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Oxford Primary Care 2015

Cutting-edge research in the consulting room

18 May 2015
@OxPrimaryCare

In partnership with:

NHS
National Institute for Health Research

Clinical Research Network
Thames Valley and South Midlands

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Stopping smoking

Professor Paul Aveyard. 18 May 2015

Conflicts of interest

- I have done research and consultancy for the manufacturers of smoking cessation medication

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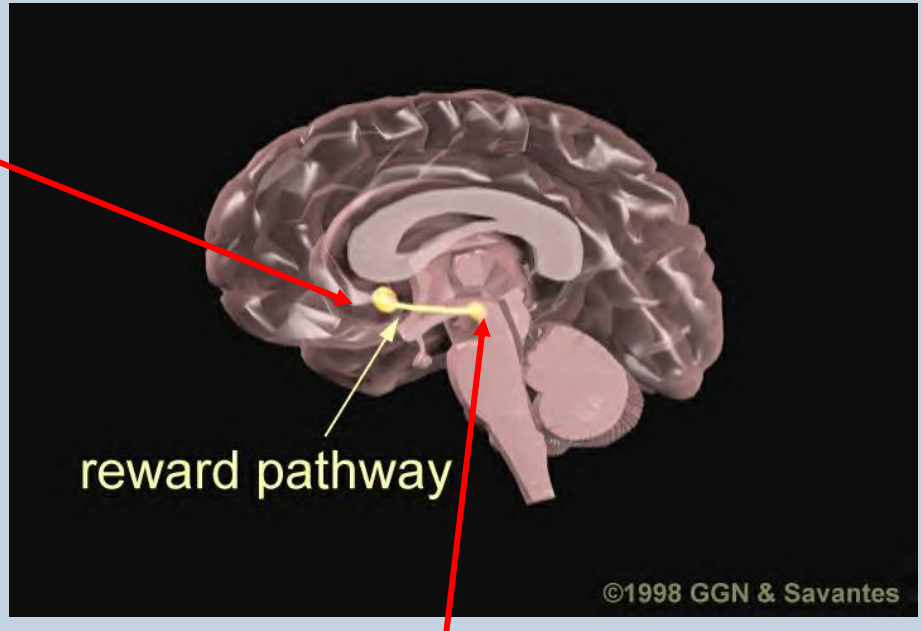
Tobacco addiction

Nucleus accumbens



Ventral tegmental area

- Mechanisms
- Associative learning
- Pleasure
- Nicotine hunger
- Withdrawal
- Higher functions

Systematic review

- 2 active ingredients
  - Advice to quit
  - Assistance in quitting
- **Offering help is 30% more effective than offering advice in motivating quit attempts**

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Addiction 2012:107:1066–1073

For a short video training course
http://www.ncsct-training.co.uk/player/play/VBA

