival from lung cancer *	2006-2010_11	9.8	%
1.5 Excess under 75 mortality rate in adults with serious mental illness	2010/11	921	absolute gap per 100,000 population
1.6.i Infant mortality	2011	4.2	per 1,000 births
1.6.ii Neonatal mortality and stillbirths	2011	8.2	per 1,000 births
1.6.iii Five-year survival from all cancers in children	Indicator to be developed		

Clinical Commissioning Group Outcomes Indicator Set

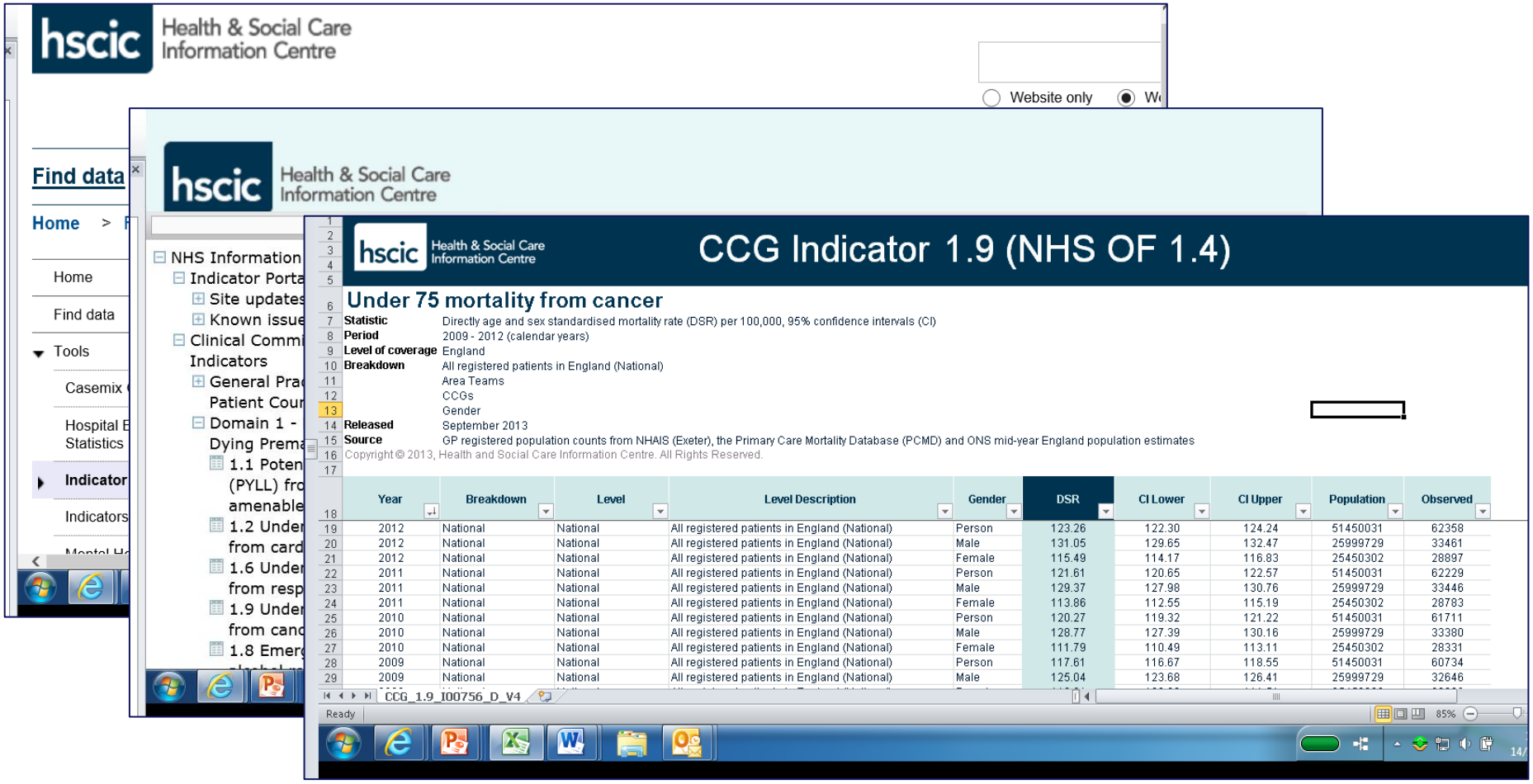
2013/14 under 75 mortality rate from cancer

- 1 and 5 year survival from all cancers
- 1 and 5 year survival from breast, lung & colorectal cancers

2014/15 additional indicators for cancer

- cancers diagnosed via emergency routes
- 5 year survival - children
- cancer stage at diagnosis
- cancers detected at stage 1 or 2
- 1 and 5 yr survival for lung, breast and colorectal cancers

HSCIC Indicator Portal



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National Cancer Intelligence Network

Cancer Commissioning Toolkit

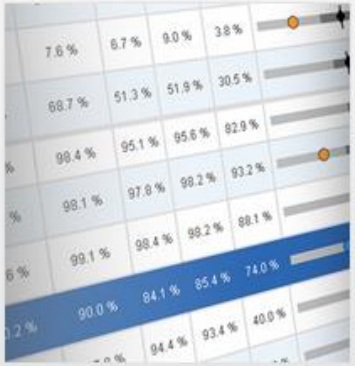
Kath Yates

Home | Dashboards | Comparisons | Profiles | Charts | Background | Updates

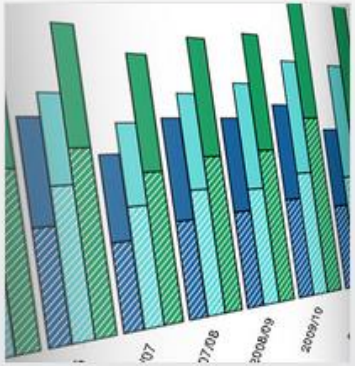
Home

Dashboards
Making the data count
View a snapshot of data by organisation group to support quality, services & outcomes.

Comparisons
Comparative reporting of data
Compare your organisation/service, establish baselines & identify issues.



Profiles
Improving outcomes
Understanding variation of both patient experience & service deilvery using data indicators.



Charts
Increase the value of data
View or download trends to benchmark along the patient pathway by accessing in depth data.

