



Public Health
England

National Cancer Intelligence Network

Cancer Information in the NHS: sources and uses of data

Mick Peake

Clinical Lead, National Cancer Intelligence Network

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')



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)





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Cancer functions in Public Health England

- Prevention (smoking; obesity; HPV vaccination, etc.)
- Screening and its QA
- Environmental aetiology (including cluster analyses)
- Public Awareness Campaigns (Be Clear on Cancer Campaigns) – links with Local Authorities and Health & Well Being Boards
- Cancer Intelligence:
 - Registration
 - Analysis
 - Reporting



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Public Health England: Emerging 'Intelligence' Structures

**Public Health England
Chief Knowledge Officer
Prof. John Newton**

**Knowledge and
Intelligence & Health
Intelligence Networks
(Peter Bradley)**

**Disease
Registration
Service
Dr Jem Rashbass**

**Office for Data
Release
Chris Carrigan**

**National Cancer
Intelligence Network
Chris Carrigan**

**Knowledge &
Intelligence Teams
(NCIN)**

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**



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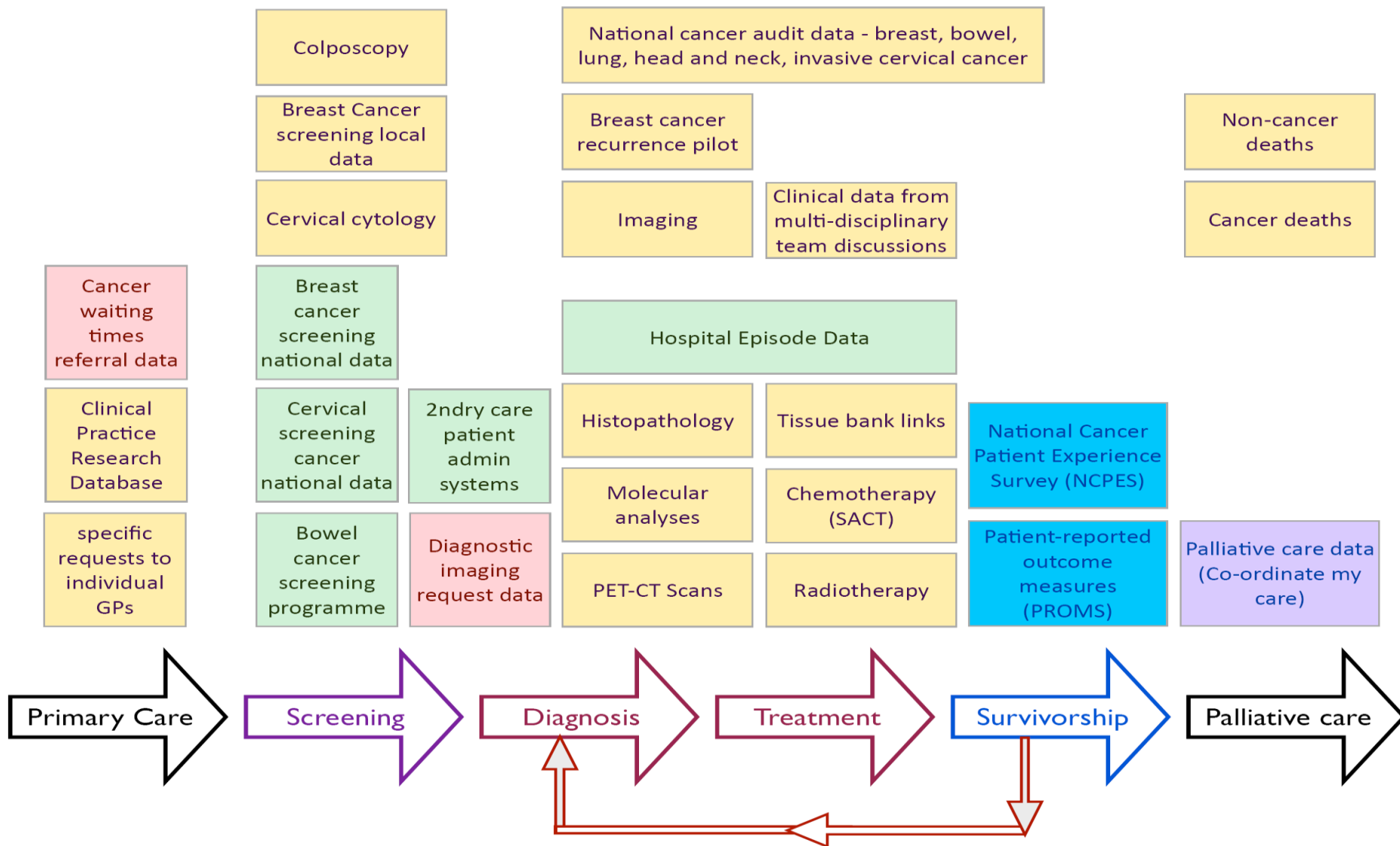
The English National Cancer Registration System

