The application of psychiatric epidemiology to outcome measurement in clinical practice

Tamsin Ford

t.j.ford@exeter.ac.uk

@Tamsin_J_Ford

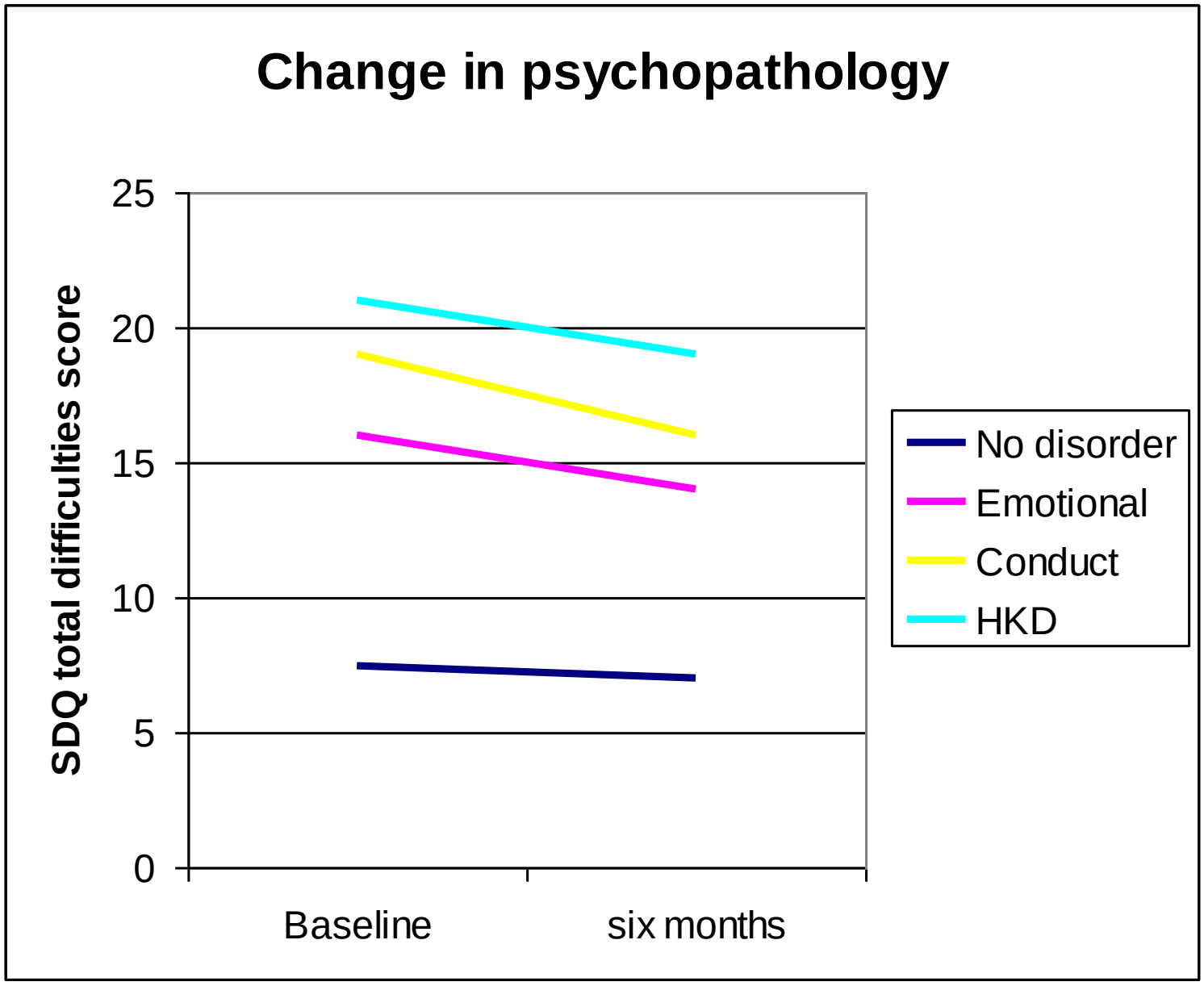
Outcome monitoring:-

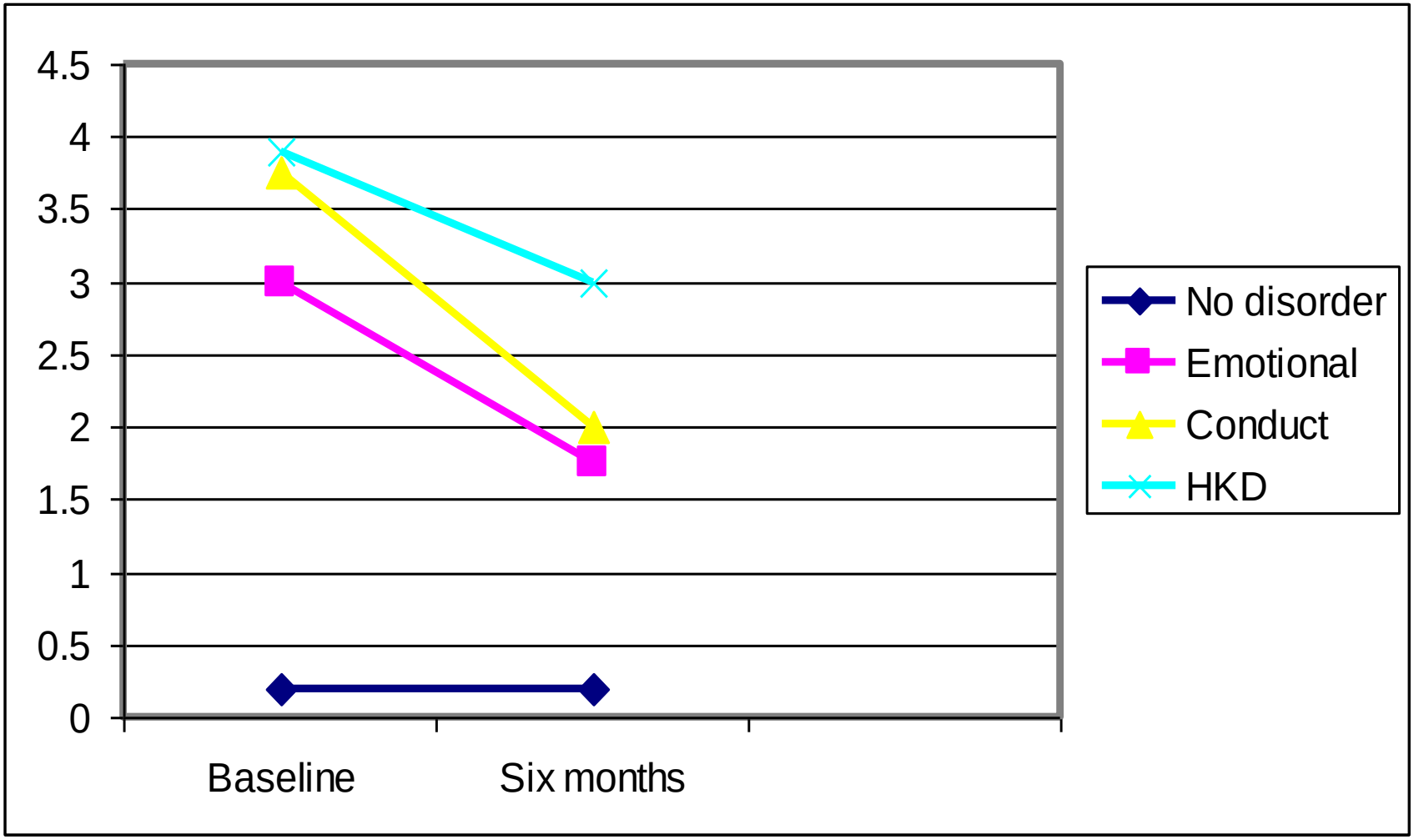
- Needs to be undertaken in the spirit of reflection, investigation and collaboration; anything else is a waste of resources and unethical
- Excellent practitioners constantly review their practice and their service