Background

Help

Public Health England

Cancer Commissioning Toolkit (CCT) - Colo-rectal cancer service profile

Service Profile

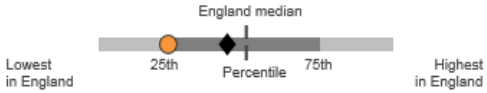
Select Trust/MDT:

Portsmouth Hospitals NHS Trust MDT - Portsmouth

Colorectal 2013/14 - Portsmouth Hospitals NHS Trust MDT - Portsmouth

Export to PDF

- Trust/MDT is significantly different from England mean
- Trust/MDT is not significantly different from England mean
- Statistical significance cannot be assessed
- England mean



				Percentage or rate				Trust rate or percentage compared to England		
Section	#	Indicator	No. of patients/cases or value	Trust	Lower 95% Confidence Limit	Upper 95% Confidence Limit	England	Lowest	Range	Highest
Size	G1	Number of new cases managed per year	320	n/a	n/a	n/a	27,411	41		525
	G2	Number of newly diagnosed patients per year *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Demographics	G3	Patients (from #G2) aged 70+ *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	G4	Patients (from #G2) with recorded ethnicity *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	G5	Patients (from #G2) with recorded ethnicity which is not White-British *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	G6	Patients (from #G2) who are Income Deprived (1) *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	G7	Male patients (from #G2) *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	CR1	Patients (from #G2) with a nationally registered Dukes' stage *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	CR2	Patients (from #CR1) with a nationally registered Dukes' stage which is A or B *	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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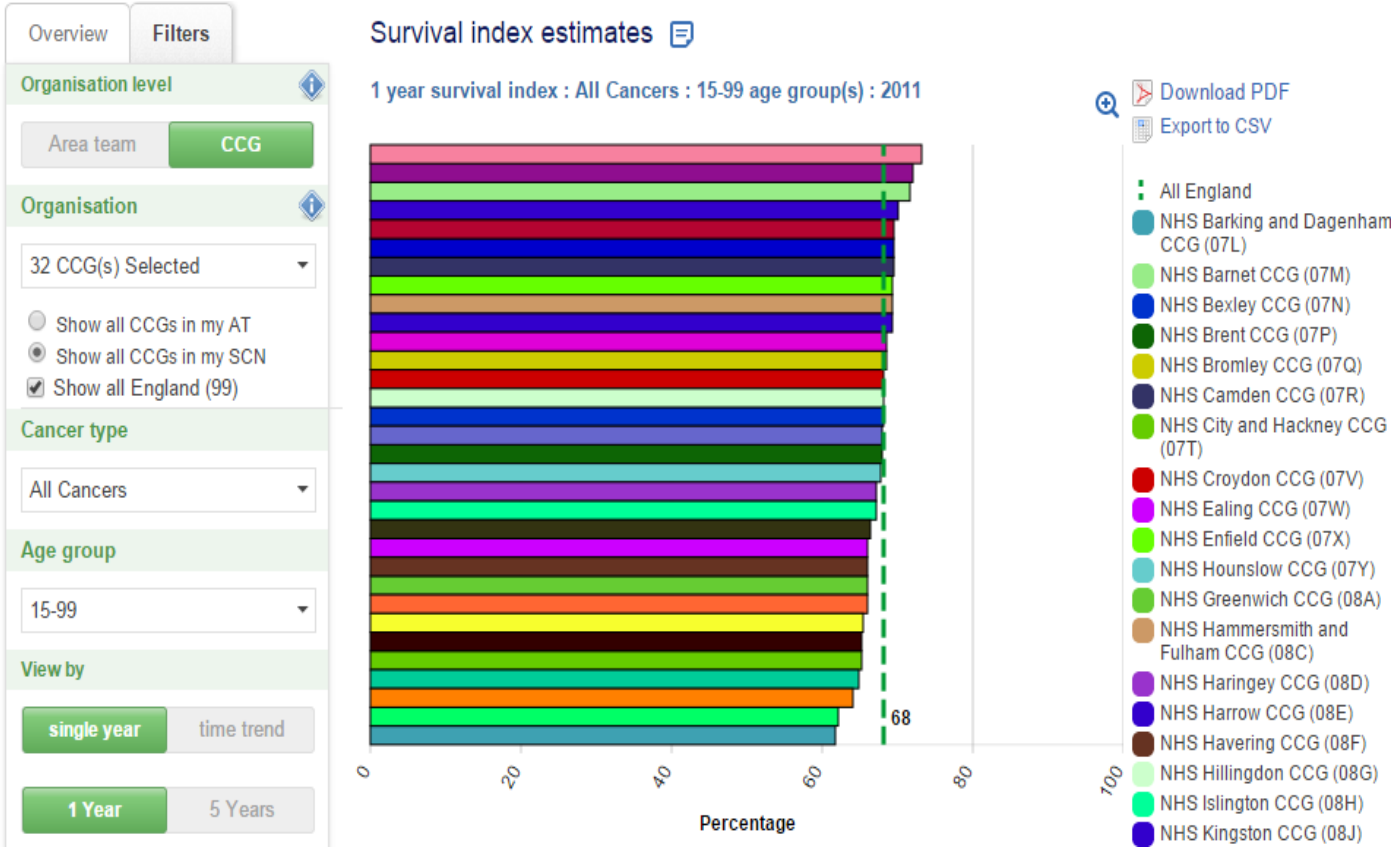
Survival Index CCG within SCN



