NCIN

national cancer intelligence network

Using information to improve quality & choice

What is the NCIN?

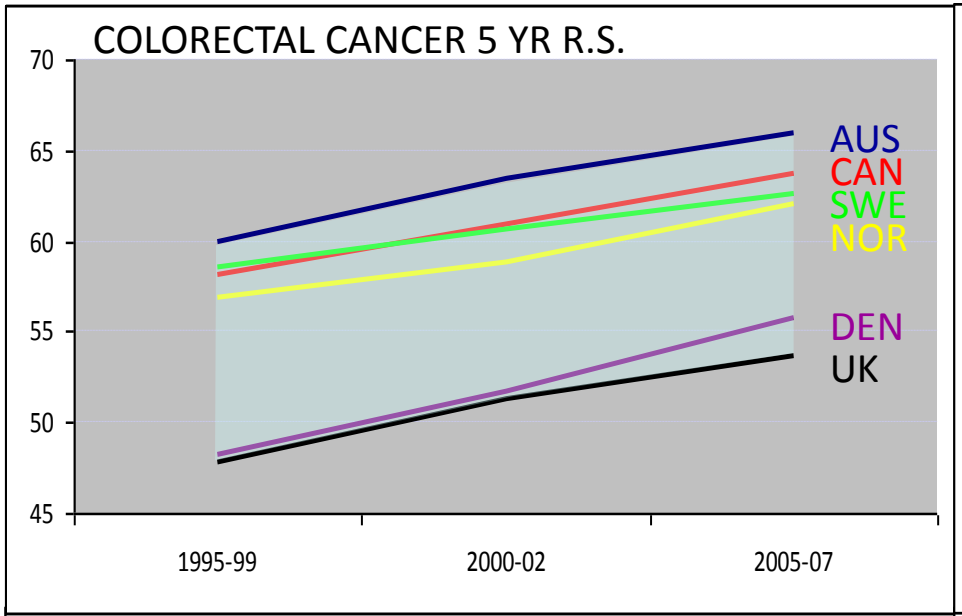
Dr Mick Peake

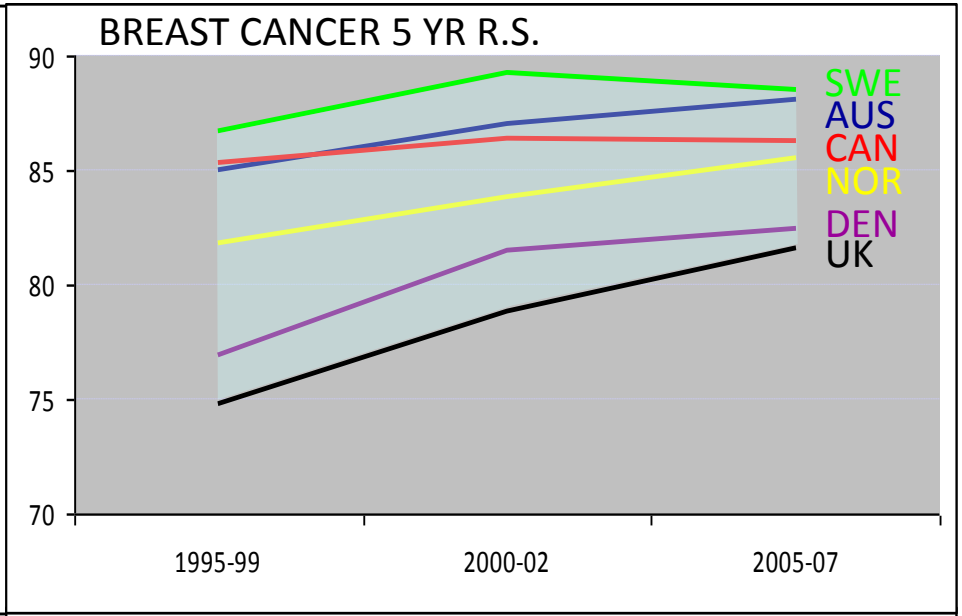
Clinical Lead, NCIN

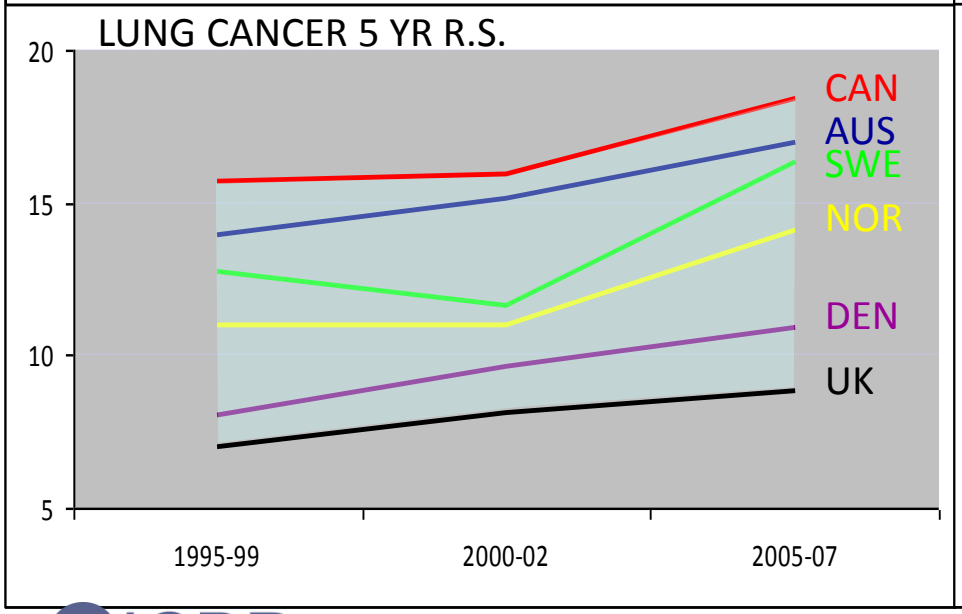
www.ncin.org.uk

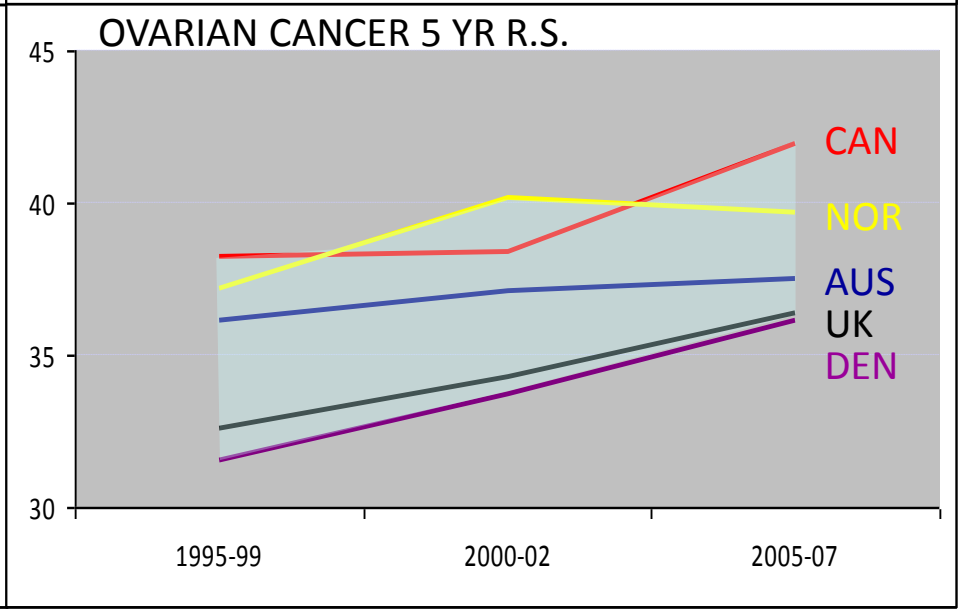
NCRI National Cancer Research Institute

International Cancer Benchmarking Partnership: Comparative 5 yr relative survival 1995 - 2007









ICBP
International Cancer Benchmarking Partnership

Source: Coleman MP et al., Lancet. 2011;377:127-38

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Goal for NCIN: ***"To develop the best cancer information service of any large country in the world – by 2012"***

Mike Richards 2007

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NCRI
National Cancer Research Institute

NCIN Partners

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West Midlands
Cancer Intelligence Unit

Cancer Screening Programmes

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NCIN Direct Funders

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breakthrough breast cancer

CANCER RESEARCH UK

NHS National Cancer Action Team

MRC Medical Research Council

DH Department of Health

WE ARE MACMILLAN. CANCER SUPPORT

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NCIN Direct Funders

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intelligence network

CANCER
RESEARCH
UK

Public Health
England

WE ARE
MACMILLAN.
CANCER SUPPORT

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NCIN core objectives

- Promoting efficient and effective data collection throughout the cancer journey

- Providing a common national repository for cancer datasets

- Producing expert analyses, based on robust methodologies, to monitor patterns of cancer care

- Exploiting information to drive improvements in standards of cancer care and clinical outcomes

- Enabling use of cancer information to support audit and research programmes

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Site-Specific Clinical Reference Groups

- Brain/CNS
- Breast
- Children, Teenage & Young Adults
- Colo-rectal
- Gynaecological cancers
- Haematological cancers
- Head & Neck
- Lung
- Bone & soft tissue Sarcoma
- Skin (including non-melanoma)
- Upper GI (including Hepato-biliary)
- Urology (all 4 sub-types)

Lead Cancer Registries (Knowledge & Intelligence Teams)