data to look for areas to improve (Atul Gwande – Better, Checklist Manifesto).
- Done well and combined with other strategies, can guide service improvements at individual, team, service and regional level, particularly in relation to innovation or where the evidence-base is thin

- **We do need to be able to demonstrate that we are good enough**

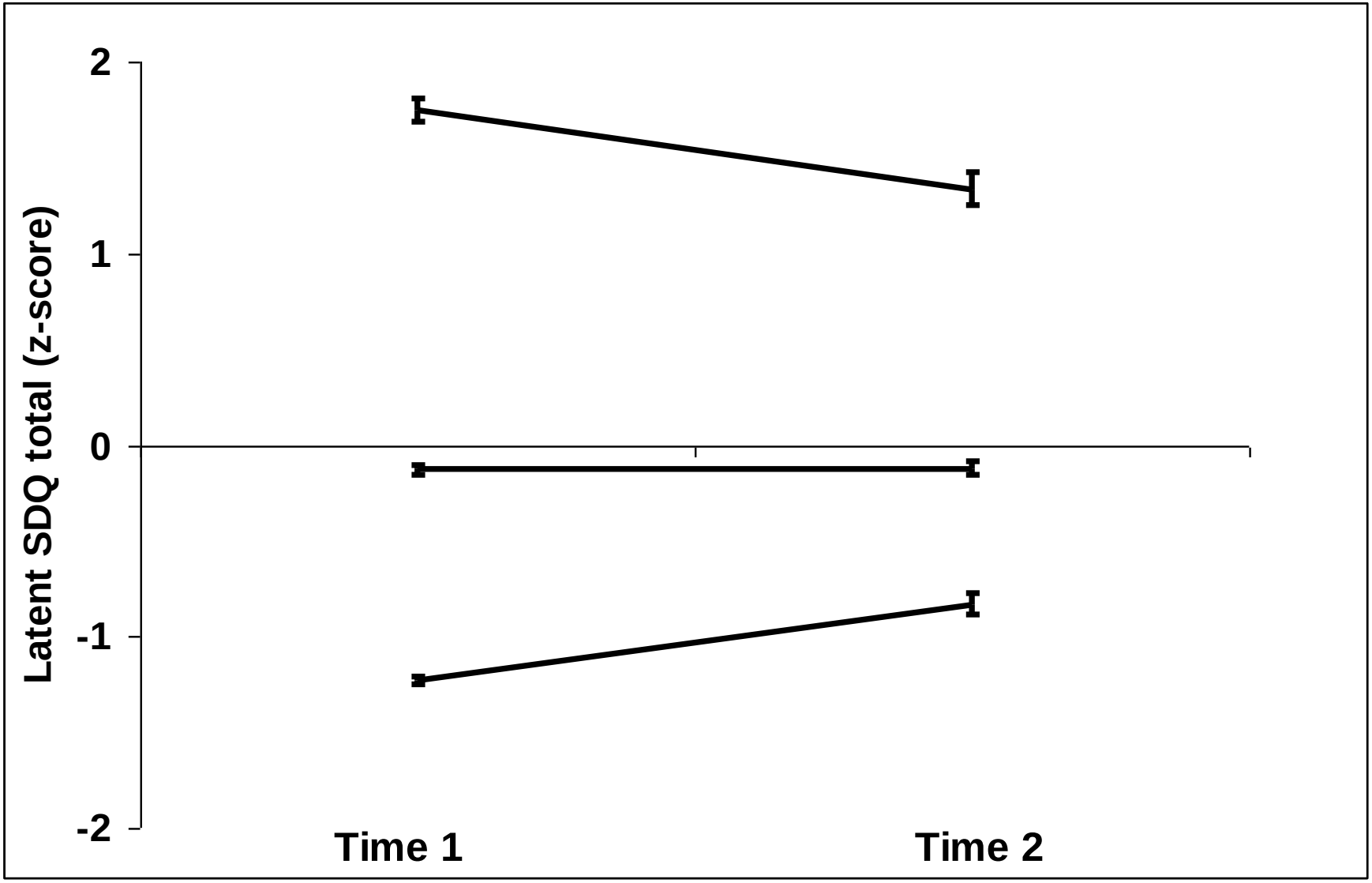
Fear not – 3 factors predispose to positive pre-post measurements