- 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



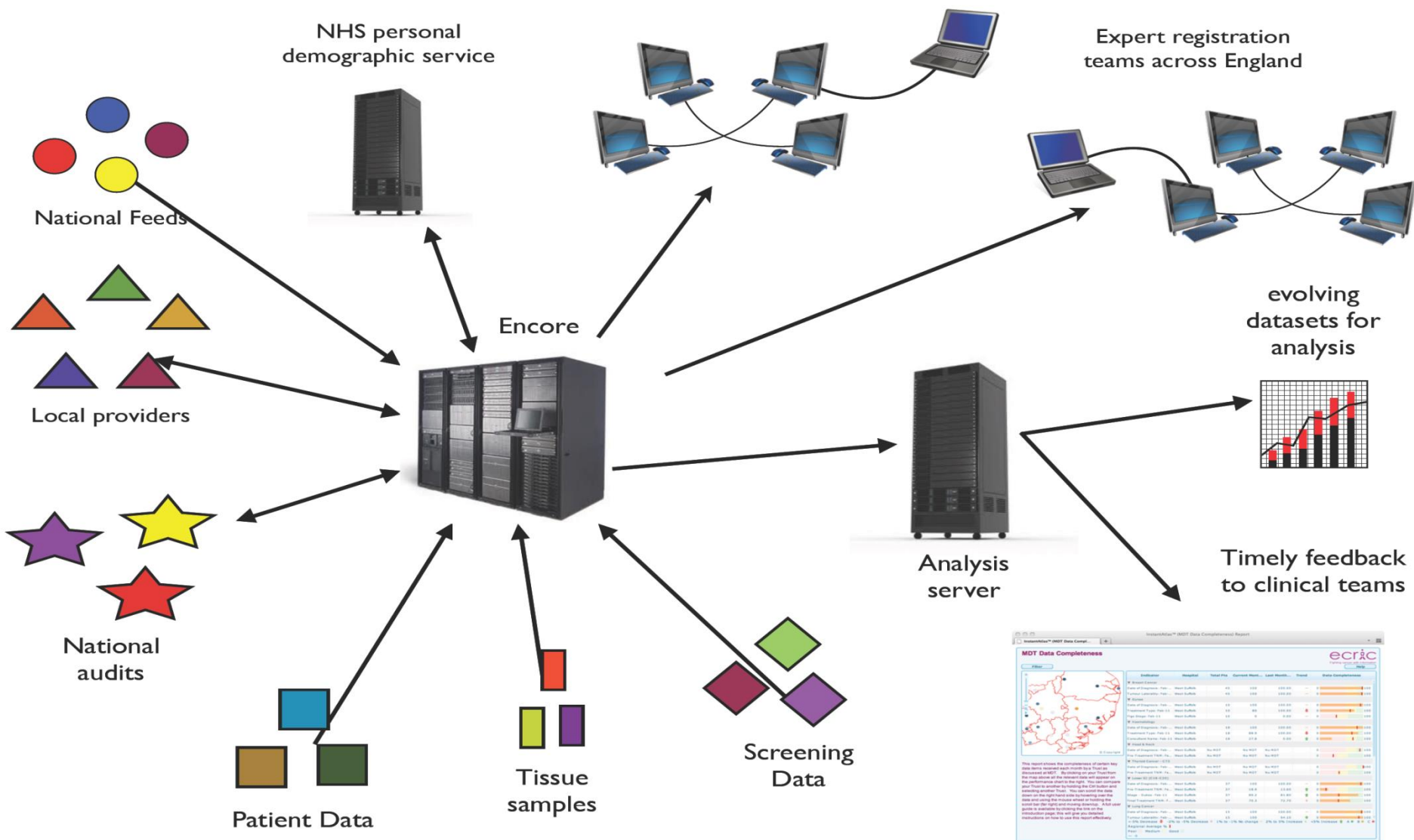
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National Cancer Registration Service: Data Sources