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Tumour site	Lead Registry
Breast cancer	West Midlands Cancer Intelligence Unit
CNS cancers	Eastern Cancer Registry and Information Centre
Colorectal cancer	Northern and Yorkshire Cancer Registration and Information Service
Gynaecological cancers	Trent Cancer Registry
Haematological cancers	Northern and Yorkshire Cancer Registration and Information Service
Head & neck cancers	Oxford Cancer Intelligence Unit
Lung cancer	Thames Cancer Registry
Sarcomas	West Midlands Cancer Intelligence Unit
Skin cancer	South West Public Health Observatory
Upper GI cancers	Thames Cancer Registry
Urological cancers	South West Public Health Observatory
Children & TYA	North West Cancer Intelligence Service
	Childhood Cancer Research Group

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‘Cross-cutting’ Groups

- **Radiotherapy**
  - collection and use of RT data
- **Chemotherapy**
  - development and implementation of dataset
- **Pathology** (with RCPath)
  - datasets
- **Radiology**: Joint RCR/NCIN working party
  - proforma-based (codable) reporting (diagnosis/stage)
  - extraction of data from RIS systems
- **Co-morbidity**
- **National Cancer Staging Panel**
- **(Health Economics)**

Site-Specific Clinical Reference Groups

- In place since late 2008
- Very varied 'starting points' (e.g. Lung vs CNS tumours)
- Opinion leaders chosen as chairs
- Multi-disciplinary clinical membership (except primary care!!)
- Lay (patient) and voluntary sector members
- Strong links with professional bodies & National Cancer Research Institute Clinical Study Groups
- Work closely with a lead Cancer Registry
- Chairs' Forum meets twice a year
- Annual workshops with Cancer Network SSG chairs

Site-Specific Clinical Reference Groups

- Examples of work to date:
  - Annual work programmes
  - General site-specific clinical advice
  - National Cancer Datasets
  - Review of National Cancer Data Repository
  - Production of ‘data briefings’
  - Supporting Peer Review (Clinical Lines of Enquiry)
  - Supporting Map of Medicine
  - Links with National Cancer Audits
  - Feeding into NICE guideline development & Quality Standards programme
  - Development of Service Profiles

NCIN – Main outputs

- National Cancer Data Repository
- National level reports
- E-Products:
  - eAtlas
  - Cancer Commissioning Toolkit
  - GP Practice & Service profiles
- Data briefings
- Dataset development & implementation
- Clinically-led work programmes
- Analytical programmes with CRUK and Macmillan

Who do we produce intelligence for?

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- Clinicians
- Department(s) of Health/NHS Commissioning Board/Public Health England
- Health Care Providers
- Health Care Commissioners
- Research Community
- National Statistics
- International Cancer Benchmarking Partnership
- Patients and the public

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National Cancer Data Repository (v2010)

Registry-HES linkage: 1985-2010 (England)

- >8 million tumour records from Registries
  - c. 30 fields of data
- >50 million hospital in patient episodes
  - c. 150 fields of data

More recently added

- National Cancer Audit data
- Co-morbidity (Charslon Index)
- Radiotherapy Dataset

Some national reports & analyses - www.ncin.org.uk

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- UK incidence & mortality
- One year survival
- Deprivation
- Prevalence
- Ethnicity
- Male Cancers
- Major Surgery
- Routes to Diagnosis
- Cervical, Breast and Head & neck cancers
- 30-day mortality after colo-rectal surgery

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NCIN:
Incidence and mortality

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New cancer cases, crude and age-standardised* incidence rates per 100,000 (with 95% confidence intervals), Cancer Networks, UK, 2006

C00-C97 excl. C44: All malignant neoplasms (excl. non-melanoma skin cancer)

Cancer Network	Males: Number of cases	Males: Crude rate	Males: ASR	Males: 95% confidence interval	Females: Number of cases	Females: Crude rate	Females: ASR	Females: 95% confidence interval	Persons: Number of cases	Persons: Crude rate	Persons: ASR	Persons: 95% confidence interval
NW1 Lancashire and South Cumbria CN	4,417	583.5	448.9	432.8 - 459.2	4,157	564.2	394.0	344.4 - 387.5	8,574	533.1	409.9	392.1 - 409.7
NW2 Greater Manchester and Cheshire CN	7,552	590.6	450.8	440.4 - 460.8	7,123	482.6	367.2	348.5 - 386.6	14,675	486.1	403.8	397.2 - 410.6
NW3 Merseyside and Cheshire CN	4,968	563.8	447.4	431.6 - 455.8	5,208	525.2	387.2	378.2 - 398.4	10,206	533.8	416.4	407.0 - 425.7
NW Yorkshire CN	8,658	479.8	417.3	408.7 - 427.8	8,685	455.6	354.6	345.2 - 364.0	17,121	467.1	385.0	378.9 - 391.1
NW7 Humber and Yorkshire Coast CN	2,805	526.8	435.3	394.9 - 415.7	2,653	502.5	354.8	342.4 - 371.4	5,318	514.3	376.8	366.0 - 389.2
NW8 North Trent CN	4,813	585.7	452.8	423.0 - 445.2	4,695	519.8	376.2	356.8 - 387.7	9,295	527.8	404.4	395.9 - 412.9
NT1 Part Birmingham CN	4,495	484.3	434.1	421.2 - 448.9	4,391	439.8	364.4	345.1 - 387.8	8,886	461.8	394.3	386.7 - 401.9
NT2 Aston CN	2,279	482.1	394.4	389.8 - 403.4	2,398	445.7	339.6	321.2 - 350.7	4,517	453.8	360.2	349.3 - 371.0
NT3 Mid Trent CN	4,369	543.2	419.8	405.9 - 431.4	4,078	487.8	359.1	347.4 - 370.9	8,378	520.1	389.9	383.2 - 397.5
NT4 Derbyshire CN	1,782	517.8	438.4	405.4 - 445.4	1,685	473.4	361.6	333.9 - 389.6	3,467	493.8	398.2	374.7 - 401.6
NT5 Leics, Northants and Rutland CN	3,848	483.4	432.8	393.4 - 435.8	3,626	449.5	362.2	343.2 - 384.3	7,298	466.2	377.8	359.0 - 395.8
NT6 Mount Vernon CN	2,464	491.7	377.5	362.8 - 392.6	2,524	427.6	333.1	318.4 - 348.9	4,988	459.3	355.3	345.2 - 365.5
NT7 West London CN	3,128	562.1	372.4	359.2 - 385.6	3,128	453.8	329.6	318.9 - 340.4	6,256	506.4	351.0	342.2 - 359.9
NT8 North London CN	2,673	562.8	396.8	381.9 - 403.4	2,618	523.7	367.0	350.9 - 371.6	5,289	533.8	346.8	335.9 - 357.7
NT9 North East London CN	2,472	526.2	384.3	369.7 - 378.8	2,491	523.6	361.7	348.2 - 374.2	4,950	534.1	333.0	323.4 - 342.6
NT4 South East London CN	2,807	570.8	433.5	399.3 - 419.6	2,991	577.6	342.4	329.3 - 355.8	5,898	576.3	373.0	362.9 - 383.0
NT5 South West London CN	2,532	580.7	414.9	399.6 - 431.3	2,485	565.3	332.8	318.9 - 346.4	4,897	576.3	373.8	363.0 - 384.5
NT6 Peninsula CN	4,774	597.3	412.4	400.4 - 424.5	5,018	562.2	362.1	373.5 - 388.7	9,790	594.7	387.7	380.0 - 395.7
NT7 Dorset CN	2,401	739.8	436.9	421.9 - 452.0	2,304	605.1	361.3	356.5 - 404.0	4,705	671.7	418.6	405.6 - 431.6
NT8 Avon, Somerset and Wiltshire CN	5,904	562.8	424.8	422.4 - 447.8	5,618	522.8	360.8	359.5 - 382.1	10,674	542.8	407.7	399.4 - 415.9
NT9 3 Counties CN	2,893	561.3	391.8	378.0 - 405.7	2,658	563.2	343.6	329.5 - 357.5	5,548	517.6	367.8	357.3 - 377.8
NT0 Thames Valley CN	4,817	427.8	436.4	399.1 - 411.6	5,083	425.4	362.8	352.5 - 373.3	9,900	431.2	381.8	374.0 - 389.3
NT1 Central South Coast CN	5,347	550.8	423.4	411.7 - 435.0	5,312	535.3	376.9	365.0 - 388.8	10,559	542.8	399.8	391.6 - 407.8
NT2 Surrey, West Sussex and Hampshire CN	3,908	424.8	353.7	340.8 - 366.5	3,197	422.1	330.4	336.5 - 322.2	6,190	426.1	337.0	328.3 - 345.7
NT3 Sussex CN	2,749	522.7	391.2	347.6 - 375.8	2,937	510.9	322.0	336.9 - 335.3	5,850	516.5	341.8	332.2 - 351.5
NT4 Kent and Medway CN	3,701	471.8	391.9	369.6 - 384.4	3,838	484.8	340.7	329.2 - 352.2	7,538	488.2	361.3	352.9 - 369.8
NT5 Greater Midlands CN	4,832	501.3	388.4	353.9 - 403.8	4,556	460.2	341.8	335.3 - 356.5	9,212	490.8	370.7	362.8 - 378.5
NT6 North of England CN	7,738	561.2	434.5	414.9 - 434.1	7,666	514.8	371.4	362.7 - 380.0	15,619	522.8	387.9	381.6 - 408.4
NT7 Anglia CN	4,502	502.9	382.9	372.8 - 391.4	4,313	473.3	337.0	328.1 - 345.9	12,829	487.4	359.8	353.0 - 365.9
NT8 Essex CN	3,982	477.7	377.2	365.3 - 389.1	3,973	459.8	339.4	330.5 - 348.4	7,915	487.8	353.3	345.2 - 361.4
England	110,833	486.8	437.8	400.8 - 410.3	110,548	467.5	352.3	350.1 - 354.3	220,873	476.9	390.0	378.8 - 381.8
North of Scotland CN	3,163	561.8	396.3	375.0 - 405.1	3,456	534.5	367.2	350.0 - 376.7	6,619	546.4	376.1	366.7 - 385.5
South East of Scotland CN	3,537	522.9	421.4	417.0 - 445.8	3,192	519.7	367.2	374.2 - 400.2	7,229	530.8	400.2	389.6 - 410.8
West of Scotland CN	6,049	526.1	452.8	442.0 - 465.1	6,002	519.6	383.4	373.6 - 393.3	12,542	522.7	419.5	413.0 - 426.1
Scotland	12,749	510.1	426.1	422.8 - 437.8	13,190	521.6	379.3	373.0 - 386.8	26,939	526.3	404.7	398.8 - 408.8
North Wales CN	2,359	506.8	451.2	431.8 - 473.9	2,651	564.8	383.2	373.9 - 410.4	4,152	535.8	431.7	419.3 - 435.1
South West Wales CN	2,917	590.3	419.3	398.7 - 422.6	2,426	545.4	359.8	351.1 - 382.2	4,645	570.1	391.0	378.6 - 402.6
South East Wales CN	3,959	576.1	472.4	458.5 - 489.3	3,816	495.2	372.3	378.3 - 395.6	7,559	534.5	422.8	413.9 - 432.6
Wales	9,993	566.4	440.8	440.0 - 459.2	9,107	533.1	370.1	366.4 - 382.8	19,057	552.3	412.4	406.0 - 419.9
Northern Ireland	3,417	434.7	382.3	370.1 - 406.4	3,837	481.9	337.4	328.3 - 346.5	6,954	422.3	364.6	354.3 - 373.4
United Kingdom	144,358	493.6	411.8	408.8 - 413.8	144,164	473.3	353.4	350.6 - 357.2	288,000	482.7	383.8	380.3 - 386.8