- The chronic and fluctuating nature of childhood psychiatric symptoms
- Attenuation
- Regression to the mean

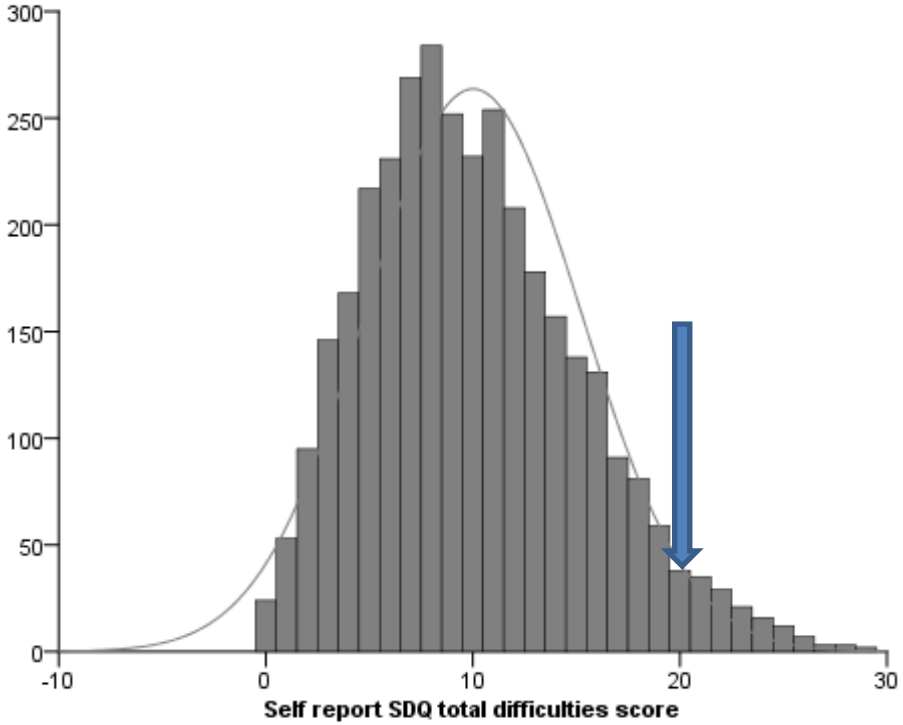

Change in psychopathology
SDQ total difficulties score
25
20
15
10
5
0
Baseline
six months
No disorder
Emotional
Conduct
HKD