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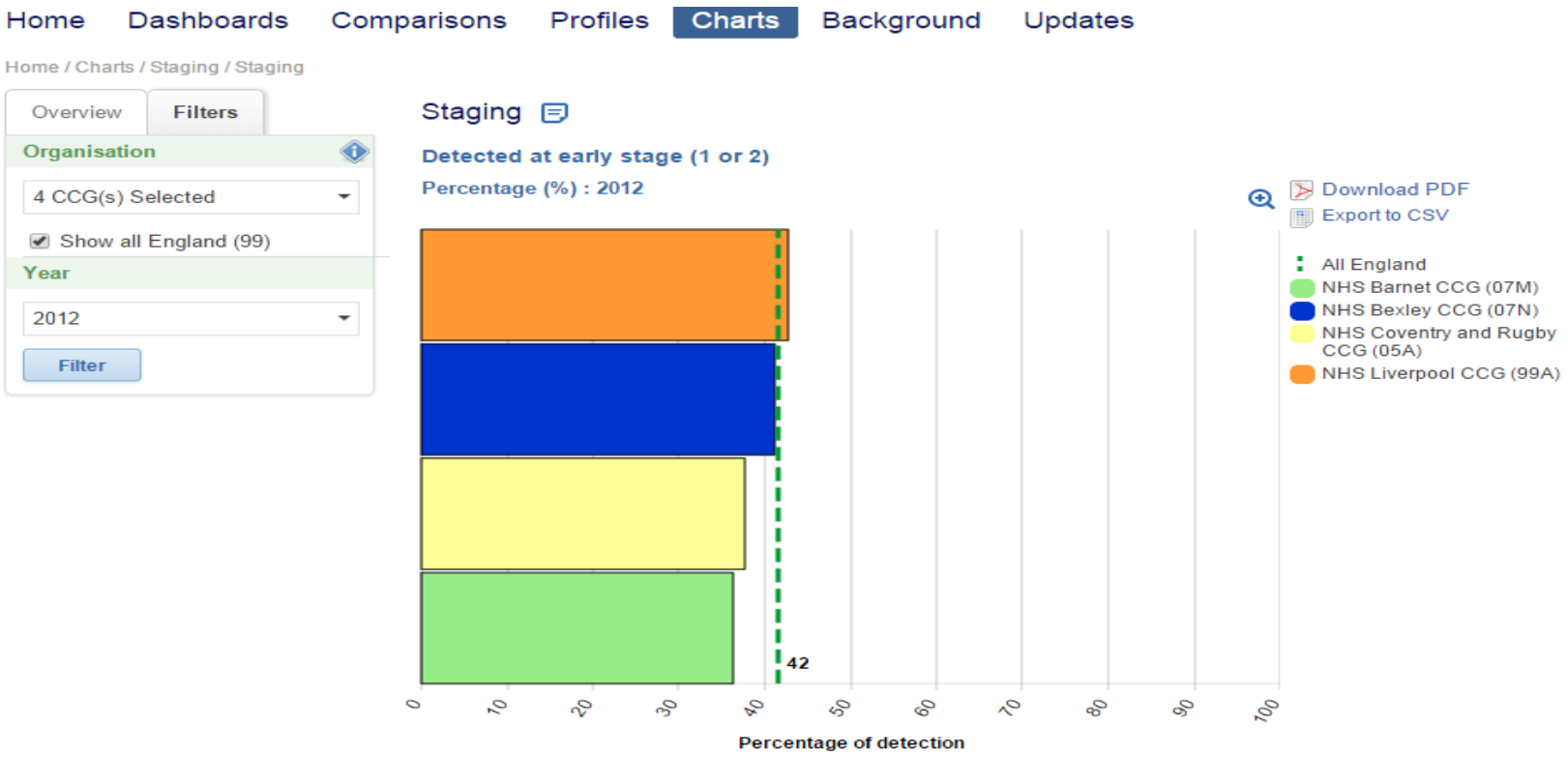
Stage 1 & 2 by CCG



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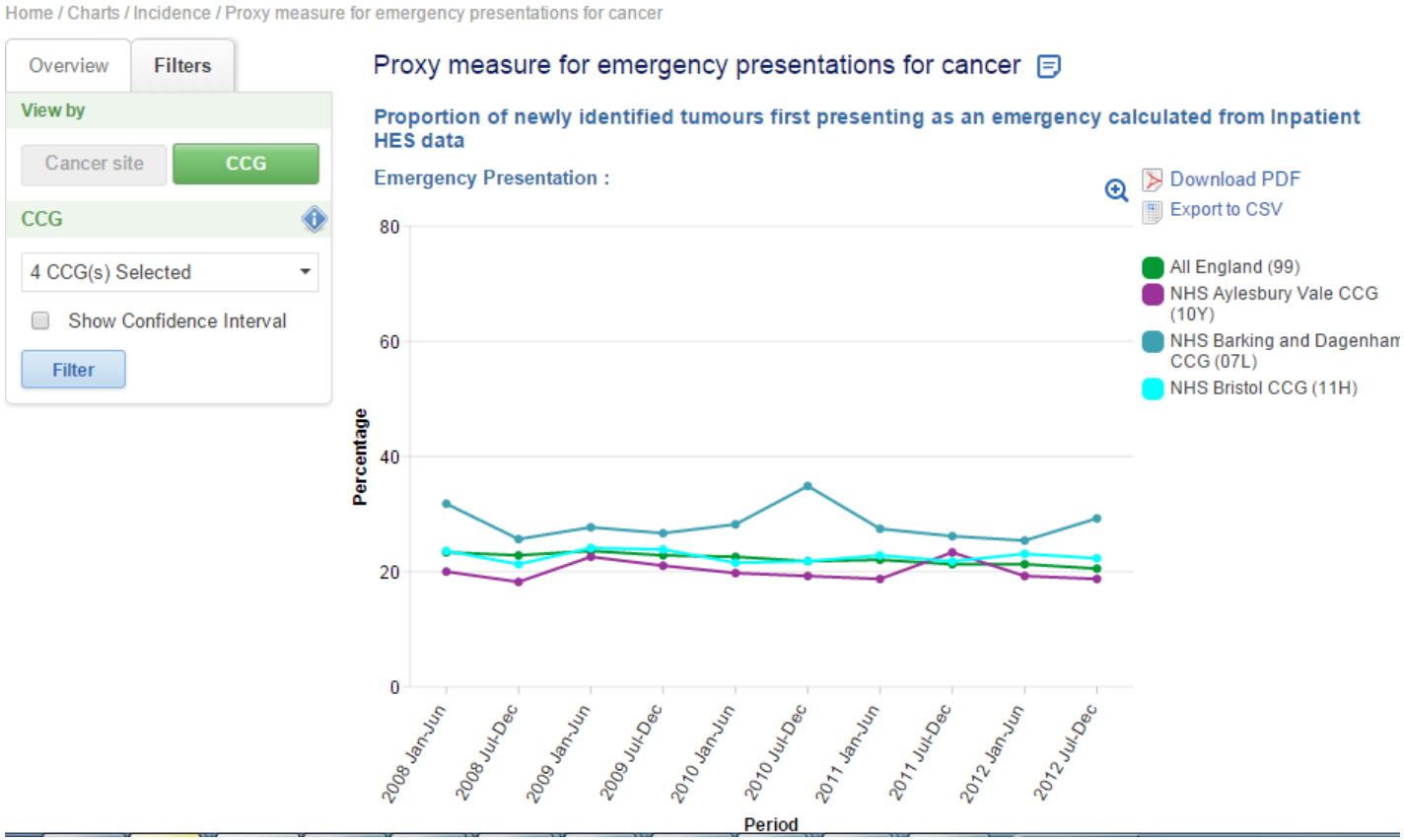
Emergency Presentation by CCG



