NCIN national cancer intelligence network

Using information to improve quality & choice

Can you demonstrate the quality of services through a composite measure?

Di Riley

AD Clinical Outcomes

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The National Cancer Intelligence Network will be hosted by Public Health England from 1st April 2013

NCRI National Cancer Research Institute

Definition:

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A composite indicator is formed when individual indicators are compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measured

OECD, 2004, "The OECD-JRC Handbook on Practices for Developing Composite Indicators", paper presented at the OECD Committee on Statistics, 7-8 June 2004, OECD, Paris

The NCIN story so far……..

Access to Information?

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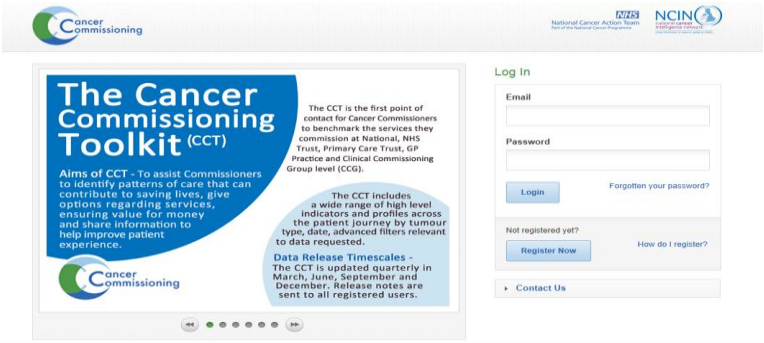
Pre CCT:

- *Multiple sources of data and information*
- *In different places*
- *Different timescales*
- *Different methodology*
- *Difficult to benchmark 'similar organisations'*
- *Limited information strategies*

Post CCT:



- *12 data sources*
- *112 charts covering pathways*
- *Latest data always shown*
- *Benchmarked and trend analyses*
- *Data sources still viewed separately*

Targeted cancer-profiles

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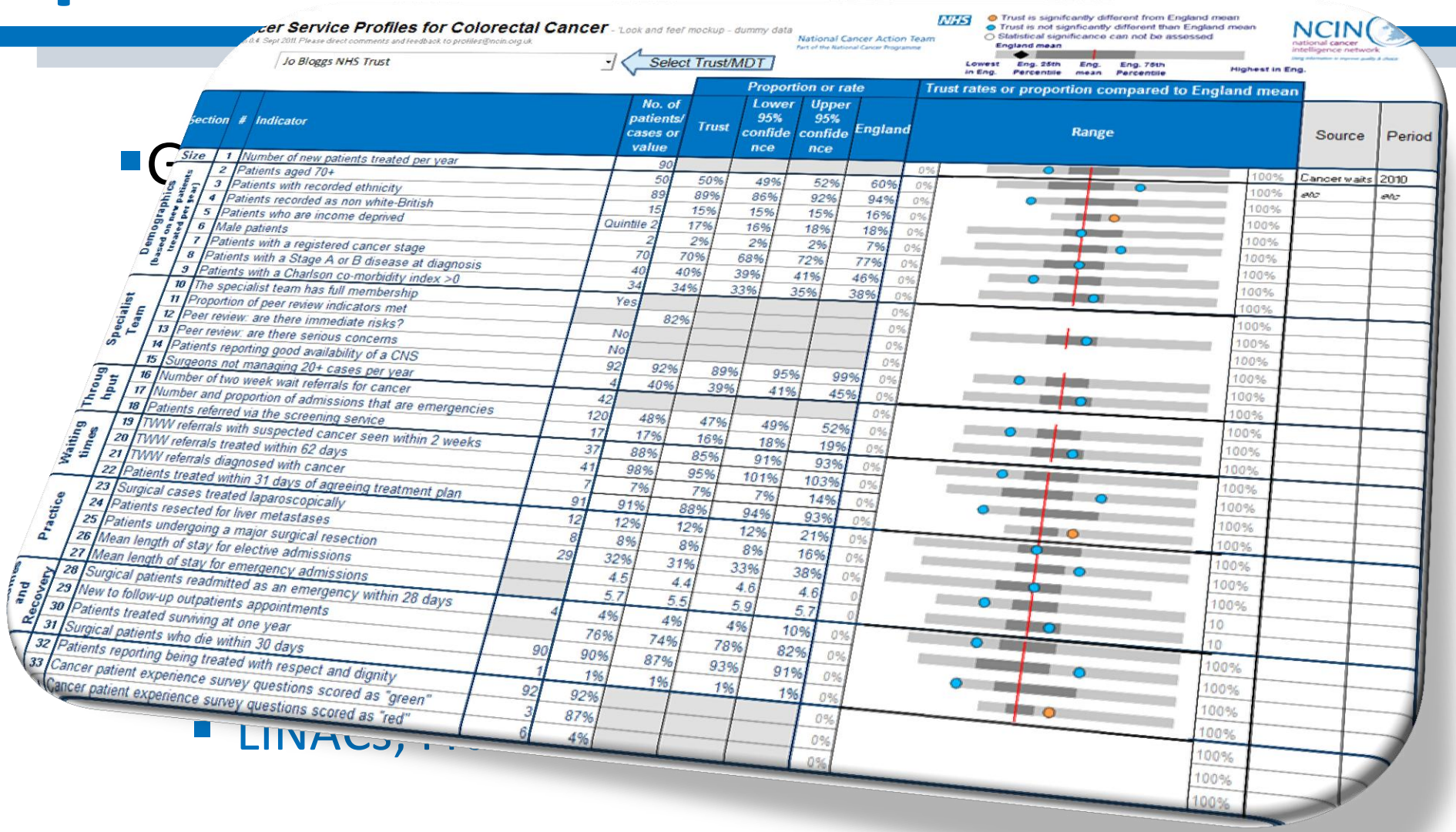
- LINACs,