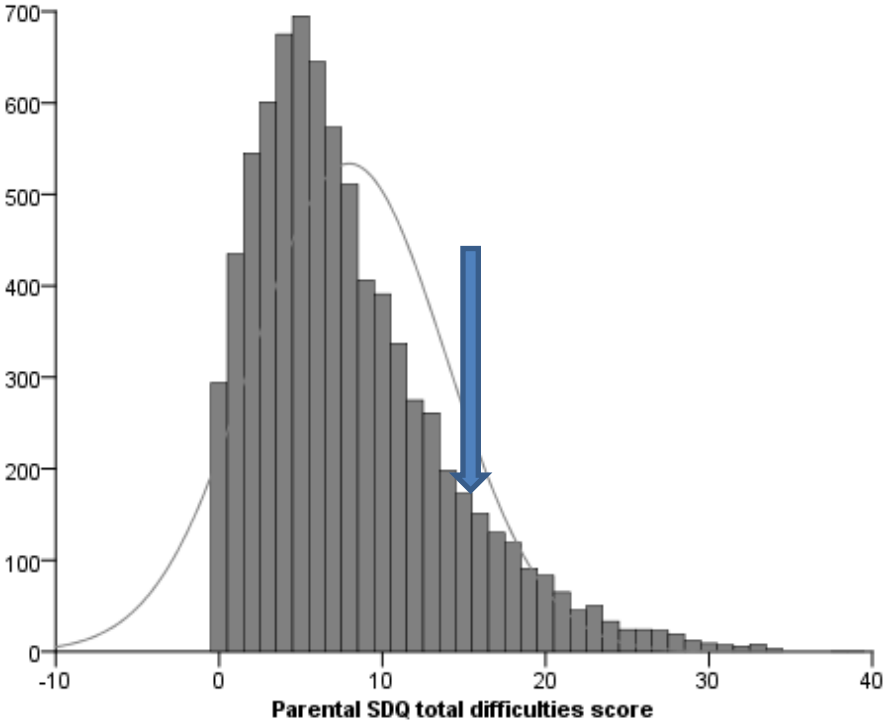

4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Baseline
Six months
No disorder
Emotional
Conduct
HKD

	% reporting in the first interview	% reporting in the second interview	Agreed contacts between two interviews as % of total contacts from both interviews	Kappa (standard error)
Assessment only	40	28	70	0.74 (0.14)
CBT	56	52	80	0.76 (0.13)
Medication	40	36	73	0.75 (0.14)

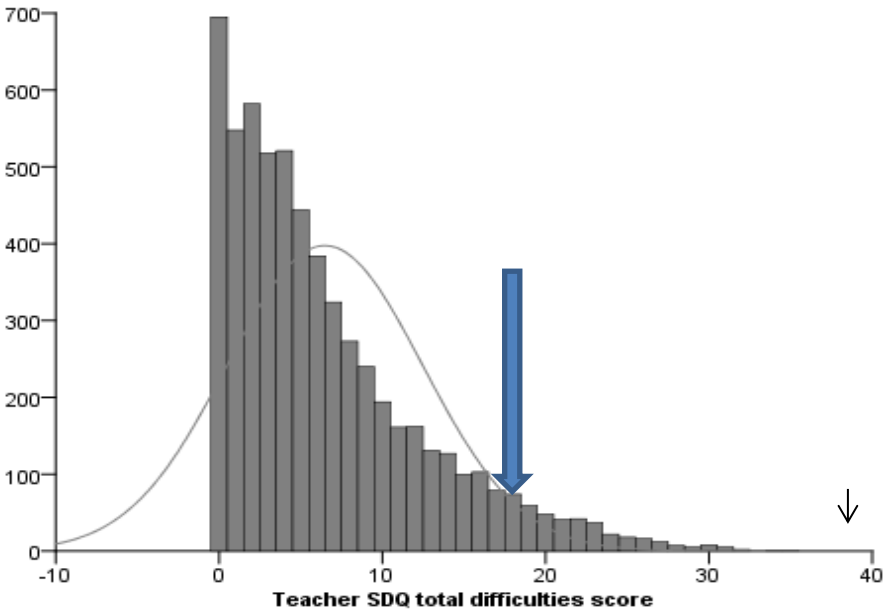

2
1
0
-1
-2
Latent SDQ total (z-score)
Time 1
Time 2

Method	Strengths	Weaknesses	Recommendations
Difference scores	Simple Can standardise (effect size)	Fails to account for attenuation, regression, random fluctuation	Compare to national norms and other similar groups
Crossing a clinical cut point	Clinically intuitive	Cannot discriminate between small / big changes. Clinical cut point can be difficult to establish	Can combine with RCI for individual case review
Reliable change index	Attempts to adjust for measurement error	Low sensitivity to small but clinically meaningful changes. Does not necessarily indicate clinical significance.	Can combine with CCT for individual case review
SDQ AVS	Uses epidemiological control group	Only for SDQ & clinical sample measured at 4-6 months	For group comparison only





