GP practice profiles & cancer intelligence

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Overview

After 3 years of practice profiles…

…an analytical reflection perspective on their design:

- What is a profile?
- What is cancer intelligence?
- Choice of data
- Choice of context

Profile anatomy

Domain		Indicator (Rate or Proportion in brackets)	Practice indicator value	Practice indicator rate or proportion	Lower 95% confidence limit	Upper 95% confidence limit	CCG mean	England mean	Practice rates or proportion in CCG			Source	Period
									Lowest practice	Range / Highest practice			
Demographics	1	Practice Population aged 65+ (% of population in this practice aged 65+)	2096	21.9%	21.1%	22.8%	23.4%	16.4%	12.4%	31.6%	ADS	April 2011
	2	Socio-economic deprivation, "Quintile 1" = affluent (% of population income deprived)	Quintile 3	13.0%	12.3%	13.7%	15.2%	15.1%	9.0%	22.0%	APHO	April 2011
	3	New cancer cases (Crude incidence rate: new cases per 100,000 population)	58	607	461	785	629	471	338	969	NCIN/UKACR	2010
	4	Cancer deaths (Crude mortality rate: deaths per 100,000 population)	25	262	169	386	310	234	44	490	PCMD	2011/12
	5	Prevalent cancer cases (% of practice population on practice cancer register)	243	2.5%	2.2%	2.9%	2.3%	1.8%	0.8%	3.6%	QOF	2011/12
Cancer screening	6	Females, 50-70, screened for breast cancer in last 36 months (3 year coverage, %)	1025	78.4%	76.1%	80.6%	72.6%	72.5%	33.6%	78.4%	Open Exeter	2010/11-2011/12
	7	Females, 50-70, screened for breast cancer within 6 months of invitation (Uptake, %)	1007	79.4%	77.1%	81.6%	76.0%	74.3%	29.4%	81.2%	Open Exeter	2011/12
	8	Females, 25-64, attending cervical screening within target period (3.5 or 5.5 year coverage, %)	1693	77.1%	75.3%	78.8%	77.9%	75.3%	70.6%	86.2%	Open Exeter	2006/07-2011/12
	9	Persons, 60-69, screened for bowel cancer in last 30 months (2.5 year coverage, %)	787	65.3%	62.6%	67.9%	63.2%	57.4%	53.3%	70.0%	Open Exeter	2009/10-2011/12
	10	Persons, 60-69, screened for bowel cancer within 6 months of invitation (Uptake, %)	382	64.2%	60.3%	68.0%	62.0%	55.7%	50.2%	68.7%	Open Exeter	2011/12
Cancer Waiting Times	11	Two-week wait referrals (Number per 100,000 population)	301	3150	2804	3527	2440	1982	1266	4092	CWT	2011/12
	12	Two-week wait referrals (Indirectly age standardised referral ratio)	301	137.9%	122.7%	154.3%	n/a	100.0%	64.7%	172.3%	CWT	2011/12
	13	Two-week referrals with cancer (Conversion rate: % of all TWW referrals with cancer)	31	10.3%	7.4%	14.2%	13.3%	10.6%	5.4%	26.0%	CWT	2011/12
	14	Number of new cancer cases treated (% of which are TWW referrals)	78	39.7%	29.6%	50.8%	43.6%	46.5%	22.6%	71.4%	CWT	2011/12
	15	Two-week wait referrals with suspected breast cancer (Number per 100,000 population)	31	324	220	461	453	372	276	1070	CWT	2011/12
	16	Two-week wait referrals with suspected lower GI cancer (Number per 100,000 population)	57	597	452	773	409	335	205	716	CWT	2011/12
	17	Two-week wait referrals with suspected lung cancer (Number per 100,000 population)	9	94	43	179	76	78	0	138	CWT	2011/12
	18	Two-week wait referrals with suspected skin cancer (Number per 100,000 population)	77	806	636	1007	526	349	143	974	CWT	2011/12
Presentation & diagnostics	19	In-patient or day-case colonoscopy procedures (Number per 100,000 population)	65	680	525	867	730	623	338	1016	HES	2011/12
	20	In-patient or day-case sigmoidoscopy procedures (Number per 100,000 population)	27	283	186	411	319	433	44	438	HES	2011/12
	21	In-patient or day-case upper GI endoscopy procedures (Number per 100,000 population)	106	1109	908	1342	1070	1003	573	1972	HES	2011/12
	22	Number of emergency admissions with cancer (Number per 100,000 population)	80	837	664	1042	739	587	470	1134	HES	2011/12[a]
	23	Number of emergency presentations (% of presentations)	13	20.0%	12.1%	31.3%	23.5%	23.7%	12.2%	36.6%	RtD	2008[b]
	24	Number of managed referral presentations (% of presentations)	31	47.7%	36.0%	59.6%	50.1%	49.2%	31.0%	68.6%	RtD	2008[b]
	25	Number of other presentations (% of presentations)	21	32.3%	22.2%	44.4%	26.5%	27.1%	9.5%	44.0%	RtD	2008[b]

Profile anatomy

Profile anatomy

Health Intelligence

- ??