NCRS – ENCORE

(English National Cancer Online Registration Environment)





National Cancer Audits

- New contracts for National Lung and Colo-rectal cancer audits awarded December 2014:
 - Lung Cancer – RCP with NCRS
 - Colo-rectal Cancer – RCS with the HSC Information Centre
- Contract for Head & Neck Cancer Audits not awarded
- Upper GI Cancer audit ongoing – contract until 2016
- 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



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Who do we produce intelligence for?

- Clinicians & Clinical Teams
- NHS England (e.g. specialist commissioning)
- Clinical Commissioning Groups
- Health Care Providers
- NICE
- CQC
- Research Community
- National Statistics
- International Cancer Benchmarking Partnership
- Patients and the public
- Pharmaceutical Industry

Feeding back: examples



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- E Atlas
- Reports and data briefings
- Cancer Commissioning Toolkit
- Service & GP Profiles
- COSD portal – Clinical Headline Indicators

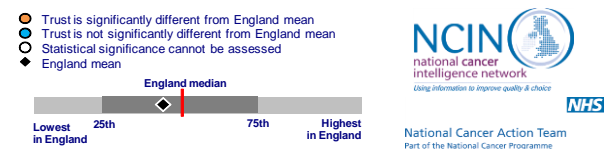
Data displayed are for patients for which the trust of treatment can be identified. For a full description of the data and methods please refer to the 'Data Definitions' document. For advice on how to use the profiles and the consultation, please refer to 'Profiles guidance'. Please direct comments/feedback to service_profiles@ncin.org.uk



Notes: (1) Large differences between indicators #1 and #2 are likely to indicate a large fraction of patients referred to or from the trust (2) Based on patient postcode and uses the Index of Multiple Deprivation (IMD) 2010; (3) Peer Review (NCPR) source - IV=Internal Verification, PR=Peer Review, SA=Self-Assessment; Amn=Amnesty; (4) The immediate risks or serious concerns may now have been resolved or have an action plan in place for resolution; (5) CNS = Clinical Nurse Specialist; (6) value = total number of survey respondents for tumour group. (7) Based on scoring method used by the Department of Health - red/green scores given for survey questions where the trust was in the lowest or highest 20% of all trusts. Questions with lower than 20 respondents were not given a score. Italic value displayed = the total number of viable survey questions, used as the denominator to calculate the % of red/greens for the trust; (8) CPES = Cancer Patient Experience Survey.