British Child and Adolescent Mental Health Survey 2004



What is the SDQ?
see www.sdqinfo.org

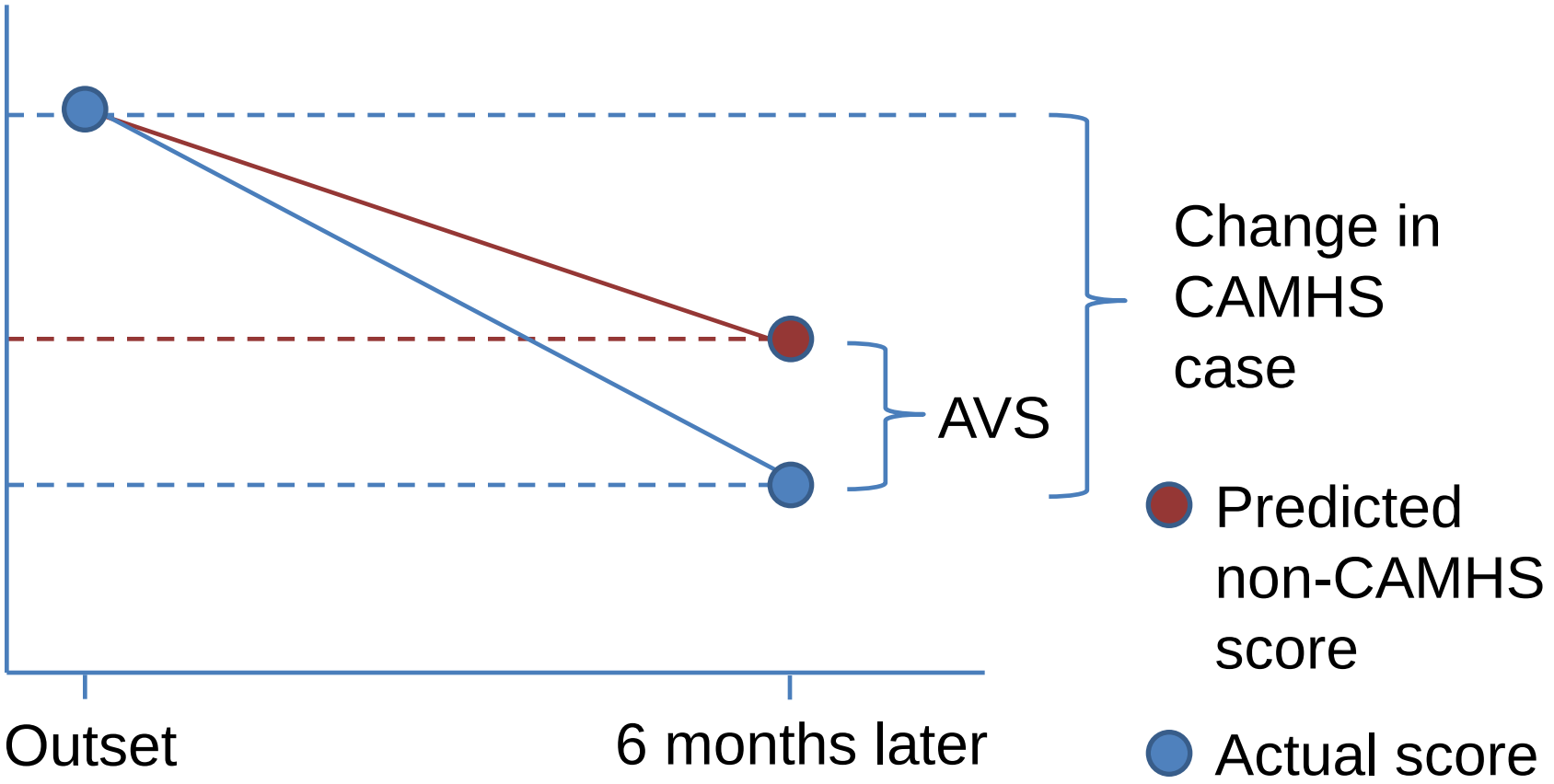
- 5 x 5 item scales assessing: **Conduct problems**, **Inattention-hyperactivity**, **Emotional symptoms**, **Peer problems** and **Pro-social behaviour**.
- First four subscales added to give a **Total difficulties score**
- Ratings of child distress + impact of difficulties on home life + friendships +classroom learning + leisure activities = **Impact scale.**
- Scores in the abnormal range (>90th centile) are associated with a nearly 16 times increase in the likelihood that the child has a psychiatric disorder.
- www.sdqinfo.org

Where did the SDQ AVS come from?

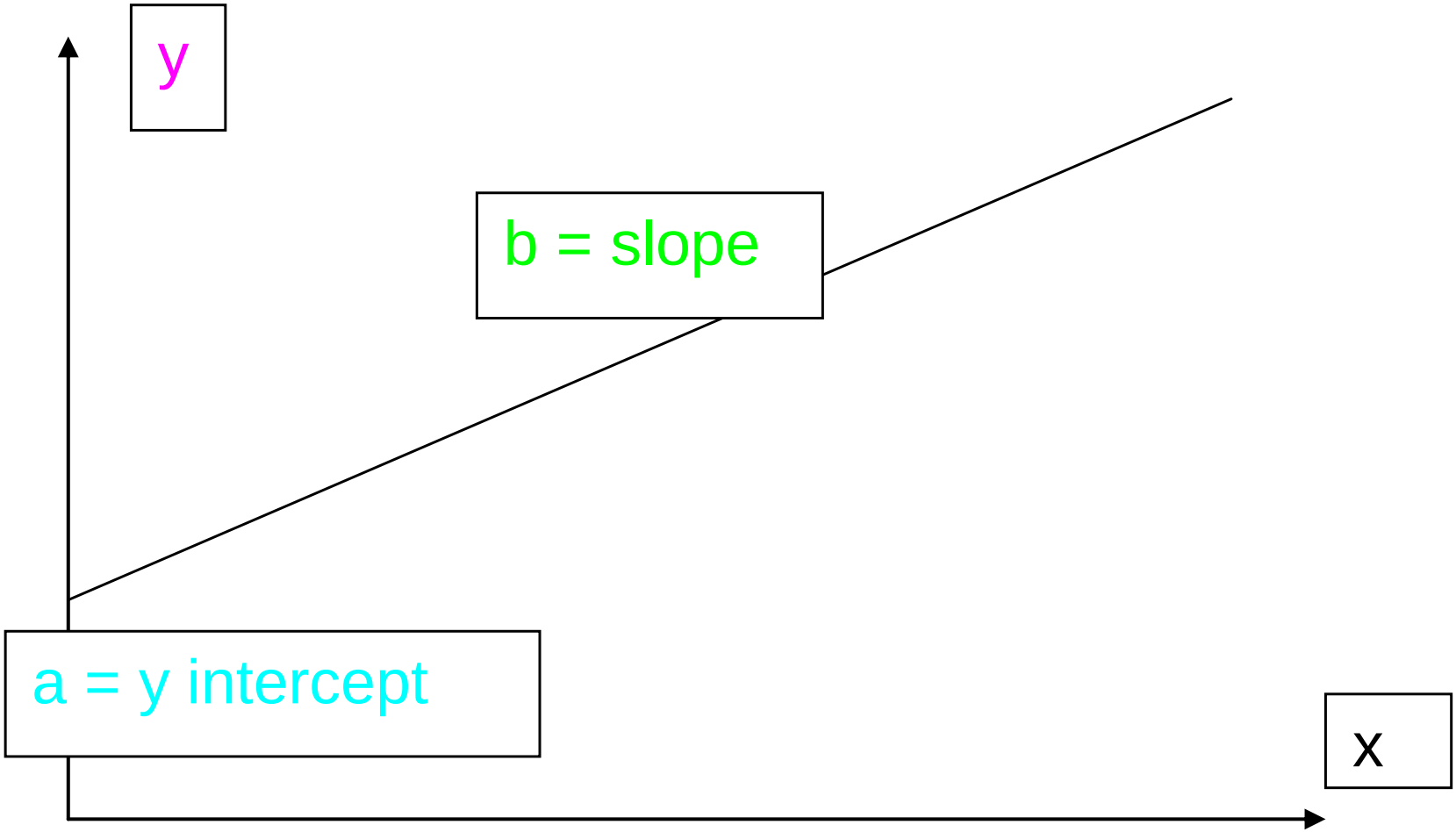
Children in the DoH British child and adolescent mental health survey 2004 and its six-month follow up who:-