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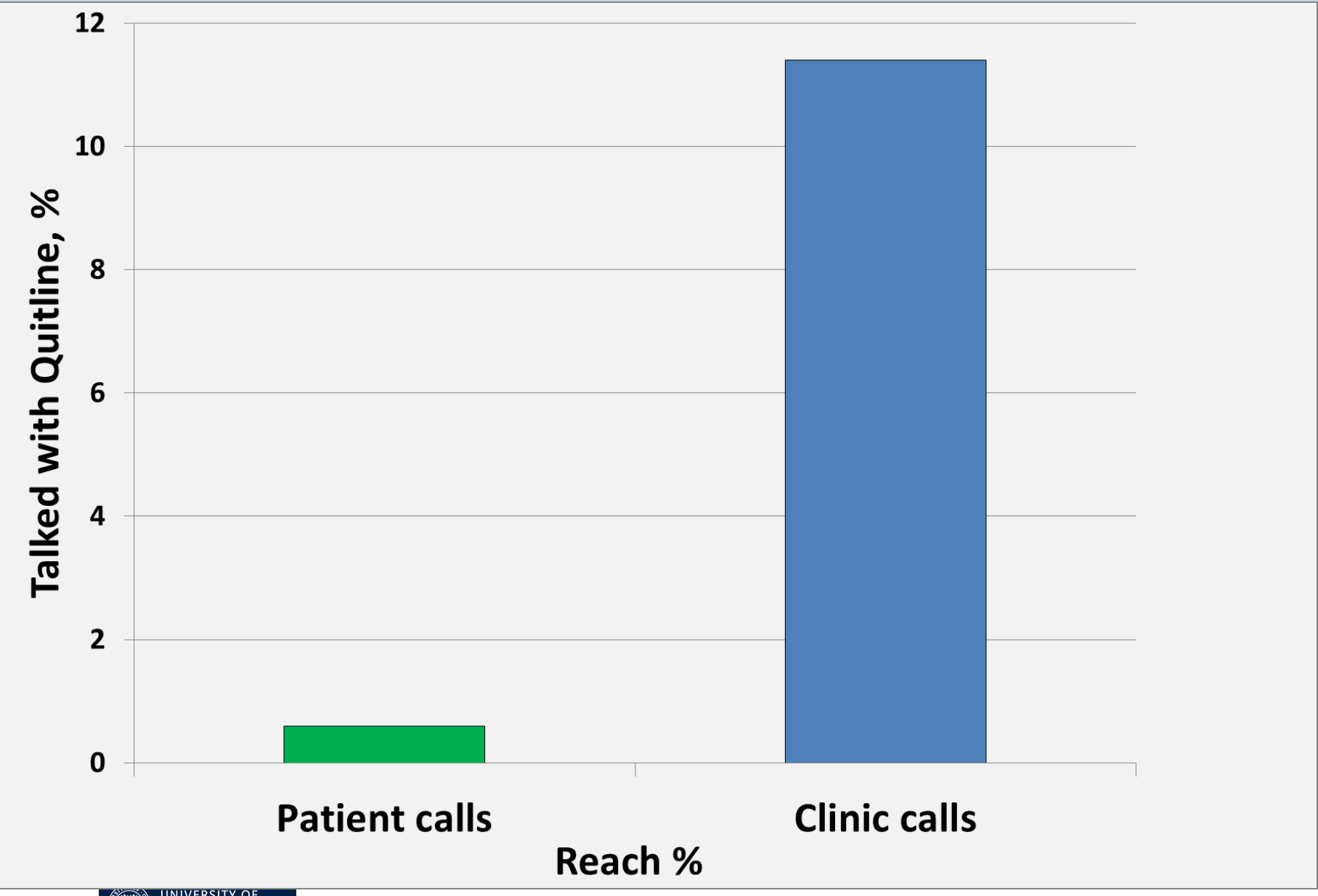

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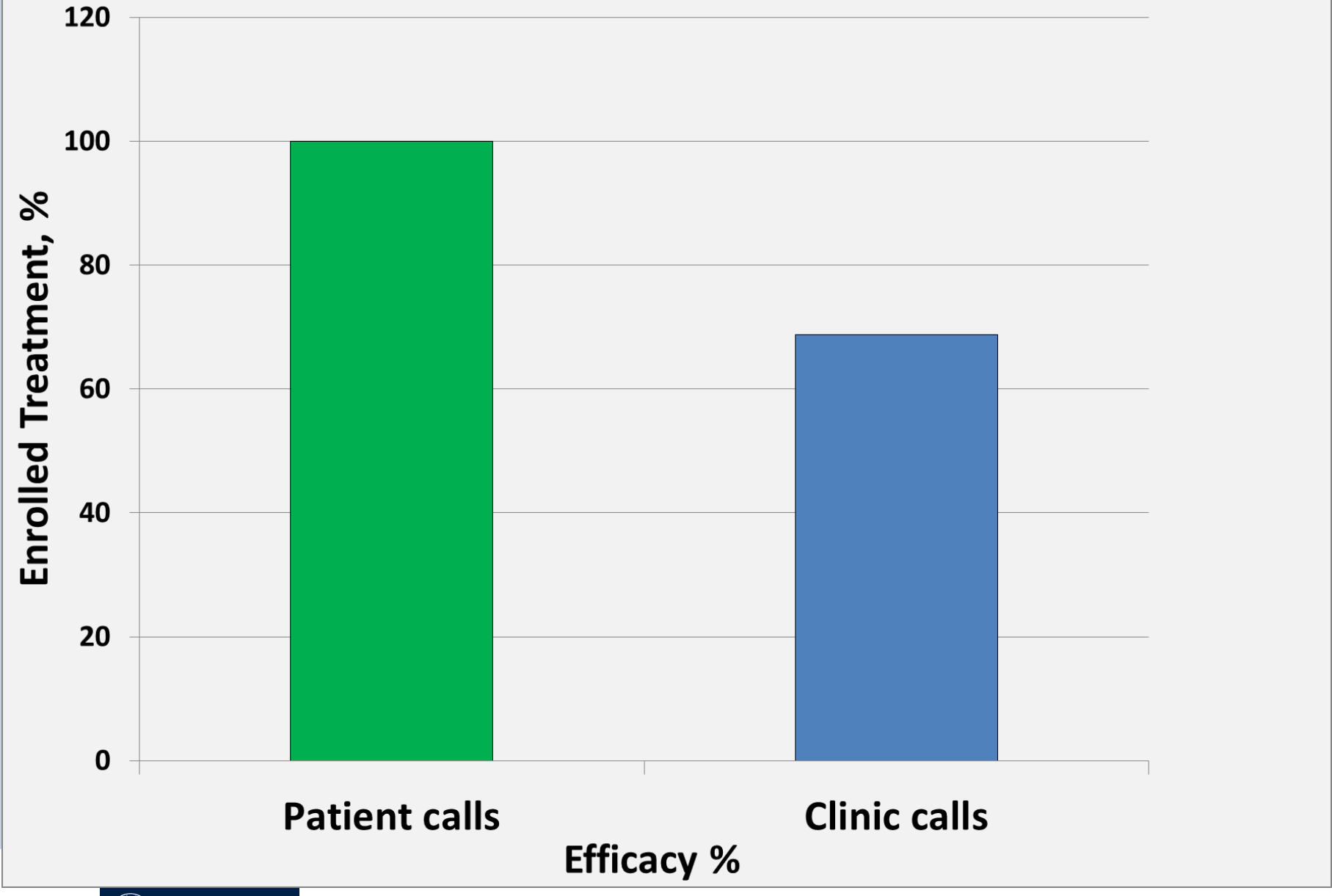
JAMA Intern Med. 2013;173(6):458-464