Trends in one year cancer survival, England, 1985-2004

C15: Oesophagus

Males

Years of diagnosis	Number in Cohort	Cumulative Deaths	% Crude Survival	% Relative Survival	95% Confidence Interval
1985-1989	11,722	9,010	23.1	24.4	23.6 - 25.2
1990-1994	13,421	9,946	25.9	27.4	26.6 - 28.2
1995-1999	14,779	10,404	29.6	31.1	30.3 - 31.9
2000-2004	17,155	10,959	36.1	37.9	37.2 - 38.7

Estimated change per 5-yr cohort (%): 4.5 (1.7 - 7.2); P value: 0.020

Notes on Trend: Estimated 4.5% change per 5 year cohort gives an estimated increase of 0.86% per annum.

Females

Number in Cohort	Cumulative Deaths	% Crude Survival	% Relative Survival	95% Confidence Interval
6,253	5,262	24.1	25.5	24.5 - 26.5
9,202	6,792	23.2	27.7	26.7 - 28.7
9,522	6,989	28.6	28.2	27.2 - 29.2
9,724	6,647	31.6	33.6	32.6 - 34.6

Estimated change per 5-yr cohort (%): 2.5 (-0.6 - 5.5); P value: 0.073

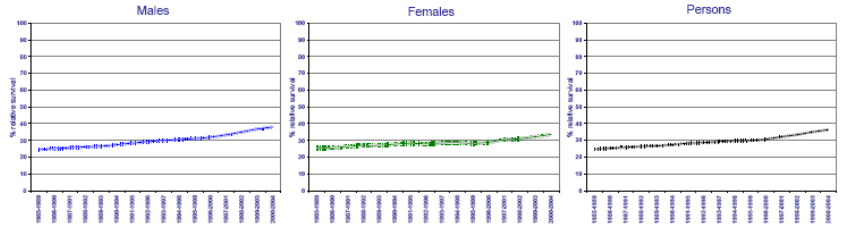
Notes on Trend: The regression test shows no statistically significant linear change in relative survival over all four time periods. There may, however, still be significant differences between one time period and another but these have not been specifically tested.*

Persons

Number in Cohort	Cumulative Deaths	% Crude Survival	% Relative Survival	95% Confidence Interval
19,975	16,272	25.5	24.9	24.2 - 25.5
22,623	16,739	26.0	27.5	26.9 - 28.1
24,301	17,393	28.4	30.0	29.4 - 30.6
26,879	17,606	34.5	36.4	35.8 - 37.0

Estimated change per 5-yr cohort (%): 3.7 (0.8 - 6.6); P value: 0.031

Notes on Trend: Estimated 3.7% change per 5 year cohort gives an estimated increase of 0.74% per annum.



Males

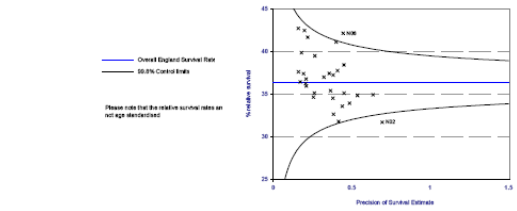
Cancer Network	Number in Cohort	Cumulative Deaths	% Crude Survival	% Relative Survival	95% Confidence Interval
NW7 Lancashire and South Cumbria CN	594	388	33.0	34.6	30.5 - 38.6
NW2 Greater Manchester and Cheshire CN	1,113	781	31.6	33.2	30.2 - 36.1
NW3 Merseyside and Cheshire CN	728	488	35.7	37.4	33.7 - 41.1
NW6 Yorkshire CN	800	491	43.4	44.8	40.7 - 48.9
NW7 Humber and Yorkshire Coast CN	410	271	35.2	36.8	31.9 - 41.7
NW8 North Trent CN	639	428	33.0	34.7	30.8 - 38.7
NT1 Part Birmingham CN	583	382	34.5	36.0	31.9 - 40.1
NT2 Aston CN	300	193	40.6	42.0	36.9 - 46.7
NT3 Mid Trent CN	550	405	37.7	39.5	35.5 - 43.5
NT4 Derbyshire CN	297	194	34.7	36.4	30.8 - 42.2
NT5 Leics, Northants and Rutland CN	552	341	38.3	40.2	35.9 - 44.6
NT6 Mount Vernon CN	348	221	36.5	38.2	32.8 - 43.7
NT7 West London CN	404	255	40.3	44.2	39.1 - 49.3
NT8 North London CN	399	198	33.8	35.0	29.8 - 41.2
NT9 North East London CN	370	245	33.8	35.3	30.2 - 40.9
NT4 South East London CN	350	220	36.3	38.0	32.6 - 43.4
NT5 South West London CN	353	209	40.8	42.8	37.4 - 47.4
NT6 Peninsula CN	786	519	34.0	35.9	32.3 - 39.5
NT7 Dorset CN	278	151	45.7	48.1	41.8 - 54.4
NT8 Avon, Somerset and Wiltshire CN	706	454	38.5	40.6	36.8 - 44.5
NT9 3 Counties CN	347	227	34.9	36.5	31.1 - 41.9
NT0 Thames Valley CN	733	452	38.3	40.3	36.5 - 44.0
NT1 Central South Coast CN	610	502	38.0	40.1	36.5 - 43.8
NT2 Surrey, West Sussex and Hampshire CN	471	277	41.3	43.4	38.7 - 48.3
NT3 Sussex CN	431	277	35.7	37.0	32.9 - 42.7
NT4 Kent and Medway CN	535	410	34.0	35.9	31.8 - 40.6
NT5 Greater Midlands CN	692	466	32.7	34.3	30.5 - 38.9
NT6 North of England CN	980	638	34.8	36.5	33.3 - 39.6
NT7 Anglia CN	647	576	33.9	33.7	30.4 - 37.1
NT8 Essex CN	533	400	35.6	38.7	34.7 - 42.8
England	17,155	10,959	36.1	37.9	37.2 - 38.7

Females

Number in Cohort	Cumulative Deaths	% Crude Survival	% Relative Survival	95% Confidence Interval
389	290	27.8	29.3	24.3 - 34.3
679	415	27.2	29.8	24.9 - 32.7
452	305	29.4	31.2	26.5 - 35.9
459	282	34.5	36.0	33.1 - 42.8
349	170	39.2	36.8	24.6 - 37.0
384	287	25.3	26.8	22.1 - 31.5
381	264	30.7	32.2	27.3 - 37.2
191	127	33.5	35.1	28.0 - 42.3
362	249	31.2	33.6	27.8 - 38.2
136	84	36.2	40.3	31.5 - 49.1
304	215	29.3	31.1	27.5 - 35.0
170	113	33.5	35.6	27.9 - 43.2
358	156	54.6	56.7	29.7 - 43.7
163	105	35.6	36.2	30.1 - 46.2
189	119	36.6	38.6	32.1 - 47.1
384	142	30.4	32.4	26.5 - 39.2
242	129	39.2	41.7	34.6 - 49.9
481	330	28.4	30.5	26.2 - 35.0
181	125	32.0	34.3	26.9 - 41.7
410	246	39.5	42.0	36.8 - 47.1
202	134	33.7	35.8	28.7 - 42.9
381	290	30.7	32.8	27.4 - 37.7
412	277	32.8	35.1	30.9 - 39.9
361	183	39.3	37.4	29.2 - 38.3
286	191	30.2	30.6	24.6 - 36.8
319	197	36.2	40.5	34.8 - 46.3
414	287	30.7	32.4	27.6 - 37.2
280	443	30.0	32.5	28.6 - 36.4
536	353	34.4	36.6	32.2 - 41.0
333	209	37.5	39.6	33.3 - 45.9
3,724	6,647	31.6	33.6	32.6 - 34.6