Cancer Service Profiles for Breast Cancer

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

Select Trust/MDT

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

England median | Lowest in England | 25th | 75th | Highest in England

Section	#	Indicator	No. of patients/ cases or value	Percentage or rate: Trust	Lower 95% confidence limit	Upper 95% confidence limit	England	Trust rate or percentage compared to England: Low-est	Range	High-est	Source	Period
Size	1	Number of new patients treated per year, 2010/11	407					63		759	CWT	2010/11
	2	Number of newly diagnosed patients treated per year, 2009	289					8		754	CWT/NCDR	2009
Demographics (newly diagnosed patients, 2009)	3	Patients aged 70+	95	33%	28%	38%	30%	13%		57%	CWT/NCDR	2009
	4	Patients with recorded ethnicity	276	96%	92%	97%	91%	73%		99%	CWT/NCDR	2009
	5	Patients with recorded ethnicity which is not White-British	14	5%	3%	8%	9%	0%		71%	CWT/NCDR	2009
	6	Patients who are Income Deprived (1)		12%			14%	6%		29%	CWT/NCDR	2009
		Male patients										
Spec Te												1
												1
												1
												1
Throu												0
												1
												1
												1
												0
Waitin												2 Q2
												2 Q2
												1
												1
												2 Q2
												2 Q2
Pra												1
												1
												1
												0
	33	Mean length of episode for elective admissions		2.3			2.8	0.7		6.3	HES	2009/10
	34	Mean length of episode for emergency admissions		5.7			4.9	2.4		11.3	HES	2009/10
Outcomes and Recovery	35	Surgical patients readmitted as an emergency within 28 days	9	2%	1%	4%	4%	1%		15%	HES	2010/11
	36	Q2-Q4 2010/11: First outpatient appointments of all outpatient appointments	5,473	42%	42%	43%	43%	23%		71%	PBR SUS	2010/11 Q2-Q4
	37	Patients treated surviving at one year (to be included in later profile release)										
Patient Experience - CPES (4)	38	Patients surveyed & % reporting always being treated with respect & dignity (6)	50	89%			82%	65%		95%	CPES	2010
	39	Number of survey questions and % of those questions scoring red (% Red)	50	5%				0%		70%	CPES	2010
	40	and green (7) (% Green)		41%				0%		72%	CPES	2010