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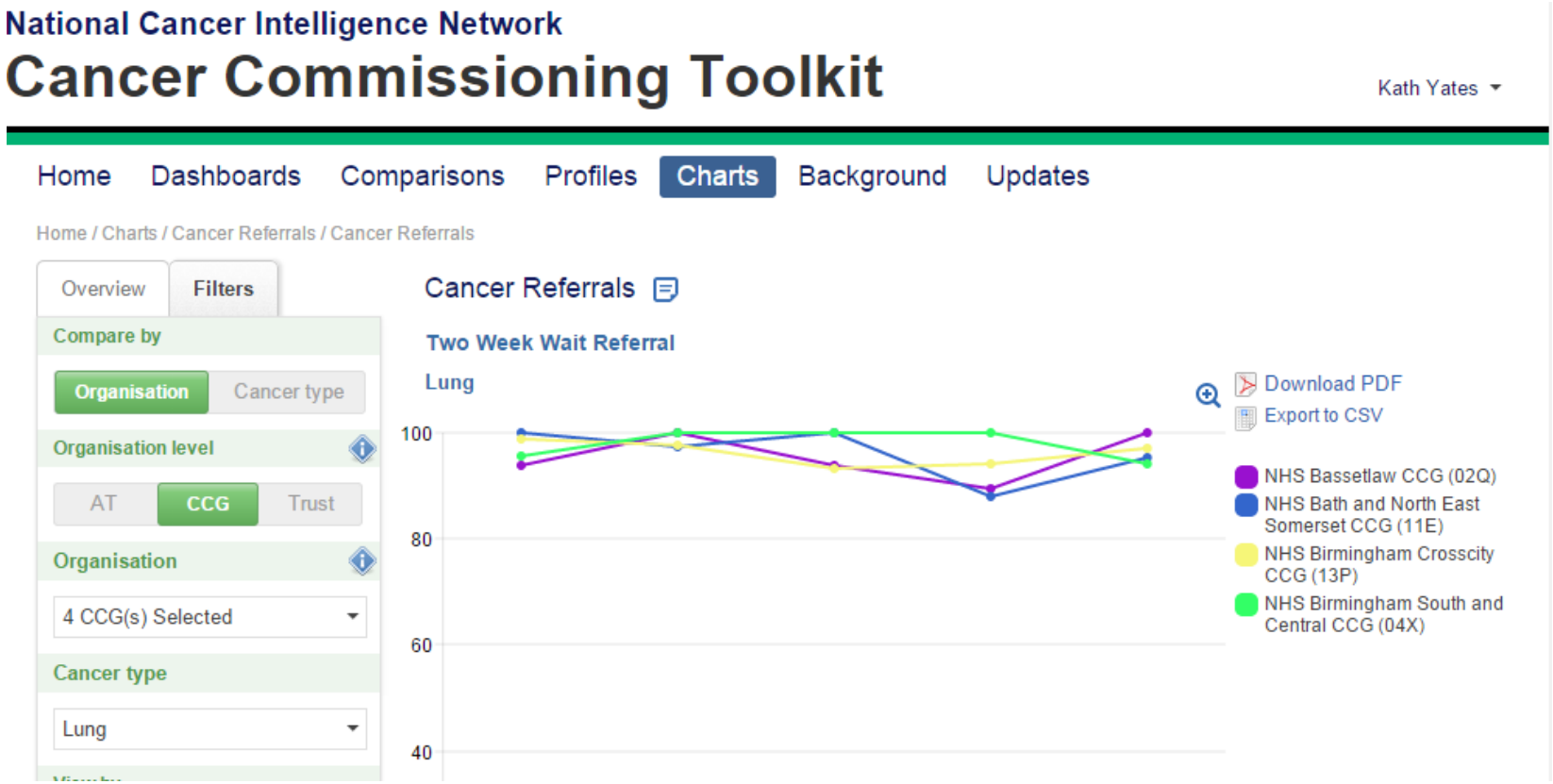
Two week wait referrals by CCG



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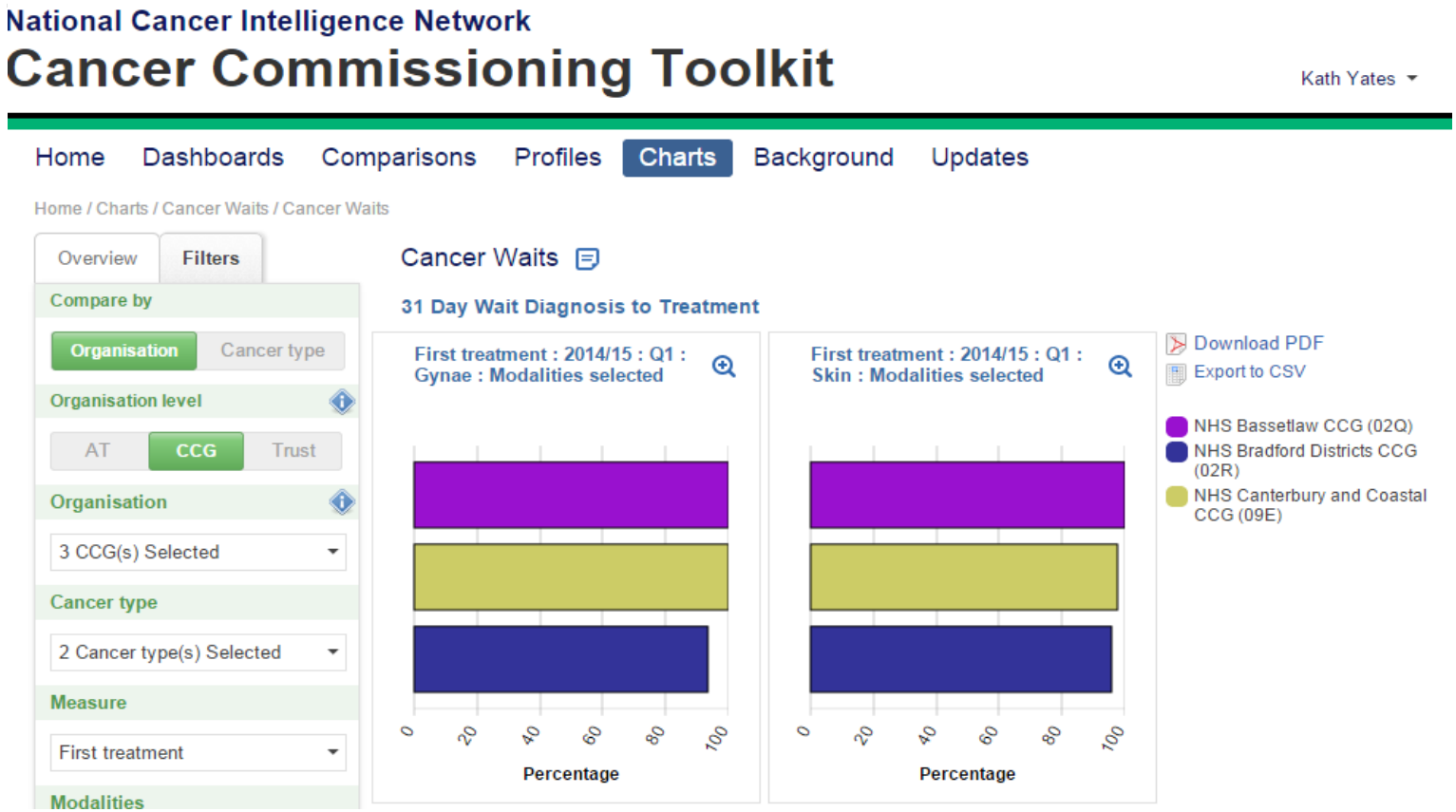
Cancer waits 31 days