Persons

Number in Cohort	Cumulative Deaths	% Crude Survival	% Relative Survival
953	680	31.0	32.6
1,660	1,176	30.1	31.2
1,160	773	33.4	35.1
1,259	743	40.6	42.5
830	441	33.0	34.0
1,022	715	30.1	31.0
664	646	33.0	34.2
499	318	37.9	39.0
1,012	694	35.4	37.2
433	278	35.6	37.0
896	596	35.0	37.0
518	334	35.5	37.0
512	364	39.7	41.7
462	360	34.4	36.4
559	364	34.9	36.8
554	365	34.1	35.0
536	338	40.2	42.0
1,247	849	31.9	33.9
459	274	40.3	42.7
1,116	682	38.9	41.1
549	361	34.2	36.2
1,094	792	35.8	37.7
1,222	779	36.3	38.4
732	469	37.3	39.3
597	466	32.9	35.1
894	616	35.4	37.4
1,100	783	31.9	33.6
1,620	1,061	33.3	34.9
1,305	939	32.9	34.8
940	609	33.5	35.4



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Lung Cancer Incidence by deprivation

national cancer intelligence network

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Cancer incidence by deprivation quintile, England, 1995 - 2004

C33-C34: Trachea, bronchus and lung

Males

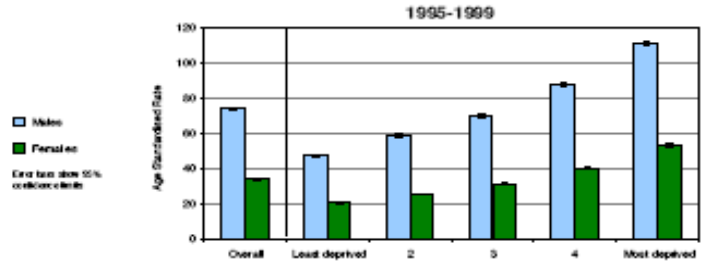
Deprivation Quintile	Number of cases	Crude Rate	ASR	95% Confidence Interval		ASR Ratio	Excess Cases
1995-1999							
Least deprived	12,764	54.9	47.1	46.3 -	47.9	1.0	0
2	17,063	72.6	58.7	57.8 -	59.5	1.2	3,355
3	20,225	85.8	70.1	69.1 -	71.0	1.5	6,623
4	23,753	99.8	87.7	86.6 -	88.8	1.9	11,005
Most deprived	27,449	112.7	110.9	109.6 -	112.2	2.4	15,786
Overall	**101,308**	**85.4**	**74.1**	**73.6 -**	**74.5**		
2000-2004							
Least deprived	12,544	51.2	41.3	40.6 -	42.1	1.0	0
2	15,920	65.4	49.6	48.8 -	50.4	1.2	2,647
3	18,525	76.3	59.7	58.8 -	60.5	1.4	5,693
4	21,525	88.3	76.3	75.3 -	77.3	1.8	9,866
Most deprived	24,351	99.2	100.6	99.4 -	101.9	2.4	14,345
Overall	**92,865**	**76.1**	**63.7**	**63.3 -**	**64.1**		

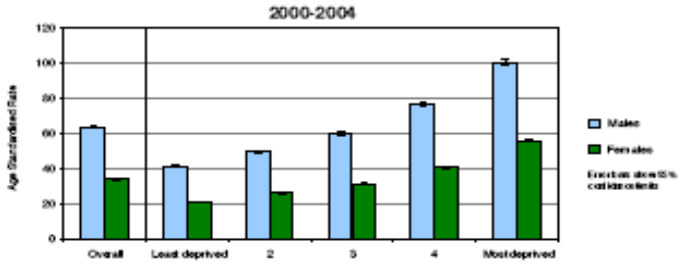
Females

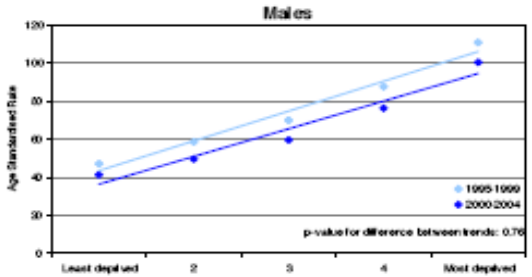
Deprivation Quintile	Number of cases	Crude Rate	ASR	95% Confidence Interval		ASR Ratio	Excess Cases
1995-1999							
Least deprived	7,176	29.5	20.8	20.4 -	21.3	1.0	0
2	9,397	38.1	25.3	24.8 -	25.9	1.2	1,670
3	11,578	46.5	31.0	30.4 -	31.5	1.5	3,786
4	14,122	56.9	40.1	39.5 -	40.8	1.9	6,786
Most deprived	16,733	65.2	58.1	57.3 -	58.9	2.5	10,166
Overall	**59,005**	**47.3**	**33.8**	**33.5 -**	**34.0**		
2000-2004							
Least deprived	7,691	30.7	20.9	20.5 -	21.4	1.0	0
2	10,290	40.8	26.0	25.5 -	26.5	1.2	2,003
3	12,140	47.8	31.1	30.5 -	31.7	1.5	3,972
4	14,719	57.6	40.7	40.0 -	41.3	1.9	7,143
Most deprived	17,024	66.4	56.9	56.0 -	56.7	2.7	10,647
Overall	**61,864**	**48.8**	**34.0**	**33.8 -**	**34.3**		

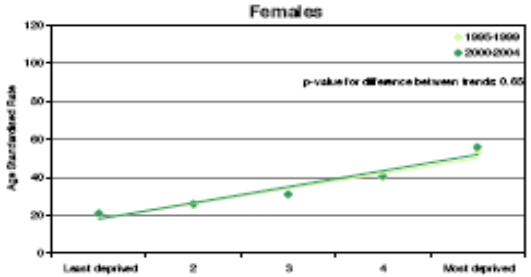
Persons

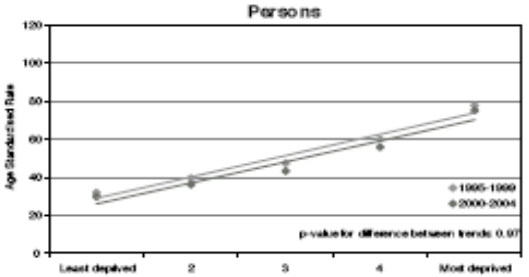
Deprivation Quintile	Number of cases	Crude Rate	ASR	95% Confidence Interval		ASR Ratio	Excess Cases
1995-1999							
Least deprived	19,969	41.9	32.0	31.5 -	32.4	1.0	0
2	26,460	54.9	39.6	39.1 -	40.0	1.2	5,025
3	31,803	66.6	47.5	47.0 -	48.0	1.5	10,409
4	37,915	77.2	60.1	59.5 -	60.7	1.9	17,790
Most deprived	44,176	88.3	77.8	77.1 -	78.6	2.4	25,951
Overall	**160,313**	**65.9**	**50.9**	**50.7 -**	**51.2**		
2000-2004							
Least deprived	20,236	40.9	29.8	29.4 -	30.3	1.0	0
2	26,210	52.9	36.3	35.8 -	36.7	1.2	4,650
3	30,665	61.7	43.3	42.9 -	43.8	1.5	9,666
4	36,244	72.6	55.8	55.3 -	56.4	1.9	17,008
Most deprived	41,375	82.5	75.2	74.5 -	75.9	2.5	24,993
Overall	**154,729**	**62.2**	**46.9**	**46.6 -**	**47.1**		











Cohort	Est. Deprivation Gap (Difference in ASR)	95% Confidence Interval		Modelled %Change	P-value for Trend
1995-1999	65.5	46.0 -	85.1	185%	0.002
2000-2004	62.4	37.5 -	87.4	182%	0.004

Cohort	Est. Deprivation Gap (Difference in ASR)	95% Confidence Interval		Modelled %Change	P-value for Trend
1995-1999	33.8	20.7 -	46.9	196%	0.004
2000-2004	36.8	20.3 -	53.3	222%	0.008

Cohort	Est. Deprivation Gap (Difference in ASR)	95% Confidence Interval		Modelled %Change	P-value for Trend
1995-1999	47.4	31.1 -	63.7	171%	0.003
2000-2004	47.7	27.2 -	68.3	198%	0.005

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Major surgical resections
England, 2004-2006