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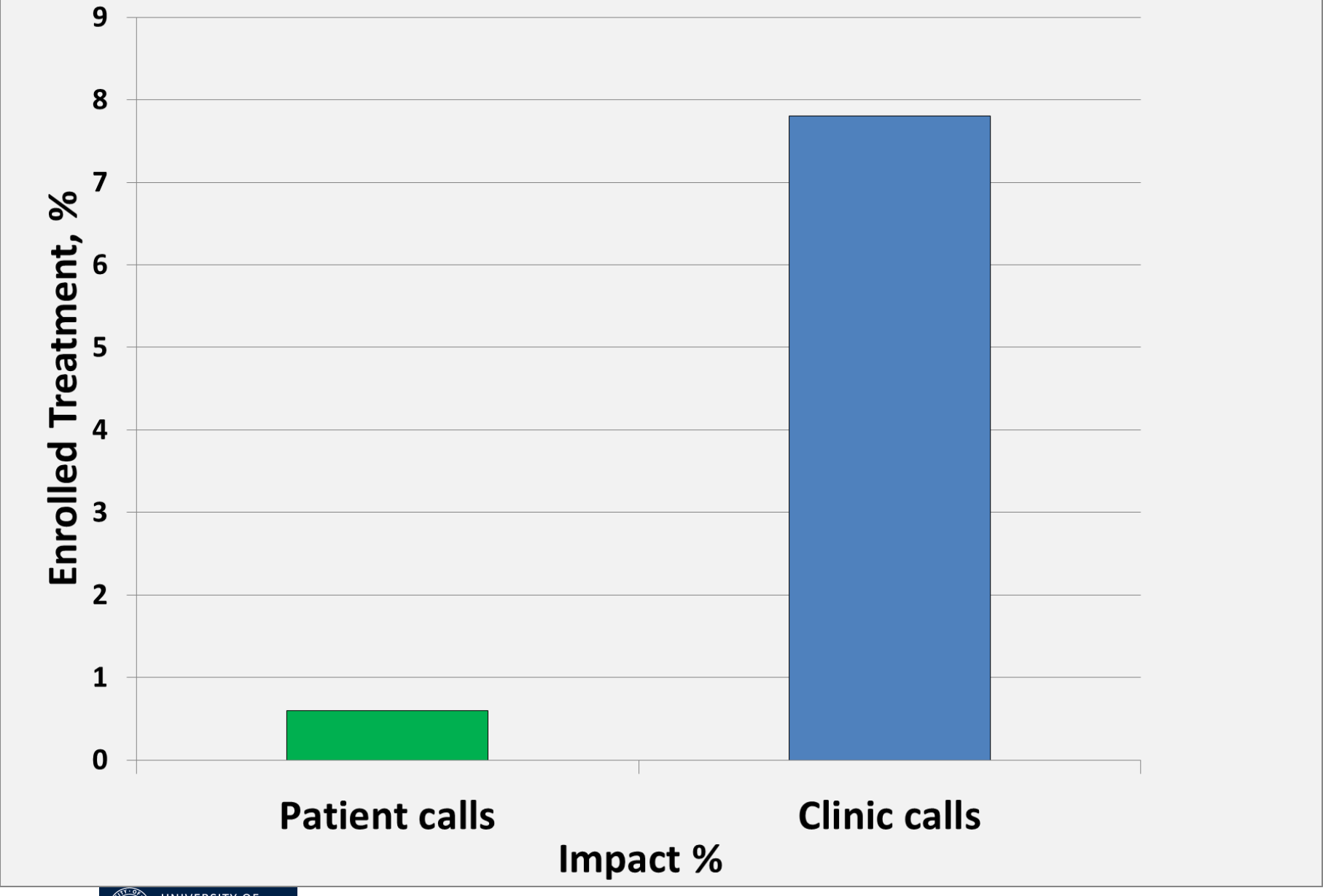