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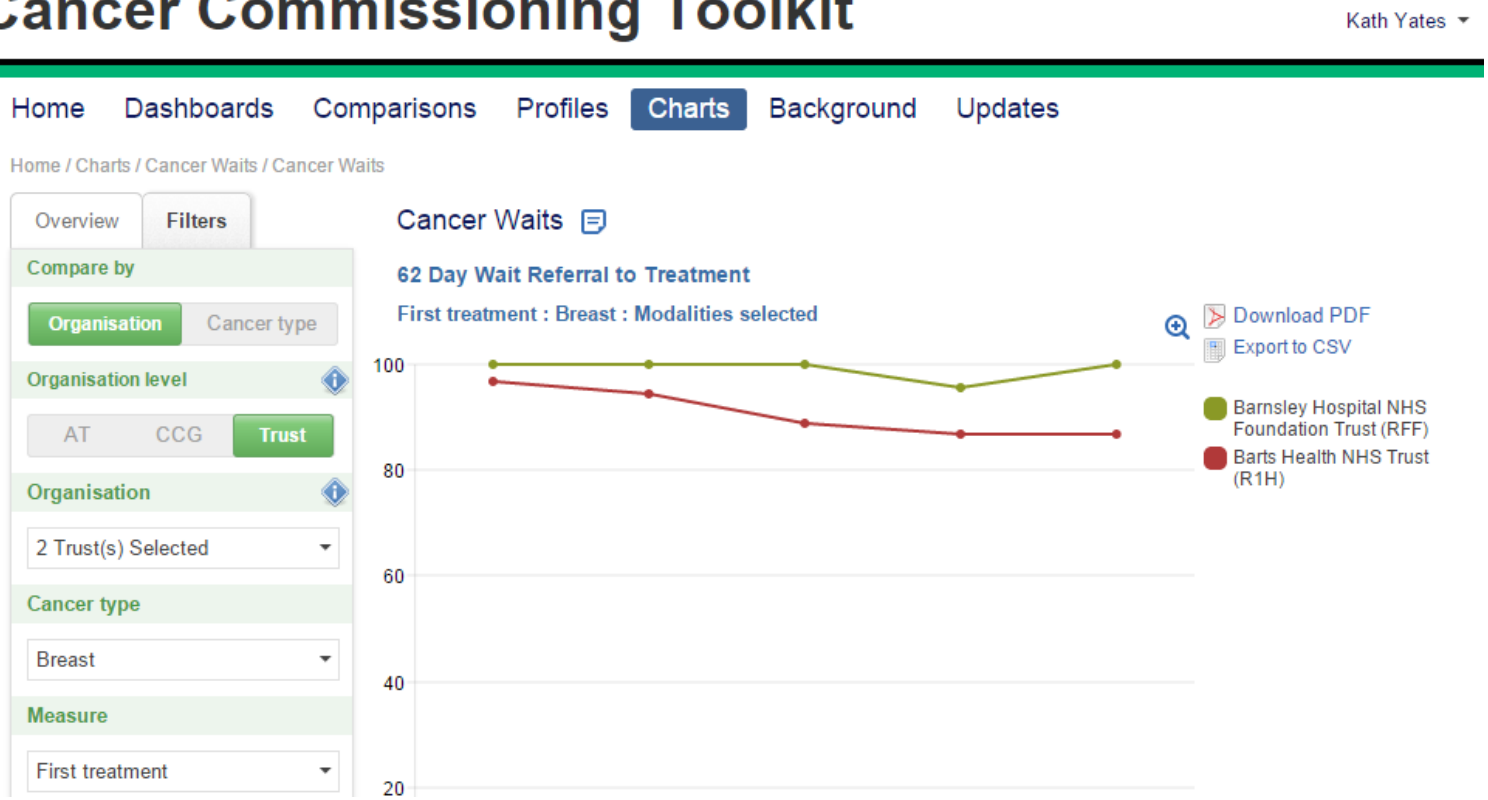
Cancer Waits 62 days

National Cancer Intelligence Network

Cancer Commissioning Toolkit



Datasets

- Radiotherapy Dataset (RTDS), 2009…..
- Diagnostic Imaging Dataset (DIDs), 2012..
- Systemic Anti-Cancer Therapy Dataset (SACT), 2012….
- Cancer Outcomes & Services Dataset (COSD), 2013…..

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Examples of the clinical value of new data

- Demonstration of variation
- Teasing out the causes of variation
- Demonstrating value of specialisation
- Building data into quality improvement
- Adding outcome data into Peer Review
- Providing robust evidence behind National Guidelines and Quality Standards (NICE)
- Supporting ‘intelligent commissioning’