Major resection rates by age

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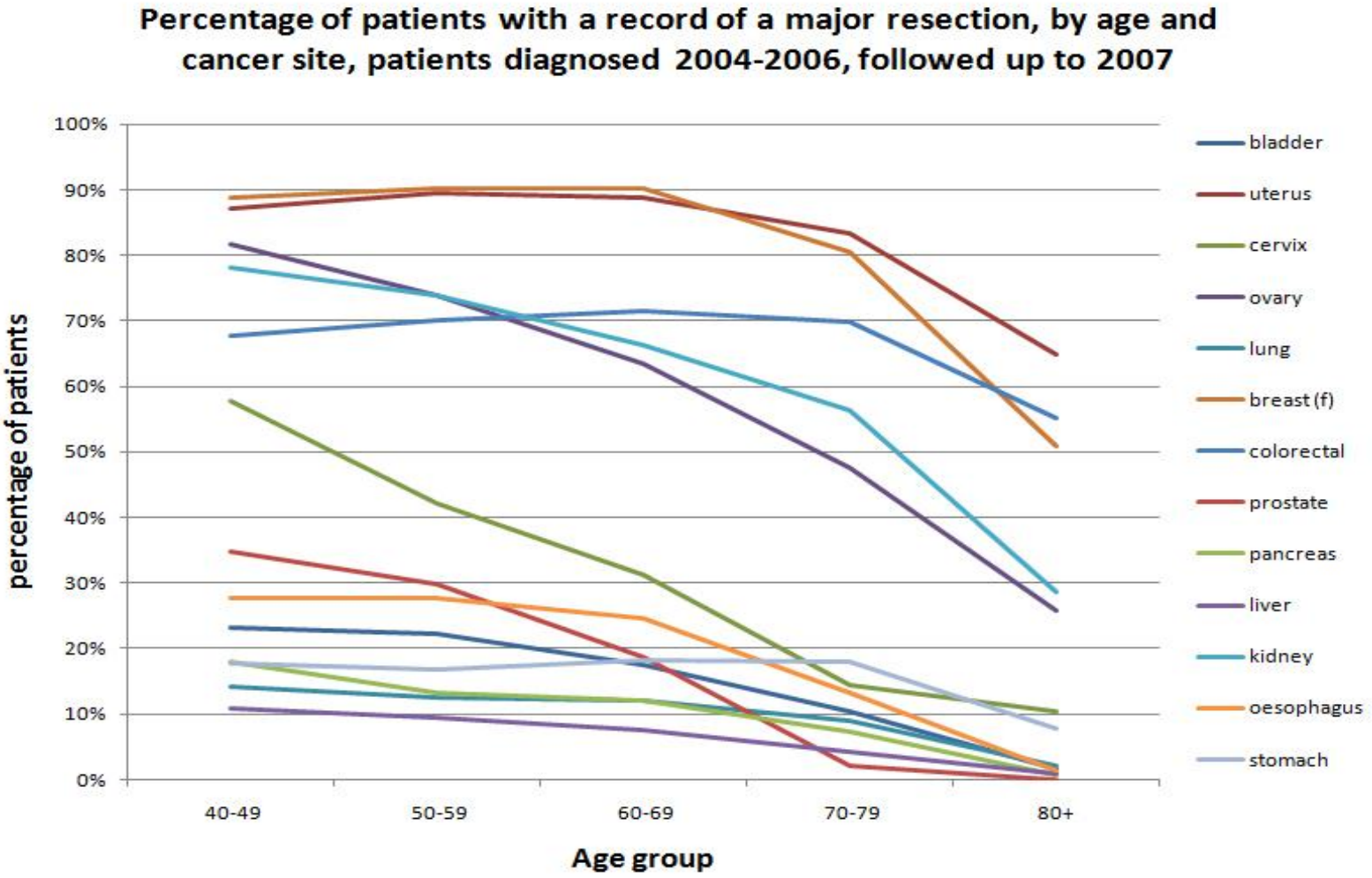

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30 day mortality data: Colo-rectal cancer surgery

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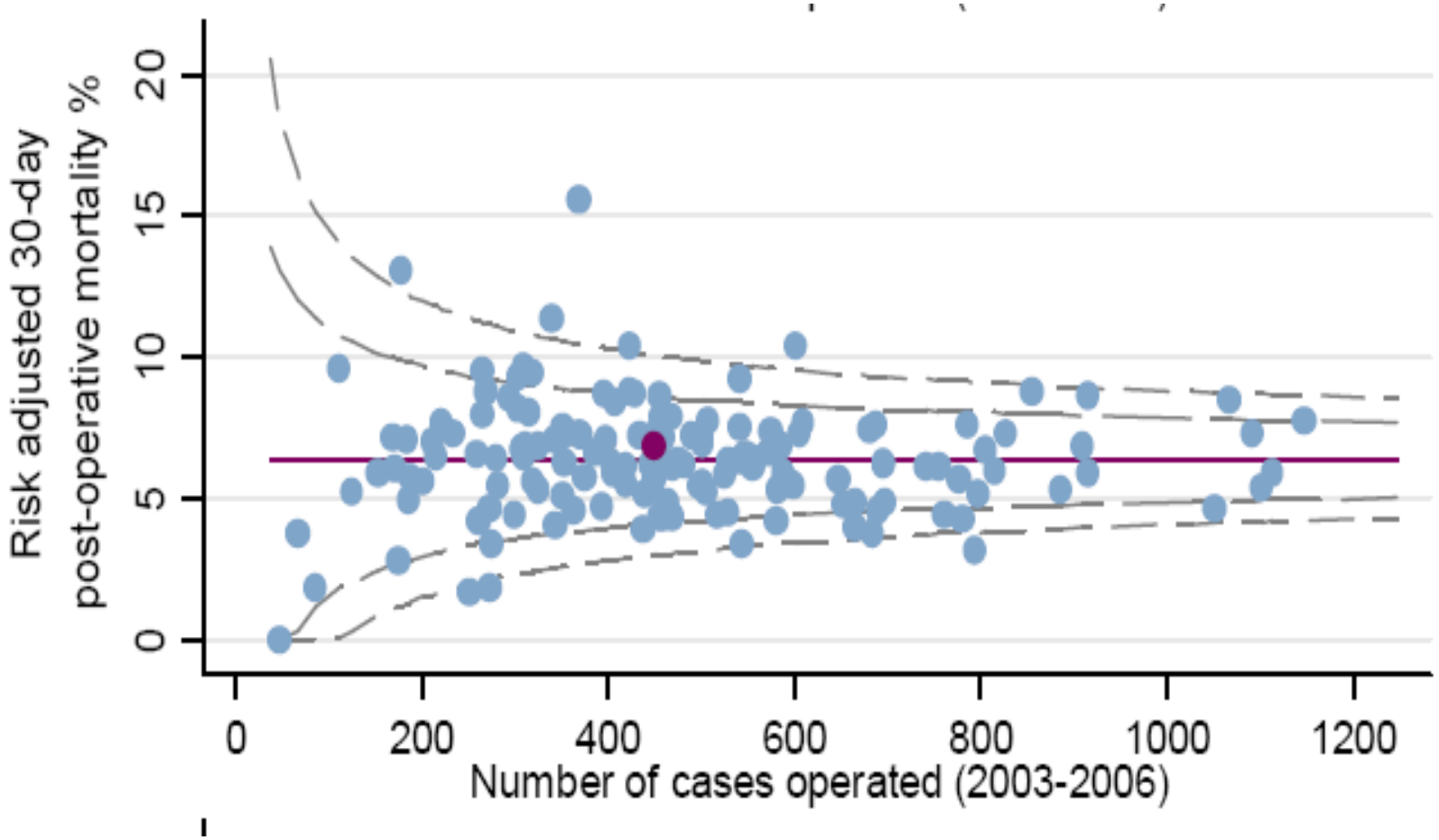

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Routes to Diagnosis

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Route to diagnosis: Lung Cancer by year and sex

Lung		Screen detected	Two Week Wait	GP referral	Other outpatient	Inpatient elective	Emergency presentation	Death Certificate Only	Unknown
2006	Male		22%	19%	4%	9%	39%	1%	5%
	Confidence interval		*21% 22%*	*19% 20%*	*4% 5%*	*9% 9%*	*38% 40%*	*1% 1%*	*5% 6%*
	Female		21%	19%	4%	8%	41%	1%	6%
	Confidence interval		*21% 22%*	*18% 19%*	*4% 4%*	*7% 8%*	*40% 42%*	*1% 2%*	*6% 7%*
2007	Male		24%	18%	5%	8%	38%	1%	5%
	Confidence interval		*23% 25%*	*17% 18%*	*5% 5%*	*8% 9%*	*38% 39%*	*1% 1%*	*5% 6%*
	Female		23%	17%	4%	9%	40%	1%	6%
	Confidence interval		*22% 24%*	*17% 18%*	*4% 5%*	*8% 9%*	*39% 41%*	*1% 1%*	*5% 6%*
2008	Male		24%	19%	4%	9%	38%	1%	5%
	Confidence interval		*24% 25%*	*18% 19%*	*4% 5%*	*9% 9%*	*37% 39%*	*1% 1%*	*4% 5%*
	Female		23%	17%	4%	9%	41%	1%	5%
	Confidence interval		*23% 24%*	*17% 18%*	*4% 4%*	*8% 9%*	*40% 41%*	*1% 1%*	*5% 5%*

Source: Ellis-Brookes et al. Br J Cancer, Sept 2012

Survival at 1 year by route to diagnosis: Lung Cancer by sex

	All routes		Two Week Wait		GP referral		Other outpatient		Inpatient elective		Emergency presentation		Unknown	
Male	**27%**		**38%**		**38%**		**39%**		**33%**		**12%**		**23%**	
Confidence interval	***27%***	***28%***	***37%***	***39%***	***37%***	***39%***	***38%***	***41%***	***30%***	***36%***	***11%***	***12%***	***21%***	***24%***
Female	**30%**		**42%**		**42%**		**45%**		**35%**		**13%**		**25%**	
Confidence interval	***29%***	***30%***	***41%***	***43%***	***41%***	***43%***	***44%***	***47%***	***31%***	***38%***	***13%***	***14%***	***23%***	***27%***
All Persons	**28%**		**40%**		**40%**		**42%**		**33%**		**12%**		**24%**	
Confidence interval	***28%***	***29%***	***39%***	***41%***	***39%***	***41%***	***41%***	***43%***	***31%***	***36%***	***12%***	***13%***	***22%***	***25%***