- Does the Specialist Team have full membership?
- Proportion of Peer Review indicators met?
- Peer Review: are there immediate risks?
- Peer Review: are there serious concerns?
- % treated within 62 days of urgent GP referral for suspected cancer?
- How many surgical patients receive a mastectomy?
- How many mastectomy patients receive an immediate reconstruction?
- % of patients surveyed report being treated with respect and dignity?
- % of survey questions scoring red or green?

MDT Scores per Indicator

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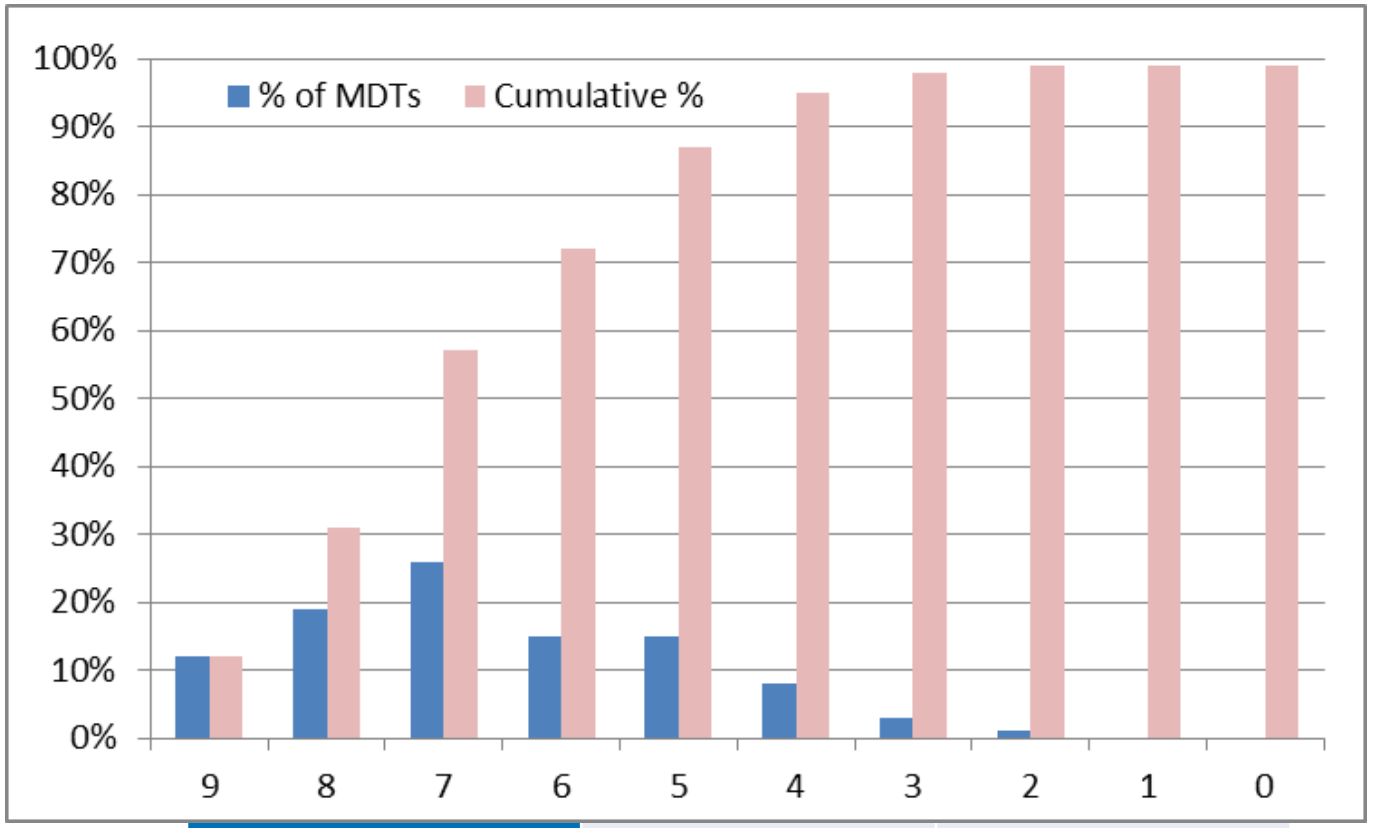
Indicator No:	Indicator	Criteria for Inclusion	Nos MDTs achieving criteria	Total Nos MDTs	% MDTs achieving criteria
11	The specialist team has full membership	= YES	120	155	77%
12	Proportion of peer review indicators met	>=80%	101	155	65%
13	Peer review: are there immediate risks?	= NO	143	155	92%
14	Peer review: are there serious concerns?	= NO	103	155	66%
23	Treatment within 62 days of urgent GP referral for suspected cancer %	>=95%	126	155	81%
30	Provider undertaking immediate reconstruction*	>0%	141	155	91%
32	Surgical patients receiving mastectomies %	< value of 75th percentile	116	155	75%
38	% reporting always being treated with respect & dignity	>80%	73	148	49%
40	Cancer patient experience survey questions scored as "green" %	>12%	85	149	57%