Cancer Service Profiles for Lung Cancer

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NHS Acute Trust				Select Trust/MDT				Percentage or rate				Trust rate or percentage compared to England				Lowest in England25th75thHighest in EnglandNational Cancer Action TeamPart of the National Cancer Programme			
Section	#	Indicator	No. of patients/cases or value	Trust	Lower 95% confidence limit	Upper 95% confidence limit	England	Lowest	Range	Highest	Source	Period							
Size	1	Number of newly diagnosed lung cancer patients per year, 2010 [experimental] (1)	304				207	41			NCDR	2010							
	2	Number of NLCA patients - lung cancer	329				191	1			NLCA	2011							
	3	Number of NLCA patients - mesothelioma	11				10	0			NLCA	2011							
Demographics (based on newly diagnosed patients, 2010)	4	Patients (from #1) aged 70+	188	62%	56%	67%	61%	39%			NCDR	2010							
	5	Patients (from #1) with recorded ethnicity	295	97%	94%	98%	93%	66%			NCDR	2010							
	6	Patients (from #5) with recorded ethnicity which is not White-British	3	1%	0%	3%	7%	0%			NCDR	2010							
	7	Patients (from #1) who are Income Deprived (2)		29%			16%	7%			NCDR	2010							
	8	Male patients (from #1)	161	53%	47%	58%	55%	43%			NCDR	2010							
	9	Number and proportion of patients (from #2) with a stage assigned	326	99%	97%	100%	92%	36%			NLCA	2011							
	10	Number and proportion of patients, excluding SCLC, with stage I or II assigned	83	29%	24%	35%	24%	10%			NLCA	2011							
	11	Number and proportion of patients, excluding SCLC, with a stage IIIA assigned	36	13%	9%	17%	14%	4%			NLCA	2011							
	12	Number and proportion of patients, excluding SCLC, with a stage IIIB and IV assigned	105	58%	50%	64%	68%	18%			NLCA	2011							
	13	Number and proportion of patients, excluding SCLC, with a stage IIB and IV assigned	105	58%	50%	64%	68%	18%			NLCA	2011							
Sp 1 Thru pat	Throughput and pathology		19	Number of urgent GP referrals for suspected cancer															
			20	Number and proportion of patients (from #2) with confirmed NSCLC															
			21	Number and proportion of patients (from #2) with confirmed SCLC															
			22	Number and proportion of patients (from #2) with confirmed NSCLC who are diagnosed NOS															
			23	Number and proportion of patients (from #2) with histological confirmation of diagnosis															
			24	Estimated proportion of tumours with emergency presentations [experimental]															
W t Pr	Waiting times		25	Q2 2012/13: Urgent GP referral for suspected cancer seen within 2 weeks															
			26	Q2 2012/13: Treatment within 62 days of urgent GP referral for suspected cancer															
			27	Urgent GP referrals for suspected cancer diagnosed with cancer [experimental]															
			28	Cases treated that are urgent GP referrals with suspected cancer [experimental]															
			29	Q2 2012/13: First treatment began within 31 days of decision to treat															
Outcomes and Recovery	36	First outpatient appointments and proportion of all outpatient appointments	23,053	41%	41%	41%	32%	15%			PBR SUS	2011/12							
	37	NLCA: Median survival in days and adjusted hazard ratio for mortality	176	0.95	0.82	1.11	1.0	0.57			NLCA	2011							
	38	NLCA: Proportion of patients surviving at one year and adjusted odds ratio of surviving 1 year	34%	1.43	0.97	2.11	1.0	0.40			NLCA	2011							
Patient Experience - CPES (4)	39	Patients surveyed & % reporting always being treated with respect & dignity (6)	13	n/a			83%	66%			CPES	2011/12							
	40	Number of survey questions and % of those questions scoring red and green		% Red				0%			CPES	2011/12							
	41	(7)		% Green				0%			CPES	2011/12							

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n/a = not applicable or not available

Cancer Service Profiles for Lung Cancer												
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	12	Number and proportion of patients, excluding SCLC, with a stage IIIB and IV assigned	167	58%	53%	64%	62%	13%			NLCA	2011
	13	Proportion of patients (from #2) with a Performance Status assigned	286	87%	83%	90%	89%	2%			NLCA	2011
Specialist Team	14	Peer review: Does the specialist team have full membership? (3)	SA	Yes							NCPR	2010/11
	15	Peer review: Proportion of peer review indicators met	SA	85%			89%				NCPR	2010/11
	16	Peer review: are there immediate risks? (4)	SA	No							NCPR	2010/11
	17	Peer review: are there serious concerns? (4)	SA	No							NCPR	2010/11
	18	Number and proportion of patients (from #2) seen by CNS (5)	206	63%	57%	68%	79%	0%			NLCA	2011
Throughput and pathway	Practice	30	No. and proportion of patients (from #2) receiving surgery, chemotherapy and/or radiotherapy									
		31	No. and proportion resected of patients (from #2) excluding confirmed SCLC									
		32	No. and proportion resected of patients (from #2) with confirmed NSCLC									
		33	No. and proportion resected of patients (from #2), excluding confirmed SCLC ,with stage I and II disease									
		34	No. and proportion of patients (from #2) with confirmed SCLC receiving chemotherapy									
Waiting time	Practice	35	No. and prop. of patients (from #2) with stage IIIB/IV, PS 0-1 excl. conf. SCLC, receiving chemotherapy									
		36	First outpatient appointments and proportion of all outpatient appointments									
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Patient Experience - CPES	Patient Experience - CPES (4)	41									% Green	



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.