Source: Ellis-Brookes et al. Br J Cancer, Sept 2012

Survival at 1 year by route to diagnosis: Lung Cancer by sex

	All routes		Two Week Wait		GP referral		Other outpatient		Inpatient elective		Emergency presentation		Unknown	
Male	**27%**		**38%**		**38%**		**39%**		**33%**		**12%**		**23%**	
Confidence interval	*27%*	*28%*	*37%*	*39%*	*37%*	*39%*	*38%*	*41%*	*30%*	*36%*	*11%*	*12%*	*21%*	*24%*
Female	**30%**		**42%**		**42%**		**45%**		**35%**		**13%**		**25%**	
Confidence interval	*29%*	*30%*	*41%*	*43%*	*41%*	*43%*	*44%*	*47%*	*31%*	*38%*	*13%*	*14%*	*23%*	*27%*
All Persons	**28%**		**40%**		**40%**		**42%**		**33%**		**12%**		**24%**	
Confidence interval	*28%*	*29%*	*39%*	*41%*	*39%*	*41%*	*41%*	*43%*	*31%*	*36%*	*12%*	*13%*	*22%*	*25%*

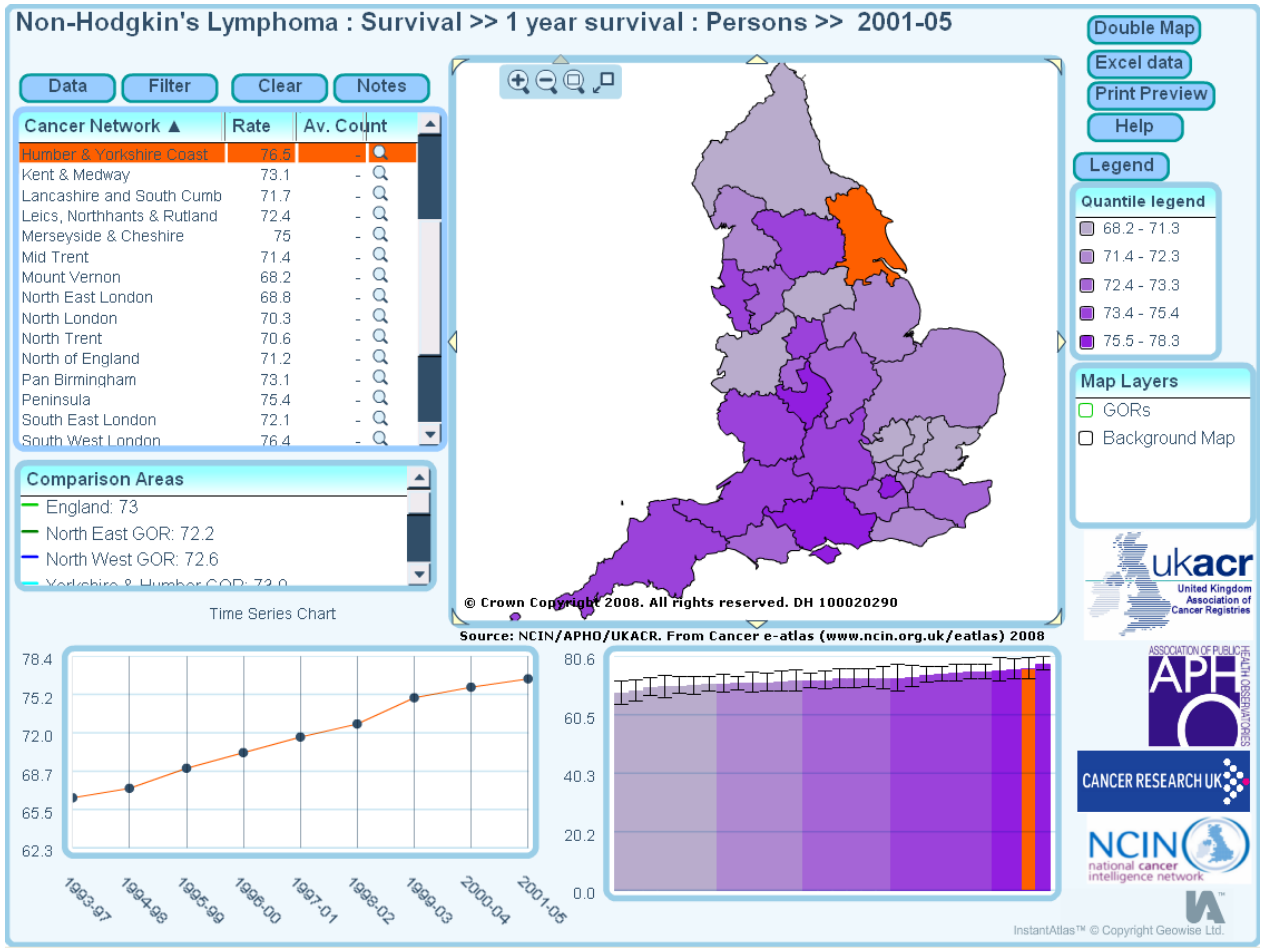
Source: Ellis-Brookes et al. Br J Cancer, Sept 2012

e-Products (www.ncin.org.uk)

- Cancer e-Atlas
- UK Cancer Information Service (UKCIS)
- Cancer Commissioning Toolkit
- GP Practice profiles
- HES Microsites
- Various portals & 'hubs':
  - Inequalities portal
  - Urological cancer hub
  - Skin cancer hub

National Cancer e-Atlas

www.ncin.org.uk/eatlas



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NHS atlas and data briefing

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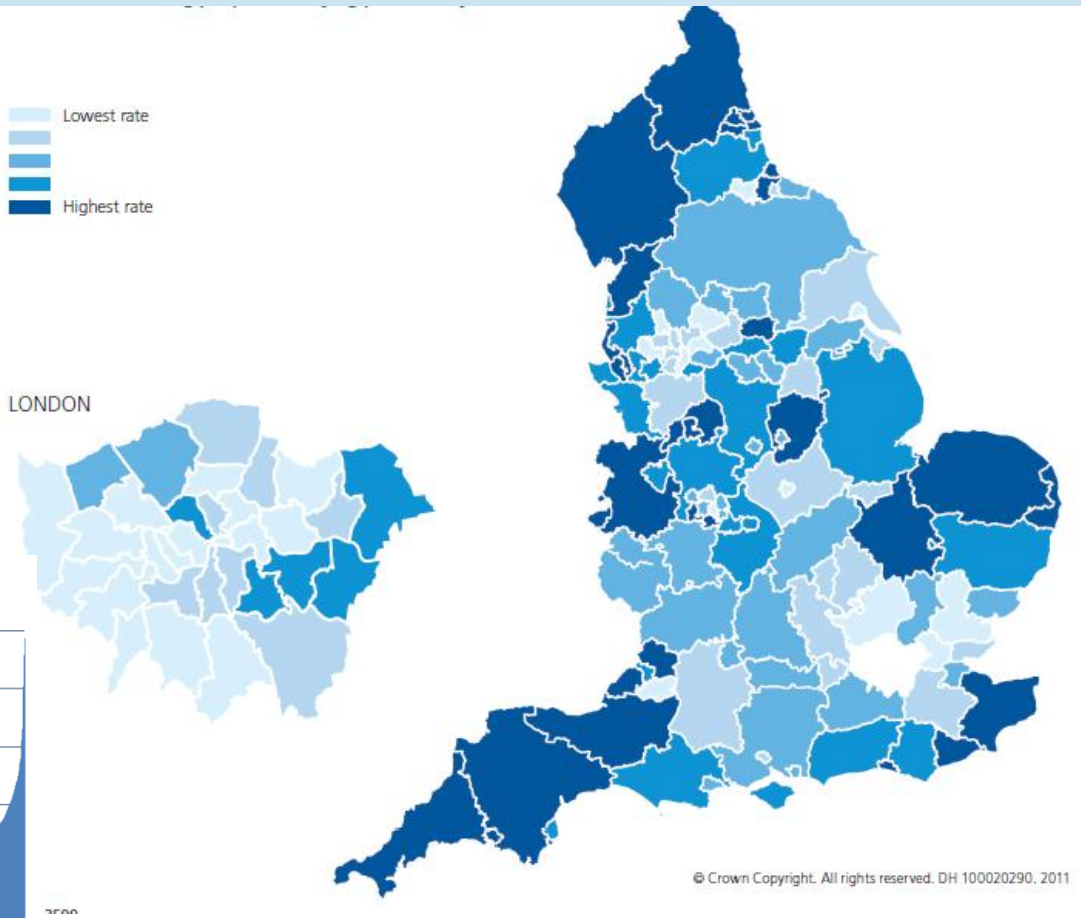
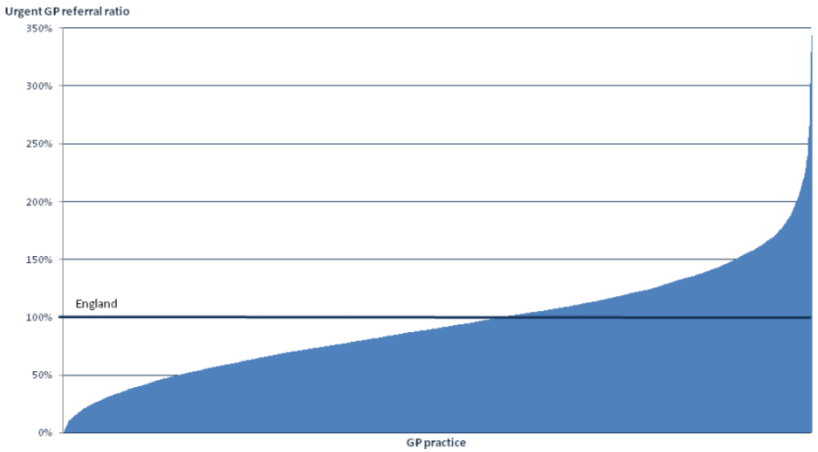
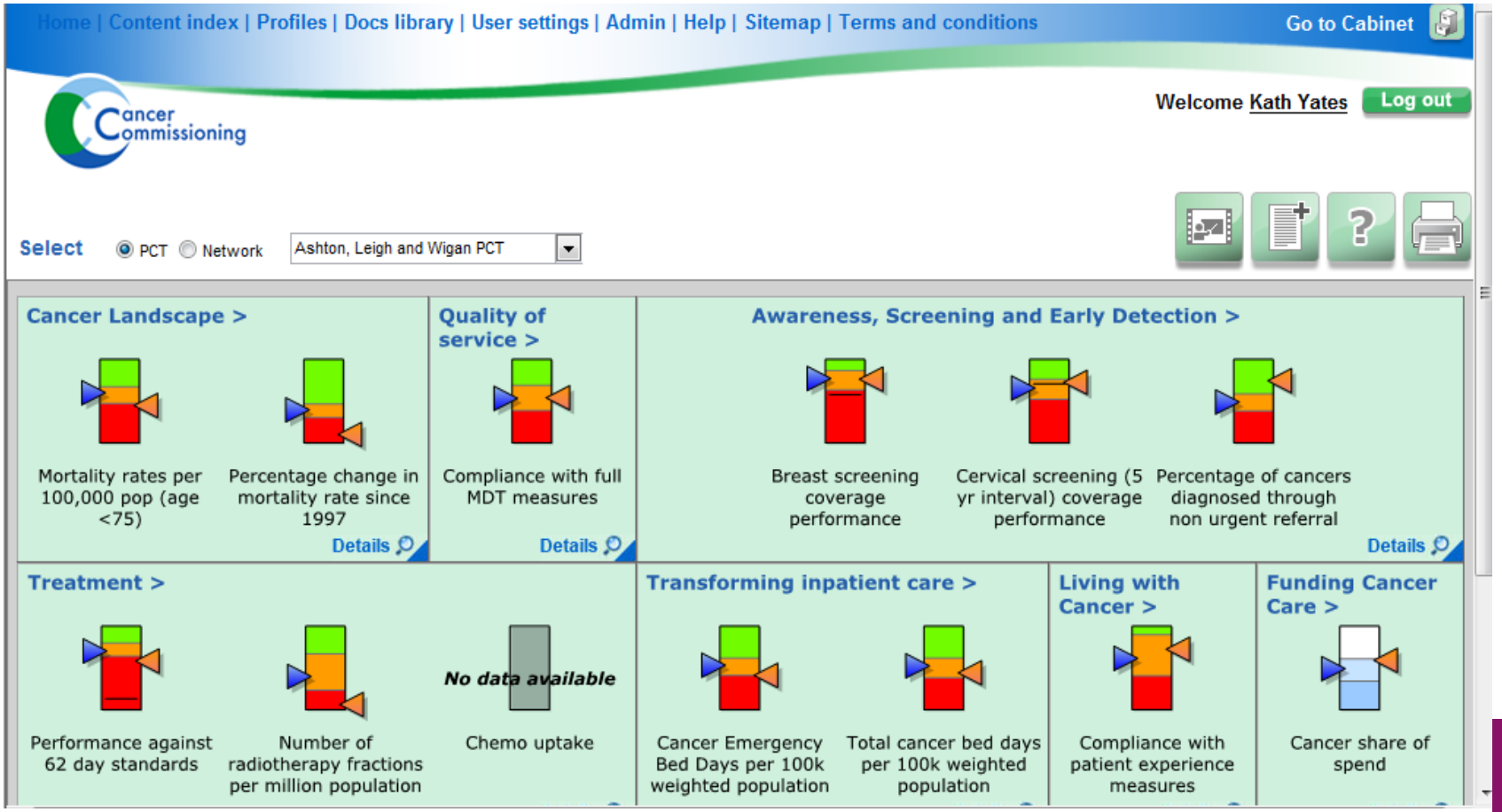
Rate of urgent GP referrals for suspected cancer