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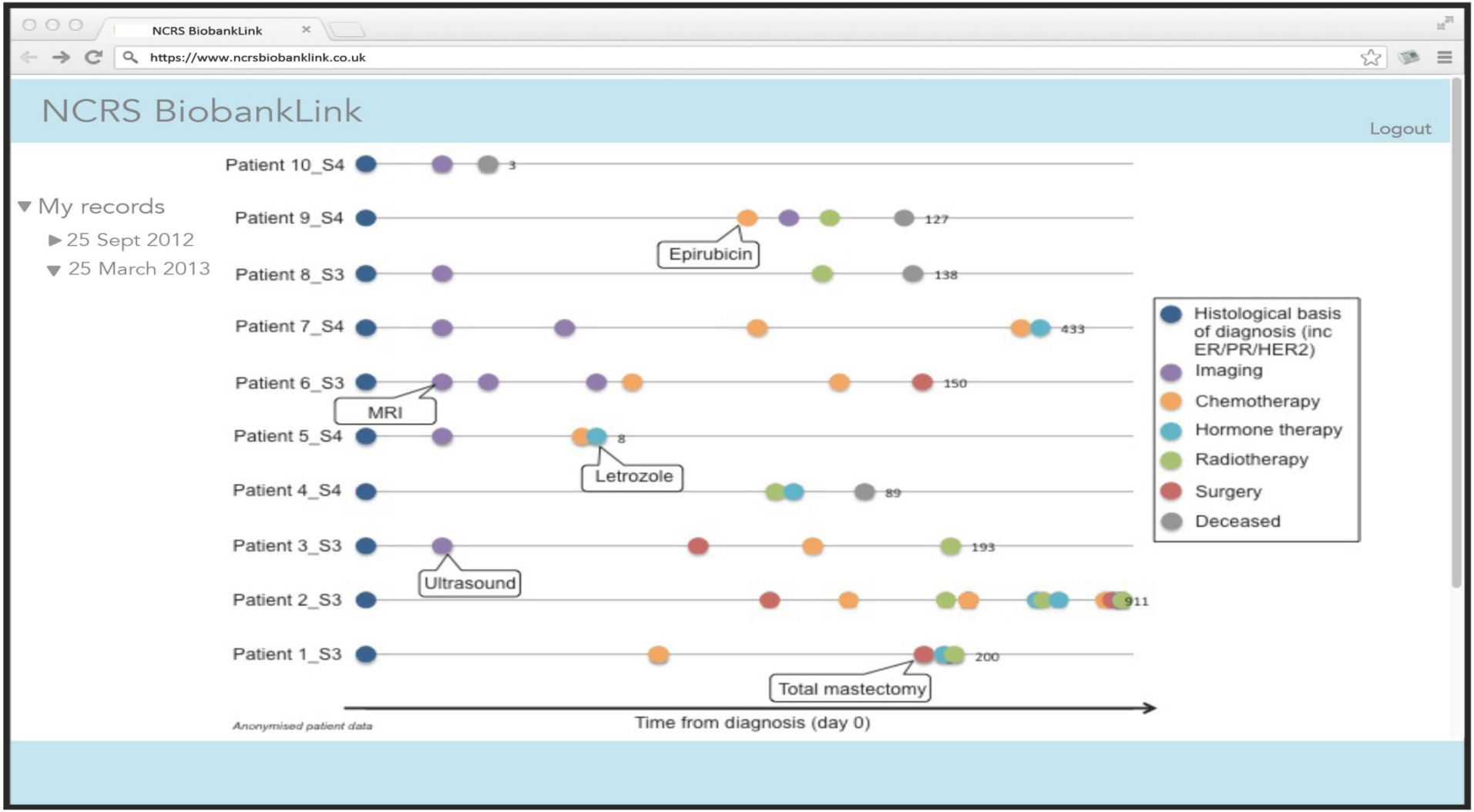
NCRS BiobankLink Service



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National Cancer Audits

- National Lung, Colo-rectal and Head & Neck Cancer Audits all have contracts that expire at the end of 2014

- Re-tendering process underway – smooth transition will be the main issue

- New Prostate Cancer Audit began 2014

- Breast cancer audit likely to be commissioned in 2015

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National Cancer Audits

NPCA
National Prostate Cancer Audit

RCS
ADVANCING SURGICAL STANDARDS

- New model for national cancer audits
  - Partnership between NCRS and professional bodies
- Information governance and data QA managed by NCRS
  - Near-real-time data collection from MDTs
  - Data set largely collected as part of routine flows
- Continuous feedback to clinicians and MDTs
- NCRS produces linked audit datasets for analysis

Feeding back: examples

Public Health England

- E Atlas
- Reports and data briefings
- Cancer Commissioning Toolkit
- *Service & GP Profiles – Sue Knights*

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Cancer e-Atlas

www.ncin.org.uk/cancer_information_tools/eatlas/network/atlas.html?select=Eav&indicator=i0

UK Cancer e-Atlas by cancer networks

Data being displayed: Prostate - Male Survival 5 Year

NCIN national cancer intelligence network

Guide | Print | Save | Select localities | Export data | Go to health boundary e-Atlas

Select cancer type below (use -/+ at bottom to expand the whole list)

Select cancer network	Rat
Essex	82.9 %
Greater Manchester and Cheshire	81.4 %
Greater Midlands	80.2 %
Humber and Yorkshire Coast	80.5 %
Kent and Medway	81.9 %
Lancashire and South Cumbria	85.4 %
Merseyside and Cheshire	82.0 %
Mount Vernon	78.9 %
North East London	81.5 %
North London	87.1 %
North Trent	74.4 %
North West London	86.4 %
North of England	79.9 %
North of Scotland	80.8 %
Northern Ireland	82.9 %
Pan Birmingham	86.5 %
Peninsula	79.2 %
Scotland	80.1 %
South East London	81.5 %
South East Scotland	82.2 %
South West London	87.8 %
Surrey, West Sussex and Hampshire	83.7 %
Sussex	82.8 %
Thames Valley	88.0 %
United Kingdom	82.2 %
Wales	76.6 %
West of Scotland	78.2 %
Yorkshire Cancer Network	82.0 %

Cancer type	Locality	No.Cases/Deaths	Rate/%	UK avge	Comparator to UK average rate
All cancers combined					
Bladder					
Brain					
Breast					
Cervix					
Colorectal (bowel)					
Kidney					
Leukaemia					
Lung including trachea and bronchus					
Malignant melanoma of skin					
Non-Hodgkin lymphoma					
Oesophagus					
Ovary					
Pancreas					
Prostate					
Male Incidence*	North of England	1,697	86.3 ■	100.5	0 — 150
Male Mortality*	North of England	538	24.7 ♦	24.0	0 — 80
Male Survival 1 Year	North of England	-	95.4 % ♦	95.0 %	0 — 100
Male Survival 3 Year	North of England	-	86.3 % ■	87.8 %	0 — 100
Male Survival 5 Year	North of England	-	79.9 % ■	82.2 %	0 — 100
Stomach					
Uterus					

■ North of England

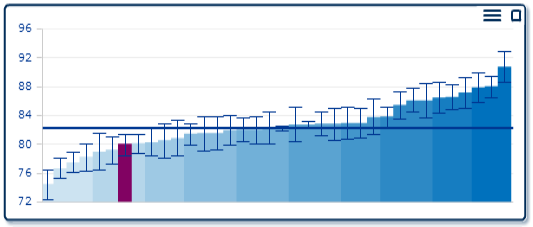
Significantly lower than UK average ■ Not significantly different than UK average ♦ Significantly higher than UK average ●

UK average | Data value ♦

Incidence | Mortality | Survival

* Age-standardised

Network rates



Information about the selected data item

Five-year relative survival estimate, males, ICD10 C61 : Prostate, 2000-2004

Relative survival is an estimate of the percentage of patients still alive five years on from their diagnosis with prostate cancer, taking into account the background mortality in the general population. It is therefore an estimate of the percentage of patients who survive their cancer for at least five years.