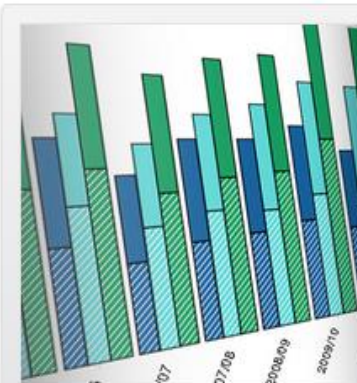
Comparisons

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



Profiles

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



Charts

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

[i Background](#)

[? Help](#)

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	period expectations of life - years
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	31.6	%
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		
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	11.6	% 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
2.5 Employment of people with mental illness	Jan-Mar13	39.0	% gap
2.6.i Estimated diagnosis rate for people with dementia	2011/12	48.0	%
2.6.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 episodic conditions

Overarching indicators	Latest data	Indicator value	Unit
3a Emergency admissions for acute conditions that should not usually require hospital admission (all ages)	2011	11.3	per 100,000 population
3b Emergency readmissions within 30 days of discharge from hospital	2011	11.3	per 100,000 population
Improvement areas			
3.1.i Total health gain as assessed by patients for elective procedures - Hip replacement	2011	58.0	per 100,000 population
3.1.ii - Knee replacement	2011	23.5	per 100,000 population
3.1.iii - Groin hernia	2011	14.9	per 100,000 population
3.1.iv - Varicose veins	2011	107	per 100,000 population
3.1.v - Psychological therapies	2011	107	per 100,000 population
3.2 Emergency admissions for children with lower respiratory tract infections	2011	107	per 100,000 population
3.3 An indicator on recovery from injuries and trauma	2011	107	per 100,000 population
3.4 Proportion of stroke patients reporting an improvement in activity/lifestyle on the Modified Rankin Scale at 6 months	2011	107	per 100,000 population
3.5.i Proportion of patients with a fragility fracture recovering to their previous levels of mobility at 30 days	2011	107	per 100,000 population
3.5.ii Proportion of patients with a fragility fracture recovering to their previous levels of mobility at 120 days	2011	107	per 100,000 population
3.5.iii Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into rehabilitation services	2011	107	per 100,000 population
3.5.iii Proportion offered rehabilitation following discharge from acute or community hospital	2011	107	per 100,000 population

NHS Outcomes

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

200X indicates calendar year
200X/XX indicates financial year

1 Preventing people from dying prematurely

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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

The screenshot displays the HSCIC Indicator Portal interface. The top navigation bar includes the HSCIC logo and the text "Health & Social Care Information Centre". Below this, a search bar and a "Find data" button are visible. The left sidebar contains a "Find data" section with a "Home" link and a "Tools" dropdown menu. The main content area shows the "CCG Indicator 1.9 (NHS OF 1.4)" for "Under 75 mortality from cancer".

CCG Indicator 1.9 (NHS OF 1.4)

Under 75 mortality from cancer

Statistic Directly age and sex standardised mortality rate (DSR) per 100,000, 95% confidence intervals (CI)

Period 2009 - 2012 (calendar years)

Level of coverage England

Breakdown All registered patients in England (National)

Released September 2013

Source GP registered population counts from NHAIS (Exeter), the Primary Care Mortality Database (PCMD) and ONS mid-year England population estimates

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Year	Breakdown	Level	Level Description	Gender	DSR	CI Lower	CI Upper	Population	Observed
2012	National	National	All registered patients in England (National)	Person	123.26	122.30	124.24	51450031	62358
2012	National	National	All registered patients in England (National)	Male	131.05	129.65	132.47	25999729	33461
2012	National	National	All registered patients in England (National)	Female	115.49	114.17	116.83	25450302	28897
2011	National	National	All registered patients in England (National)	Person	121.61	120.65	122.57	51450031	62229
2011	National	National	All registered patients in England (National)	Male	129.37	127.98	130.76	25999729	33446
2011	National	National	All registered patients in England (National)	Female	113.86	112.55	115.19	25450302	28783
2010	National	National	All registered patients in England (National)	Person	120.27	119.32	121.22	51450031	61711
2010	National	National	All registered patients in England (National)	Male	128.77	127.39	130.16	25999729	33380
2010	National	National	All registered patients in England (National)	Female	111.79	110.49	113.11	25450302	28331
2009	National	National	All registered patients in England (National)	Person	117.61	116.67	118.55	51450031	60734
2009	National	National	All registered patients in England (National)	Male	125.04	123.68	126.41	25999729	32646