Age-sex standardised urgent GP referral ratios, by GP practice, 2009, England



Cancer Commissioning Toolkit - dashboard



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GP Practice profiles

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Cancer indicators in Practice 6, ANON PCT (1)

NHS National Cancer Action Team

- Signifcantly different from PCT median
- Not signficantly different than PCT median
- Significance testing not appropriate

Domain	Indicator (Rate or Ratio)	Number	Rate or Ratio	Median Practic	Lowest Practic	Quartile ranges of practice rates/ratios in PCT	Highest Practic
Demographic	Practice Population (% of average practice in PCT)	12874	159.9	94.5	19.8		261.4
	Practice Population aged 65+ (% of population in this practice aged 65+)	1882	15%	14%	0%		26%
	Socio-economic deprivation quintile, 1= affluent (% of practice population income deprived)	3	14%	15%	5%		35%
	New cancer cases (Crude rate - new cases per 10,000 population)	52	383.8	421.6	190.9		557.1
	Cancer deaths (Crude rate - deaths per 10,000 population)	22	126.0	186.6	105.0		282.7
	Prevalant cancer cases (% of population with cancer)	156	1.2%	1.2%	0.1%		3.0%
Cancer screening	Number aged 60-74 screened (breast) in last 30 months (3 year coverage, %)	427	74.0	66.4	34.3		95.0
	Number aged 60-74 screened (breast) within 6 months of invitation (Uptake, %)	222	77.0	70.2	35.9		96.8
	Number aged 24-49 screened (cervix) in last 42 months (3.5 year coverage, %)	426	84.9	68.0	33.2		97.4
	Number aged 60-69 screened (bowel) in last 30 months (2.5 year coverage, %)	239	46.8	69.2	32.7		96.0
	Number aged 60-69 screened (bowel) within 6 months of invitation (Uptake, %)	458	68.8	66.6	33.4		97.4
Cancer Waiting Times	Two-week wait referrals (Rate per 10,000 population)	218	169.3	181.4	0.0		403.9
	Two-week referrals with cancer (Conversion rate - % of all TWW referrals with cancer)	29	13%	9%	0%		24%
	Number of new Cancer Waiting Time cases (number per 10,000 population)	56	43.5	37.9	0.0		92.9
Presentation & Diagnostics	In-patient or Day-case Colonoscopy procedures (Rate per 10,000 population)	5	15.5	17.4	9.0		23.7
	In-patient or Day-Case Flexi-sig procedures (Rate per 10,000 population)	7	22.4	16.1	8.5		24.0
	In-patient or Day-case UGI endoscopy procedures (Rate per 10,000 population)	13	16.7	17.1	8.1		23.9
	Two-week referrals with suspected breast cancer (Rate per 10,000 population)	47	36.5	38.4	0.0		88.0
	Two-week referrals with suspected lower GI cancer (Rate per 10,000 population)	45	35.0	31.0	0.0		76.5
	Two-week referrals with suspected lung cancer (Rate per 10,000 population)	3	2.3	5.0	0.0		17.2
	Two-week referrals with suspected skin cancer (Rate per 10,000 population)	27	21.0	25.8	0.0		131.1
	Number of emergency admissions with cancer (Rate per 10,000 population)	11	23.5	15.6	8.1		23.9
	Number of emergency presentations (Rate per 10,000 population)	15	15.9	18.2	10.4		29.9
	Number of managed presentations (Rate per 10,000 population)	11	19.5	16.9	8.0		23.9
	Number of other presenations (Rate per 10,000 population)	12	15.2	18.5	10.4		29.9

Skin hub – PCT profiles

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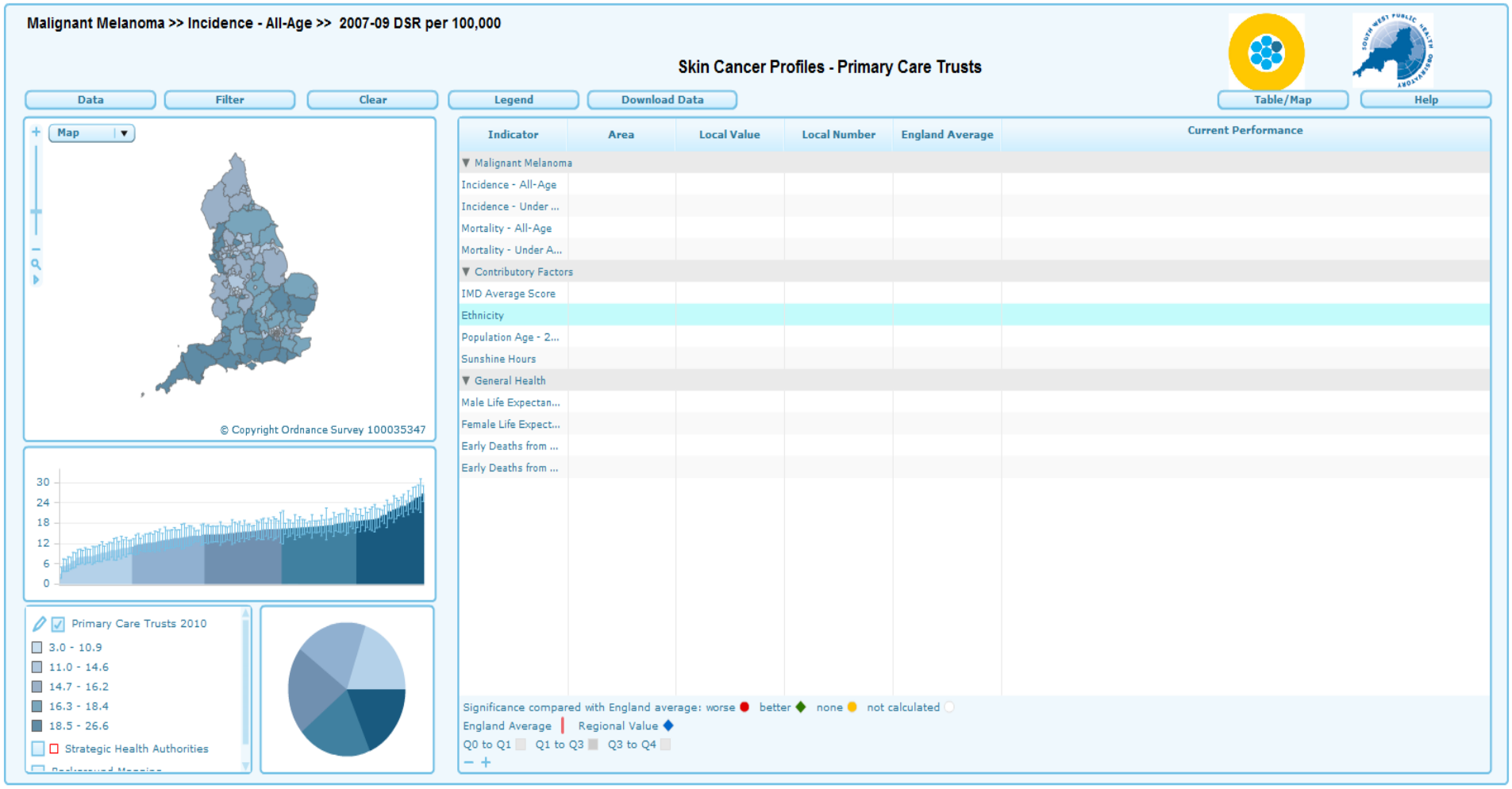