- Were rated as having a psychiatric disorder
- Or children with parents who had approached primary health care or teachers in relation to this child's mental health within the previous year.
- (n=604)

Thanks to Andy Fugard for this slide



y= a+bx



SDQ Added Value Score

- Generated empirically -see **www.sdqinfo.org**
- Children with untreated psychiatric disorder and / or parental concern in BCAMHS 2004 to predict parental SDQ total difficulties scores six months later

SDQ Added Value Score = Predicted-**Observed** SDQ scores

SDQ AVS of 0 equals no change

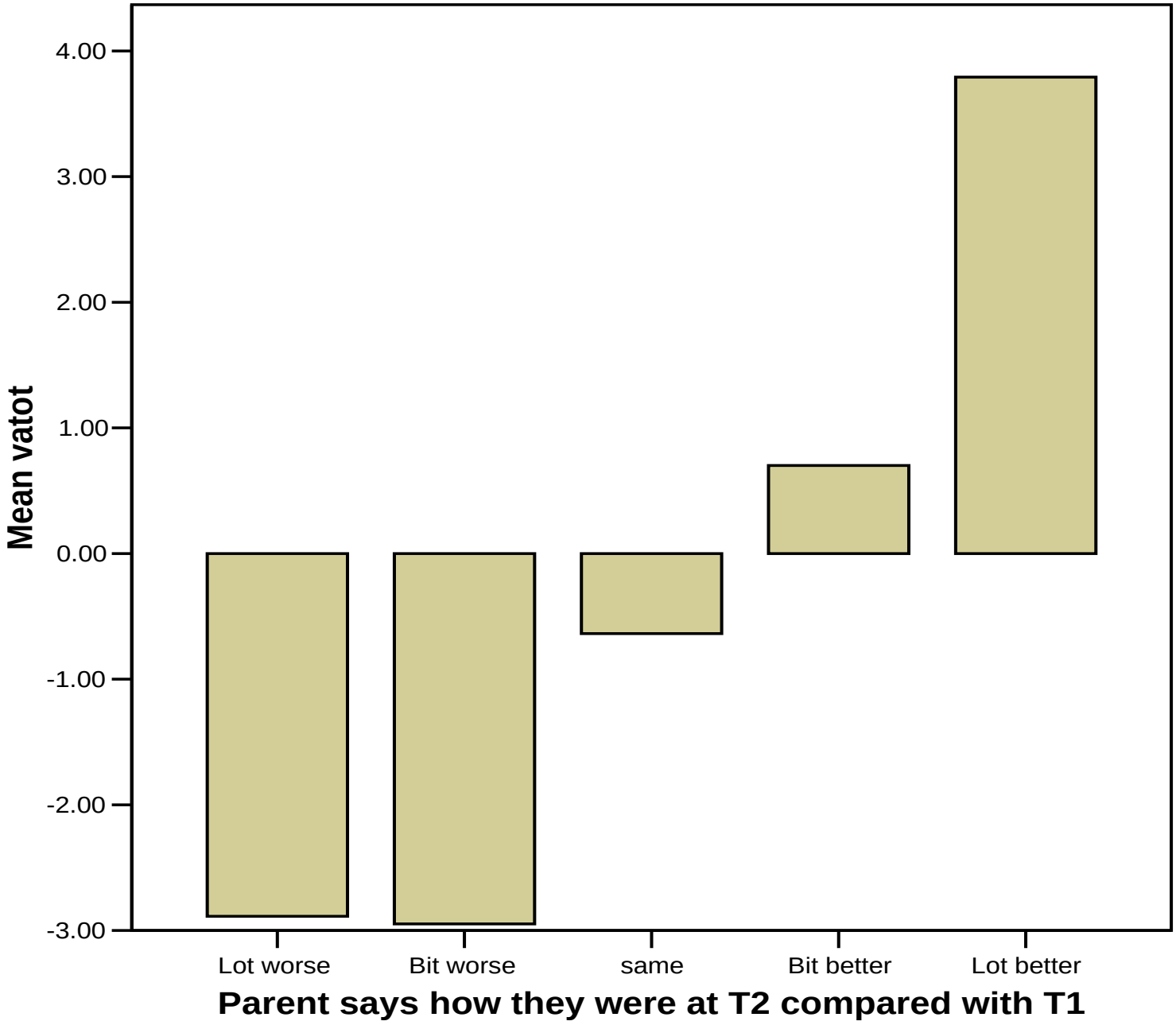
Positive SDQ AVS = children doing better than expected