Intelligence

- Intelligence is information *you can act on.*

Choice of data

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	2												April 2011
	3	**QOF prevalence, Population, Deprivation, PCMD, Registry incidence**											2010
	4												2011/12
	5	Prevalent cancer cases (% of practice population on practice cancer register)	243	2.5%	2.2%	2.9%	2.3%	1.8%	0.8%		3.6%	QOF	2011/12
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	7	Females, 50-70, screened for breast cancer within 6 months of invitation (									81.2%	Open Exeter	2011/12
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	9	Persons, 60-69, screened for bowel cancer in last 30 months (2.5 year co									70.0%	Open Exeter	2009/10-2011/1
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	14	Number of	**Cancer Waiting Times – conversion, detection and referral rates**									WT	2011/12
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	20	In-patient or day-case sigmoidoscopy proc	**HES – endoscopies and emergency admissions**								438	HES	2011/12
	21	In-patient or day-case upper GI endoscopy									1972	HES	2011/12
	22	Number of emergency admissions with cancer (Number per 100,000 population)	80	837	664	1042	739	587	470		1134	HES	2011[a]
	23	Number of emergency presentations (% of presentations)								12.2%		36.6%	RtD	2008[b]
	24	Number of managed referral presentations (% of presentations)	**Routes to Diagnosis**						31.0%		68.6%	RtD	2008[b]
	25	Number of other presentations (% of presentations)							9.5%		44.0%	RtD	2008[b]

Choice of data

- …but you only have the data you have

- (shhh – not entirely primary care data)

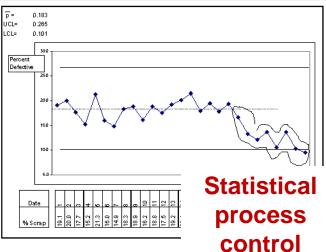- What other new (or newly accessible) data could we use?
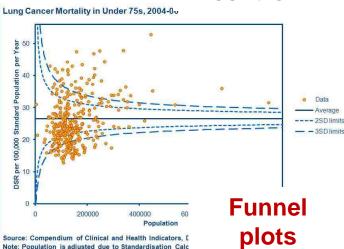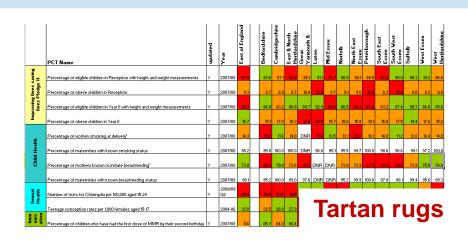
Why profiles?

- Simultaneously assess and benchmark a wide range of information at organisation level

- Holistic assessment of an organisation

- Goes beyond individual small numbers

What other tools might we use?

Statistical process control

Tartan rugs

Funnel plots

Interactive dashboards

The standardisation ladder

	Numbers	Rates	Age-sex standardised rates	Age-sex-deprivation/other standardised	All case-mix variable standardised
Audience	Service planners/ Commissioners	Clinicians — — — —	Epidemiologists — — —	— — — —	Central/regional management
Purpose	Service planning	Clinical audit/ improvement		'Service epidemiology'	Performance management
Difficulty	Simple				Hard

Data + Context → Information

Users have varying:

- Purposes
- Knowledge of the domain of the information
- Knowledge of statistics

Adding context

Supporting domain knowledge

- Comparisons with other areas
- Guidance for interpretation / worked examples
- Adding automatically generated narratives

Supporting statistical knowledge

- Measures of statistical significance
- Guidance for interpretation
- Clear design

Closing thoughts

- How to maximise useful intelligence?

- Choice of data

- How do we add context to the data -

  - Positioning on the 'standardisation ladder'

  - Choosing the right data presentation format

  - Add features to increase context

- How does this enable action?

- Finally…

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