Data definitions:
Five-year relative survival estimate (%) based on people diagnosed during 2000-2004. Relative survival estimates shown above are not age-standardised.

Source: National Cancer Intelligence Network (NCIN), UK Cancer Information Service (UKCIS), accessed May 2011.
For more detailed information and definitions please see the Cancer e-Atlas Guide.

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National Cancer Intelligence Network

Cancer survival in England by stage

www.ncin.org.uk

Public Health England

Figure 2, one-year survival, all stage, by year of diagnosis, not standardised by age

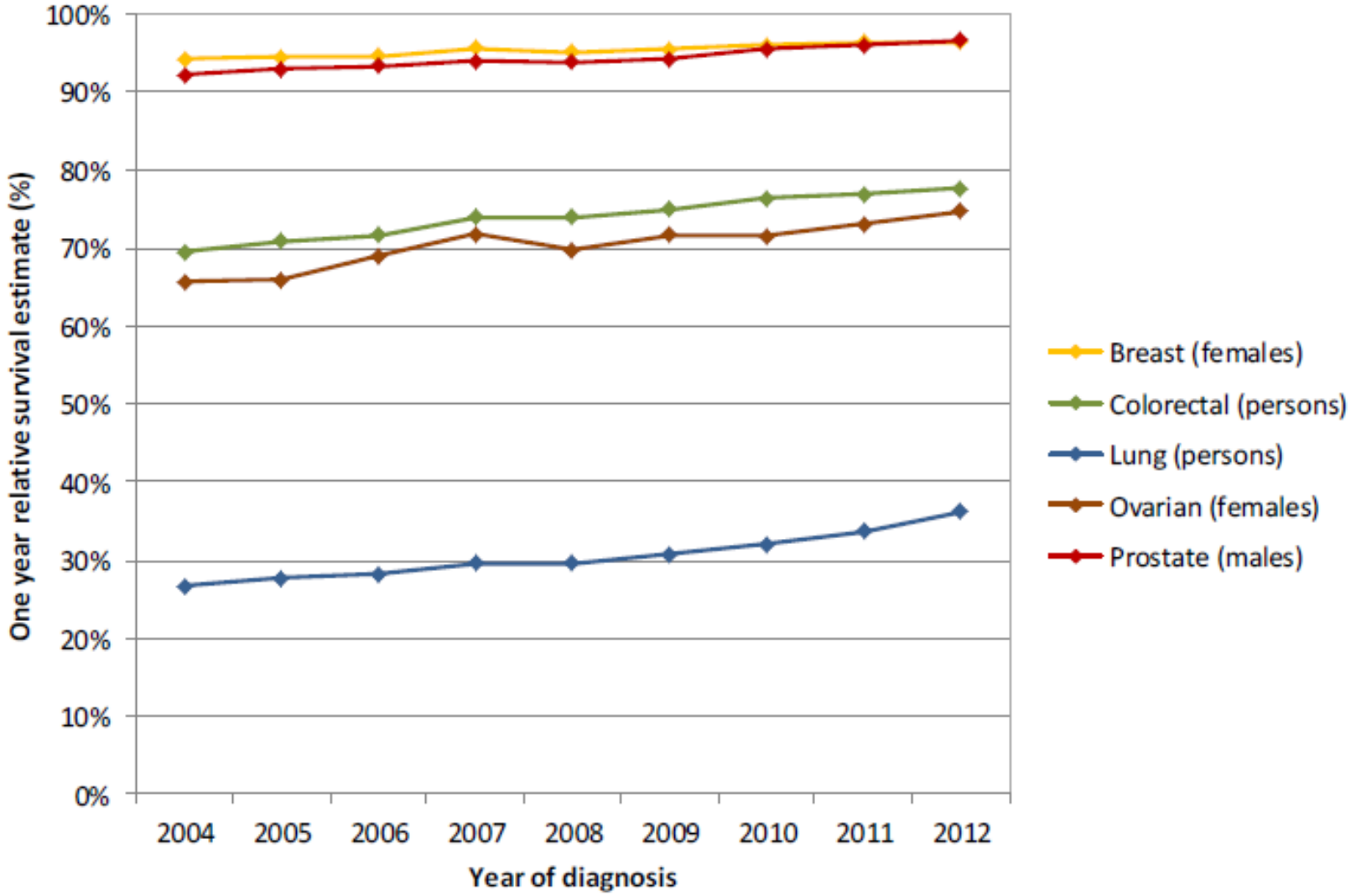

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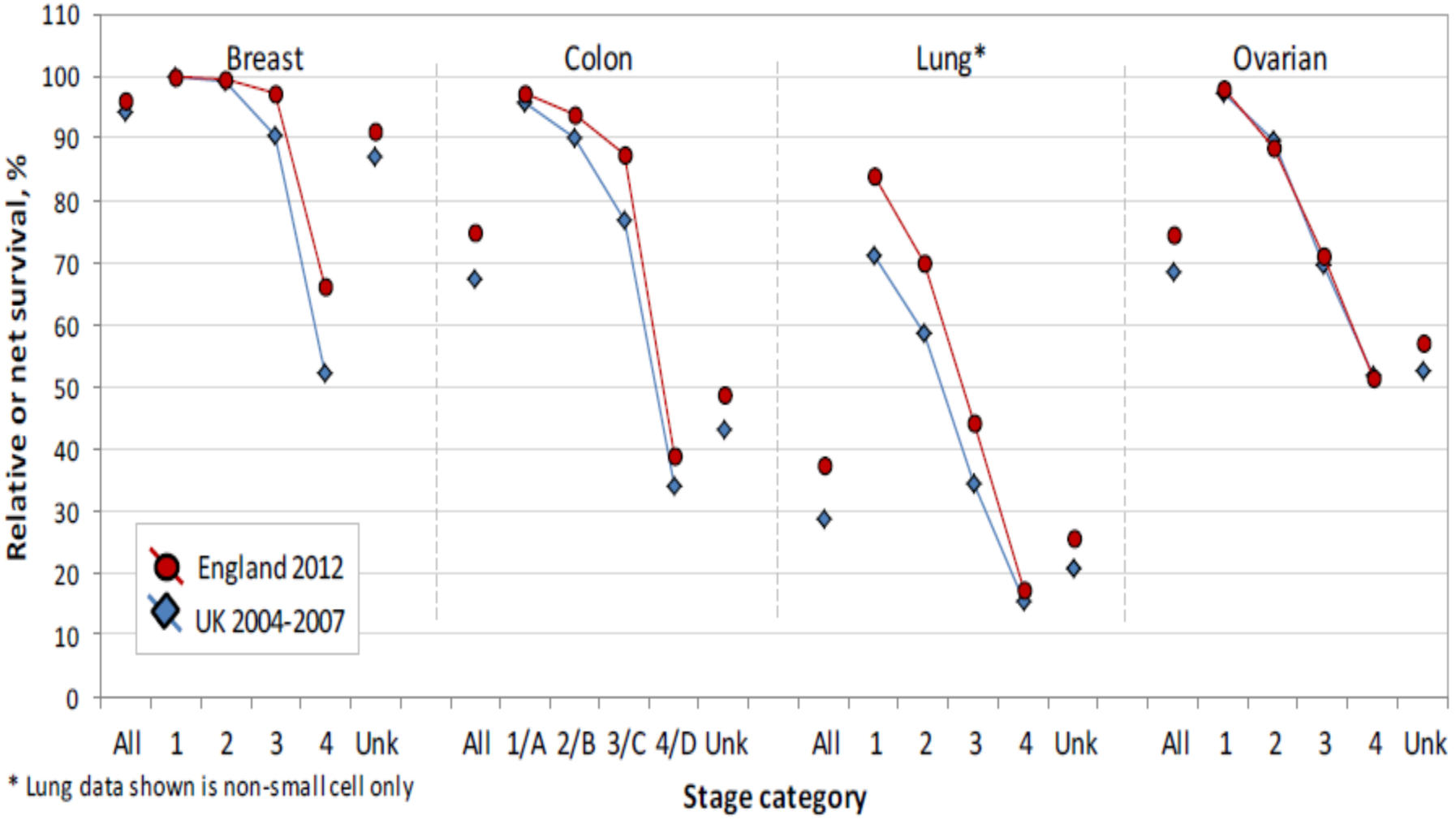