Negative SDQ AVS = children doing worse than expected

y= (a+b1x1+b2x2+b3x3)

- **Follow up SDQ score (in SDQ points)** = 2.3 + 0.8*baseline total difficulties score + 0.2*baseline impact score – 0.3* baseline emotional difficulties subscale score

- y = Follow up SDQ score
- a = 2.3
- b1 = 0.8 and x1= baseline total difficulties score
- b2 = 0.2 and x2 = baseline impact score
- b3 = 0.3 and x3 = baseline emotional difficulties subscale score


4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
Mean vatot
Lot worse
Bit worse
same
Bit better
Lot better
Parent says how they were at T2 compared with T1

My service is disadvantaged because....

- Practitioners are often very concerned that case complexity or case mix makes the “fair” assessment of clinical outcome impossible
- Particularly acute when finance is attached to outcome.

Complexity factors

We looked at:-

- Type or severity of diagnosis
- Age and gender
- Poor physical health
- Maternal educational level
- Maternal anxiety and depression
- Family (type, function and size)
- Housing tenure
- Neighbourhood characteristics

Using stepwise linear regression, these factors explained:-

- **35.9%** of baseline SDQ scores
- **24.2%** of follow up SDQ scores
- **0.6%** of variance of the added value score

- Very small influence of these factors on the SDQ added value score

Does it work? Tested against RCTs

Inclusion criteria

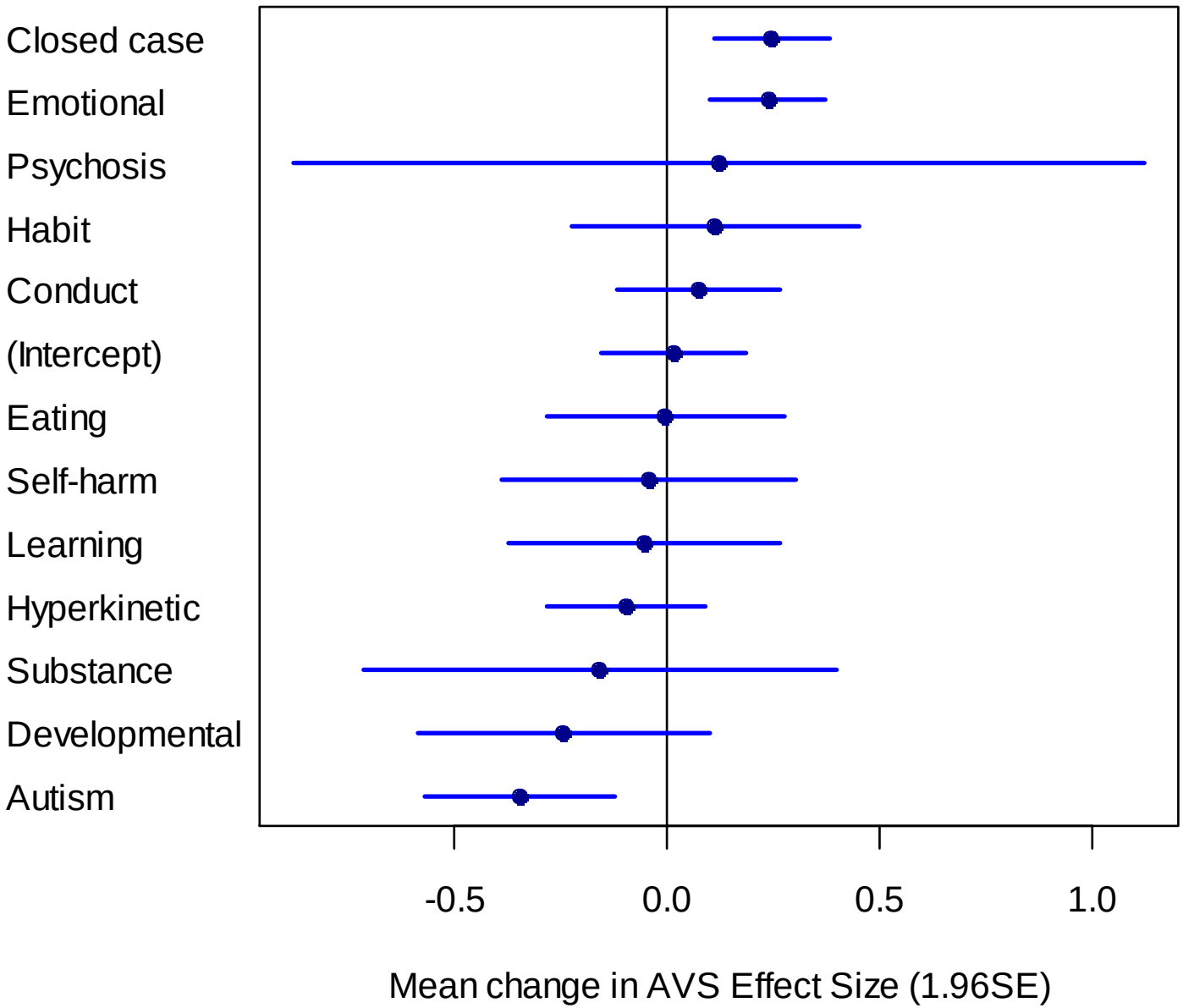
- Used the SDQ at two time points 4-8 months apart
- Impact scale
- Detected a difference between the two arms.