Research potential

- **Analysis of Data Repository (∞)**
  - **Hospital 'footprint'**
  - **Primary care data**
- **Follow up of longer term outcomes of patients in clinical trials:**
  - **OP visits/primary care data**
  - **Recurrence**
  - **Late effects**
  - **Survival**
- **Planning of clinical trials**
- **Biosample annotation**
- **Development of Patient Reported Outcome Measures……**

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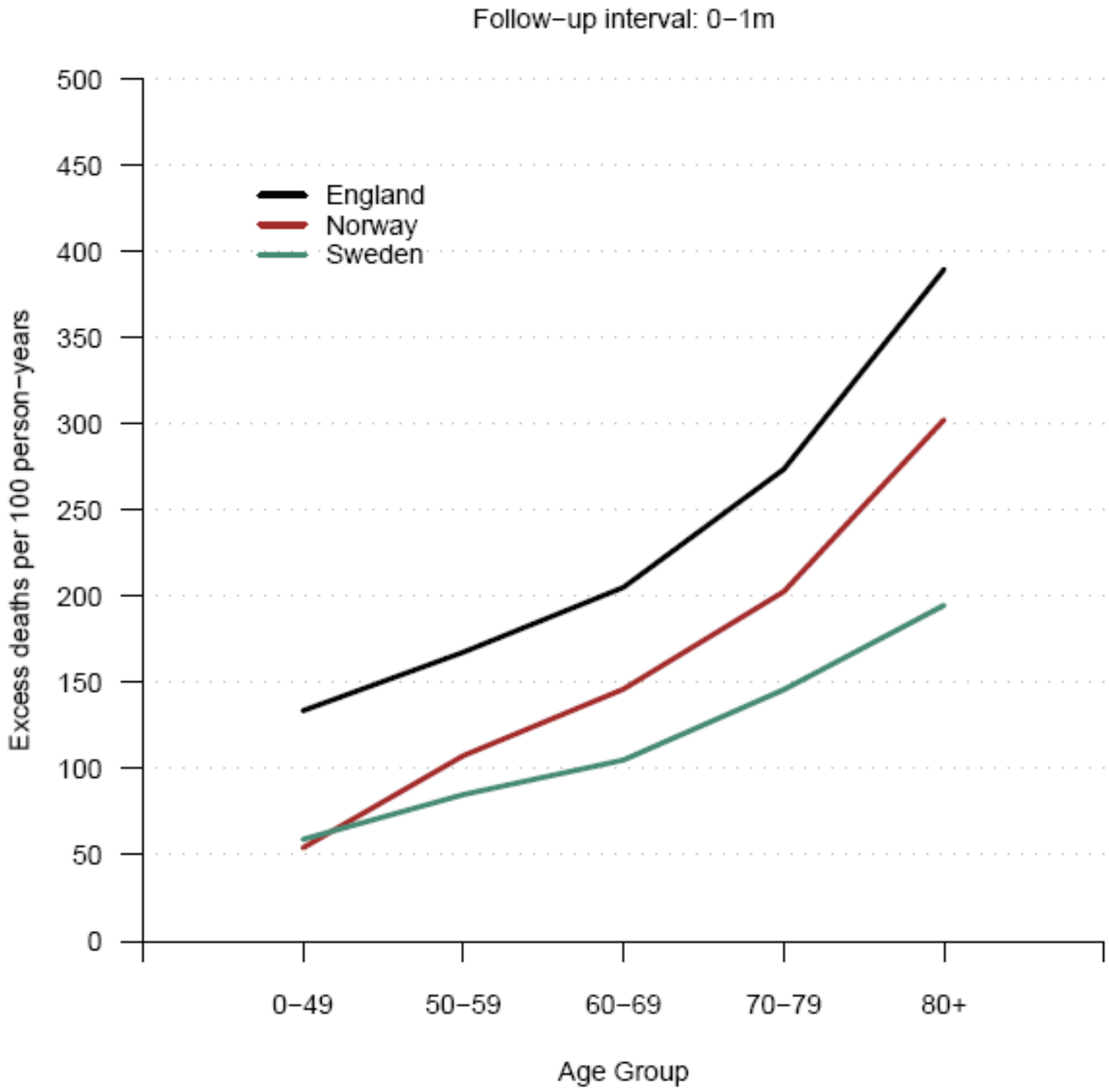
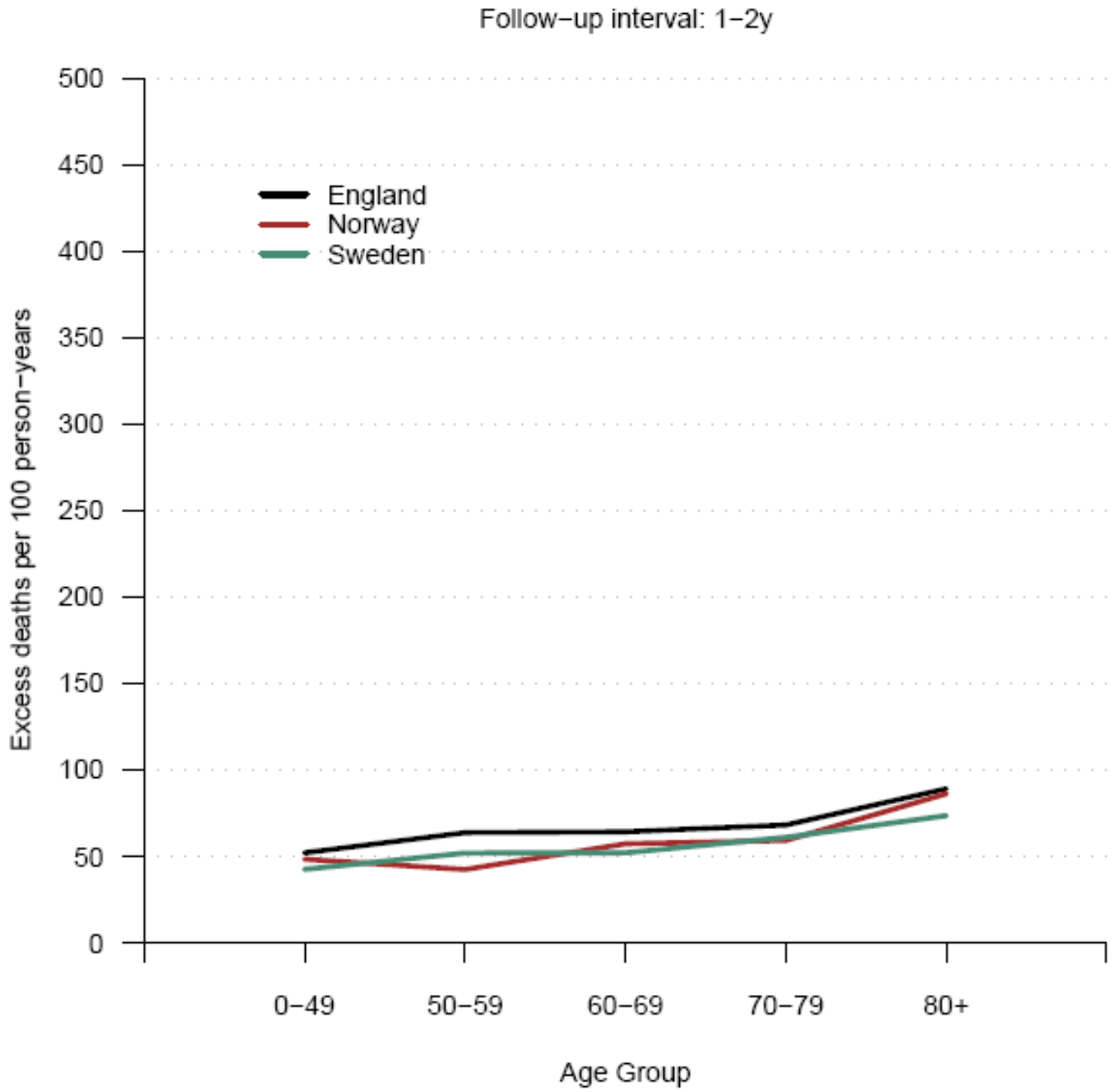


Holmberg et al. Thorax, 2010;65:436-441



Holmberg et al. Thorax, 2010;65:436-441