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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**
- **More meaningful regulation - CQC**
- **Providing robust evidence behind National Guidelines and Quality Standards (NICE)**
- **Supporting 'intelligent commissioning'**
- **Supporting Clinical Trials**



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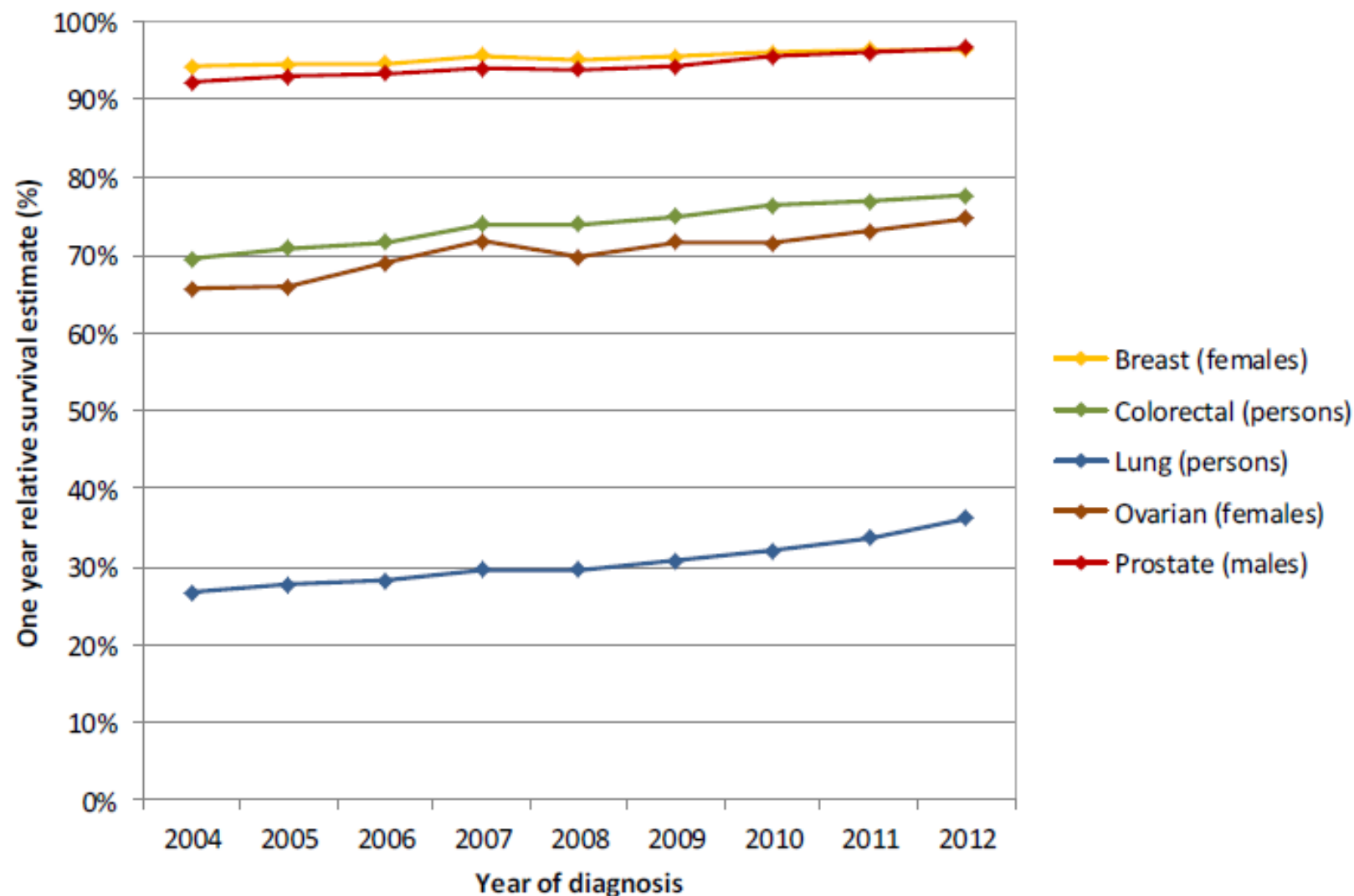
National Cancer Intelligence Network