If the SDQ value added scale works it should accurately predict the change measured by the trial for the intervention group and while the control group should show no change

RCT of IY parenting course Sure Start Wales Hutchings et al.	Effect size in standard deviation units		
	Expected value	Added value score	Change score
Control group	0	-0.03	0.35 *
Intervention group	0.37	0.36	0.65 **

RCT of IY parenting course Eire McGilloway et al.	Effect size in standard deviation units		
	Expected value	Added value score	Change score
Control group	0	0.15	0.50*
Intervention group	0.53	0.62	0.85*

CORC
CAMHS Outcomes Research Consortium
Collaborating to improve quality through outcomes
CAMHS Outcomes Research Consortium
21 Maresfield Gardens
London
NW3 5SD
United Kingdom
T 020 7443 2218
E corc@annafreud.org
W www.corc.uk.net



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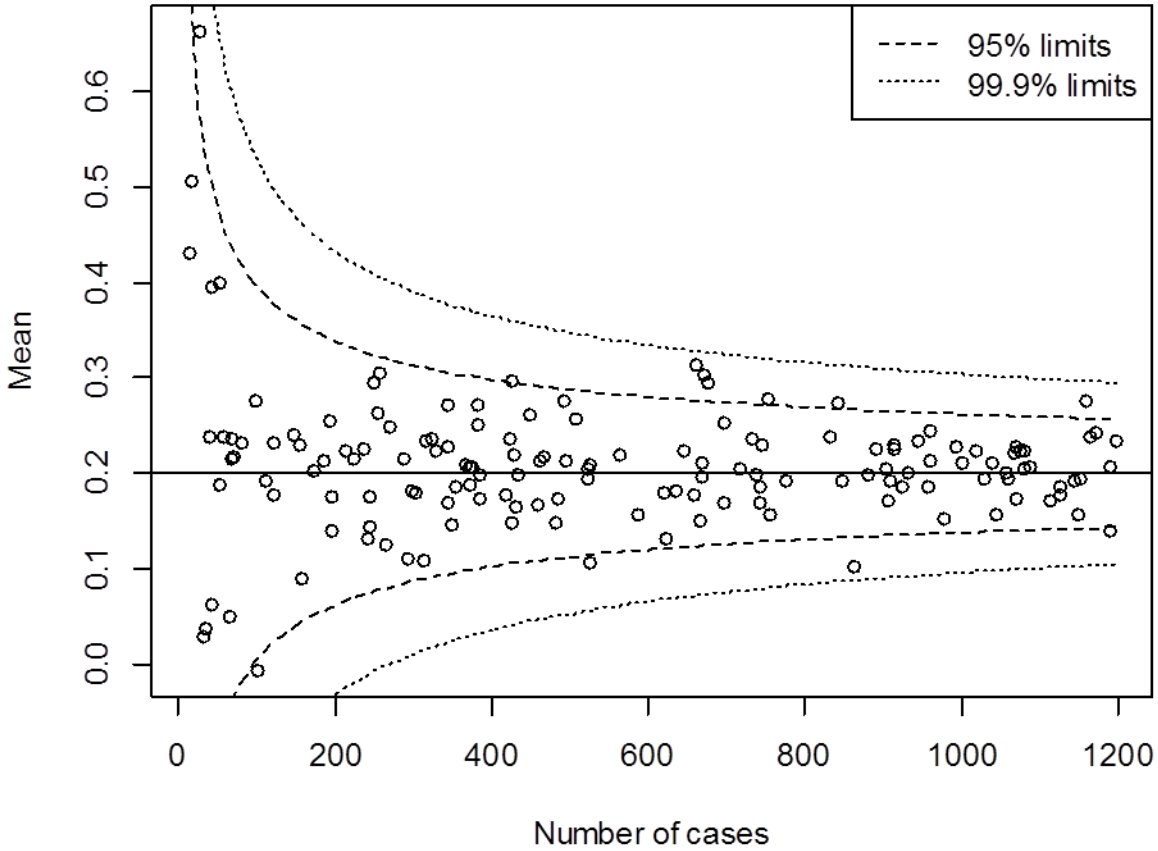
Analysing and reporting UK CAMHS outcomes: an application of funnel plots

Andrew J. B. Fugard[1], Emily Stapley[2], Tamsin Ford[3], Duncan Law[4], Miranda Wolpert[2] & Ann York[5]



Considerations

- Is the data correct – does it look right
- Triangulate – context and other sources of data
- Is this measure(s) right for this group – ie LD
- Is change expected? Ie DNA, assessment only
- Differences between you and comparison groups in terms of clientele (complexity, presenting problem, engagement…)
- Sample size
- Attenuation, regression and random fluctuation