Composite 'Indicator'



0	0	0%
Grand Total	135	

Does this reflect our perceptions of current services?

Questions & Caveats?

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- Validity of approach - very simple, proof of principle
- Who selects the indicators to include?
  - Different groups may have different priorities?
- How is each indicator weighted – equally?
  - due consideration to clinical and statistical issues
  - Justifiable design of scoring system
- How to ensure adjusted for casemix?
- Timeliness of data
  - More recent or more robust?
- How to interpret and how to share publically?

Where next – Breast Cancer

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- Review indicators in profile with patients, clinical teams & commissioners
- Select indicators for inclusion
  - same or different?
- Other indicators for consideration
  - NHSOF, CCG Outcomes Indicator Set, NICE, Professional
  - Are the data available?
  - Are there agreed methodologies for each indicator
- Consider methodology for ‘composite model’

Where next – Colorectal Ca.

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- Base on Australian model (Prof. Solomon et al)
  - Several aspects of care
  - Adherence to national guidelines for services
- Compare England with Australia
  - Comprehensive comparisons a challenge
  - Use Australian methodology
- Use data from current profile
  - 3 types indicators
- Construct composite indicator for each trust

Where next – Colorectal Ca.

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Types of indicators

- evidence-based indicator (EBI)
  - use of DVT prophylaxis, chemotherapy for Stage III disease etc
- process-based
  - e.g. two week waits, MDT discussion, Peer Review, etc
- Clinical outcome-based indicator (COI)
  - 30-day post-op mortality, returns to theatre, readmission rates etc

Two Options to Construct Composite Indicator

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- Threshold set at the 20th percentile of the variation*
  - If in lowest 20th percentile, score = 0
  - Large numbers of hospitals in this category, as 'someone has to be at the bottom'
  - E.g. EBS = nos of EBI >20th percentile/total nos of EBI
  - Investigated correlation between indicators , scores and caseload to test relationship bet EBS & COS
- Identify outliers e.g. 2 or 3 SD from the mean?
  - Genuine poor performers

**Evidence-Based and Clinical Outcomes Scores to Facilitate Audit and Feedback for Colorectal Cancer Care; MR Habib, ML Solomon et al; Diseases of the Colon & Rectum Volume 52: 4 (2009)*

In summary…..

- Can demonstrate differences between services
- But does it demonstrate quality?
  - What is quality?
  - Whose quality is it?
- Require method that
  - Has clinically or statistically defined level of confidence to score hospitals
  - Clinical credibility
  - Easy to calculate, interpret and understand!

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Potentially a long way to go but....

just beginning & need to learn from each other
- It is a challenge…….