Cancer survival in England by stage

www.ncin.org.uk



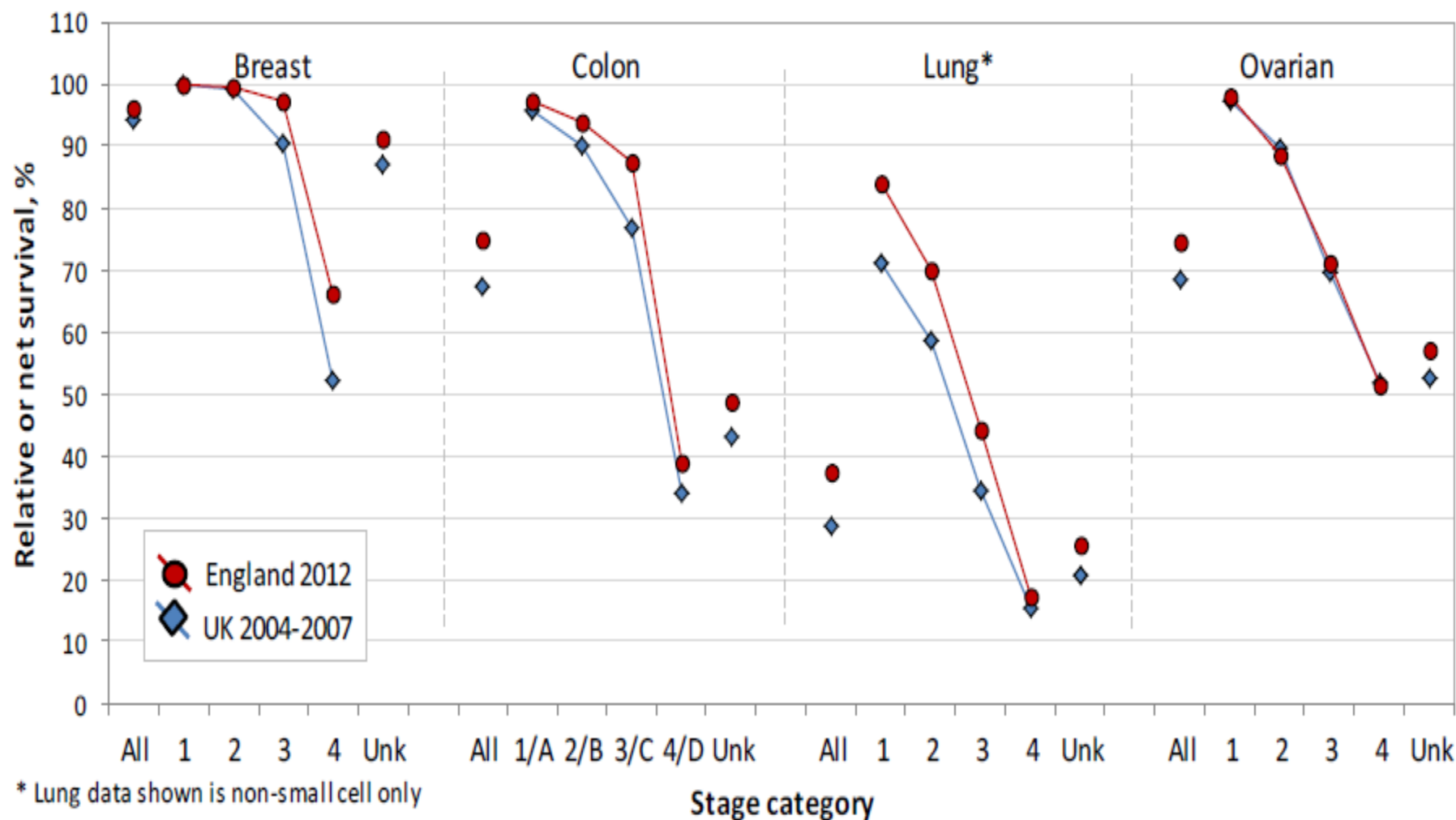
Figure 2, one-year survival, all stage, by year of diagnosis, not standardised by age





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



Conclusions

- The quality and range of clinically relevant data on cancer is increasing rapidly
- The collection and intelligent use of data are at the heart of good clinical practice and commissioning
- 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
- It is vital that we co-ordinate the work of the NCIN's SSCRGs and NHS England's CRGs