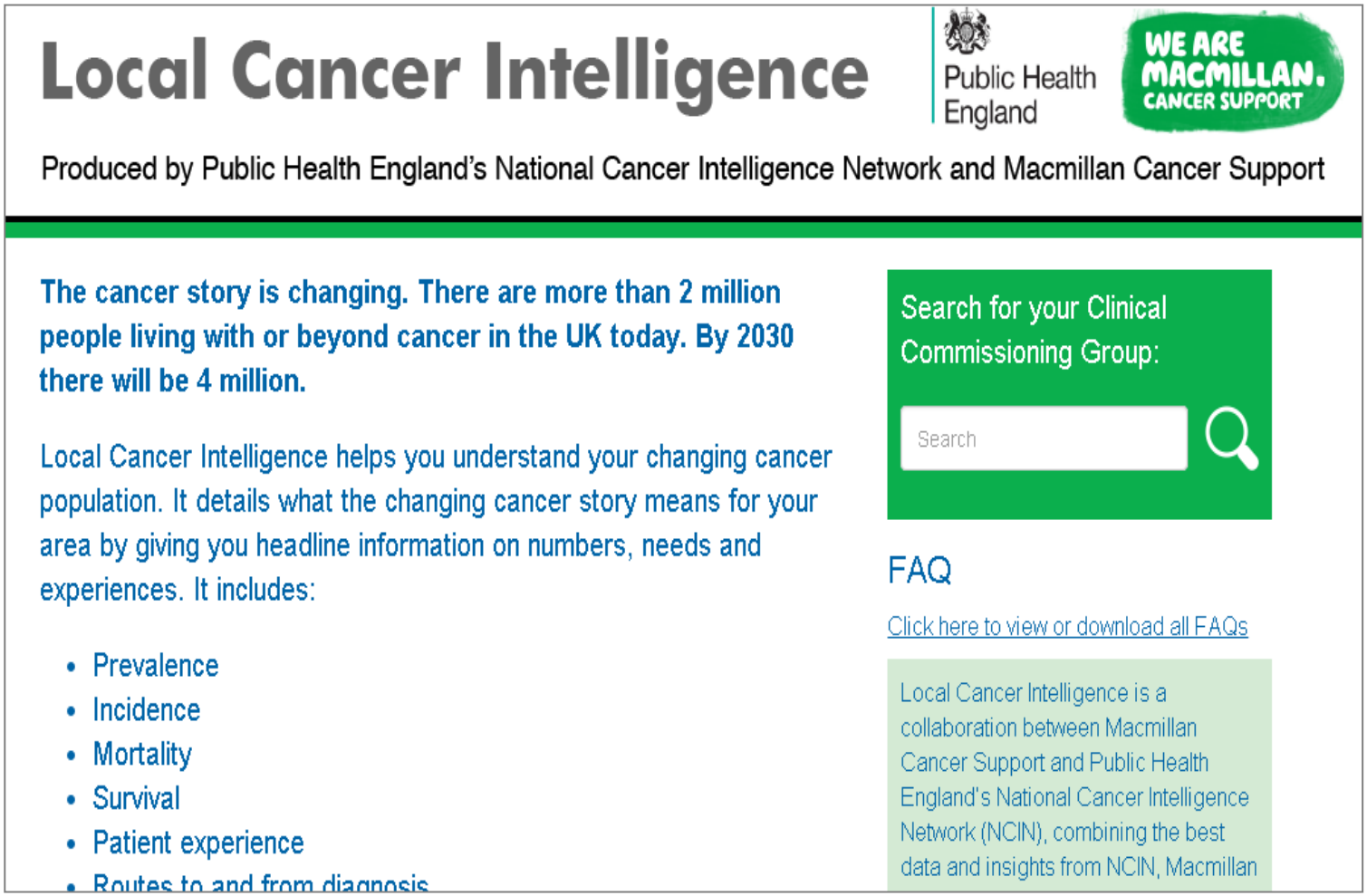
Figure 4 One-year relative/net survival, by stage, in the ICBP and England 2012 data



* Lung data shown is non-small cell only

Conclusions

- The quality and range of clinically relevant data on cancer is increasing rapidly
- High quality population-based data can clearly drive clinical behavioural change
- We now have a large and expanding clinical community engaged with cancer data
- Feedback and ongoing interaction with clinicians is an essential part of the process – peer pressure is powerful
- There is a need to improve how information is used at a local level
- The collection and intelligent use of data are at the heart of good clinical practice and commissioning

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