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PERGAMON

Social Science & Medicine 57 (2003) 135–145

SOCIAL SCIENCE & MEDICINE

www.elsevier.com/locate/socscimed

"I'll give up smoking when you get me better": patients' r… general

…RD, UK
…D, UK

Abstra…

This… …nd problematised by gen… …are taken from a larger study in one country of the UK, of the factors influenc… …ng between GPs and patients who smoke. Consultations have been examined informed by the c… …alysis literature, with a focus on patients' resistance to doctors' problematisation of smoking. It is argu… …, despite evidence from other areas of health care that advice is most effective when it is personalised, and despite GPs' expressed views that a preferred way of topicalising smoking is to make links to a patient's current medical problems, this is not generally the case in these consultations. Linking smoking to current problems commonly results in explicit resistance from patients of a kind that is rarely seen in other medical consultations. It is postulated that this results from the moral implications of linking a person's health status with their own behaviour, thereby undermining their claim to legitimate illness and to medical help.

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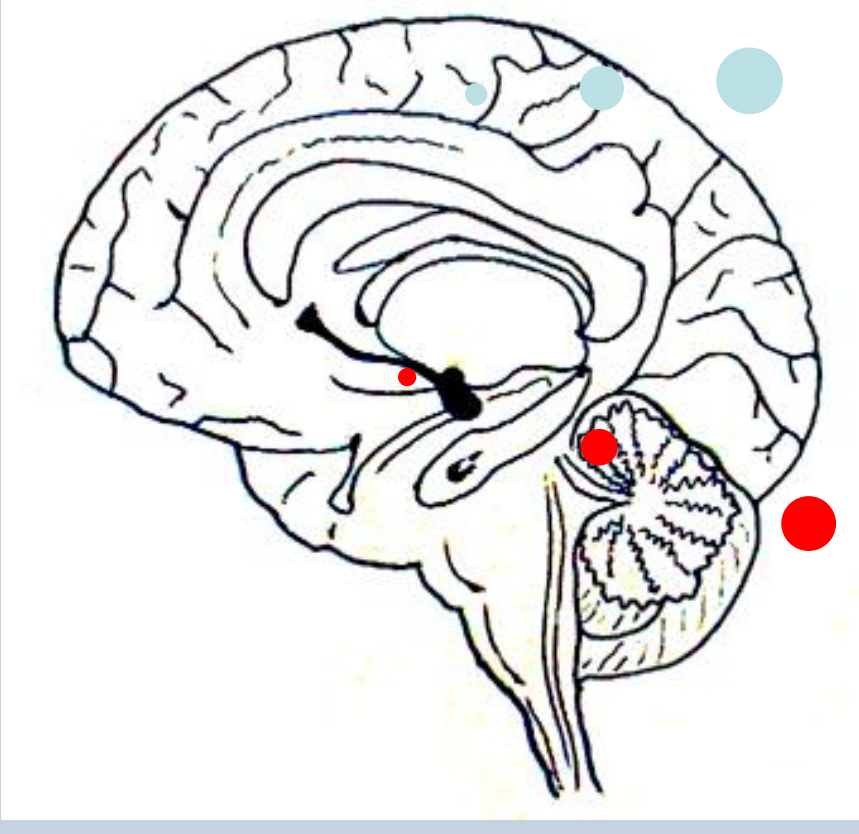
Despite GPs' expressed views that a preferred way of topicalising smoking is to make links to a patients' current medical problems… this commonly results in explicit resistance from patients of a kind that is rarely seen in other medical conditions.

The war in a smoker's brain



I really want to stop smoking: it's costing me money and it will probably kill me

I need a cigarette

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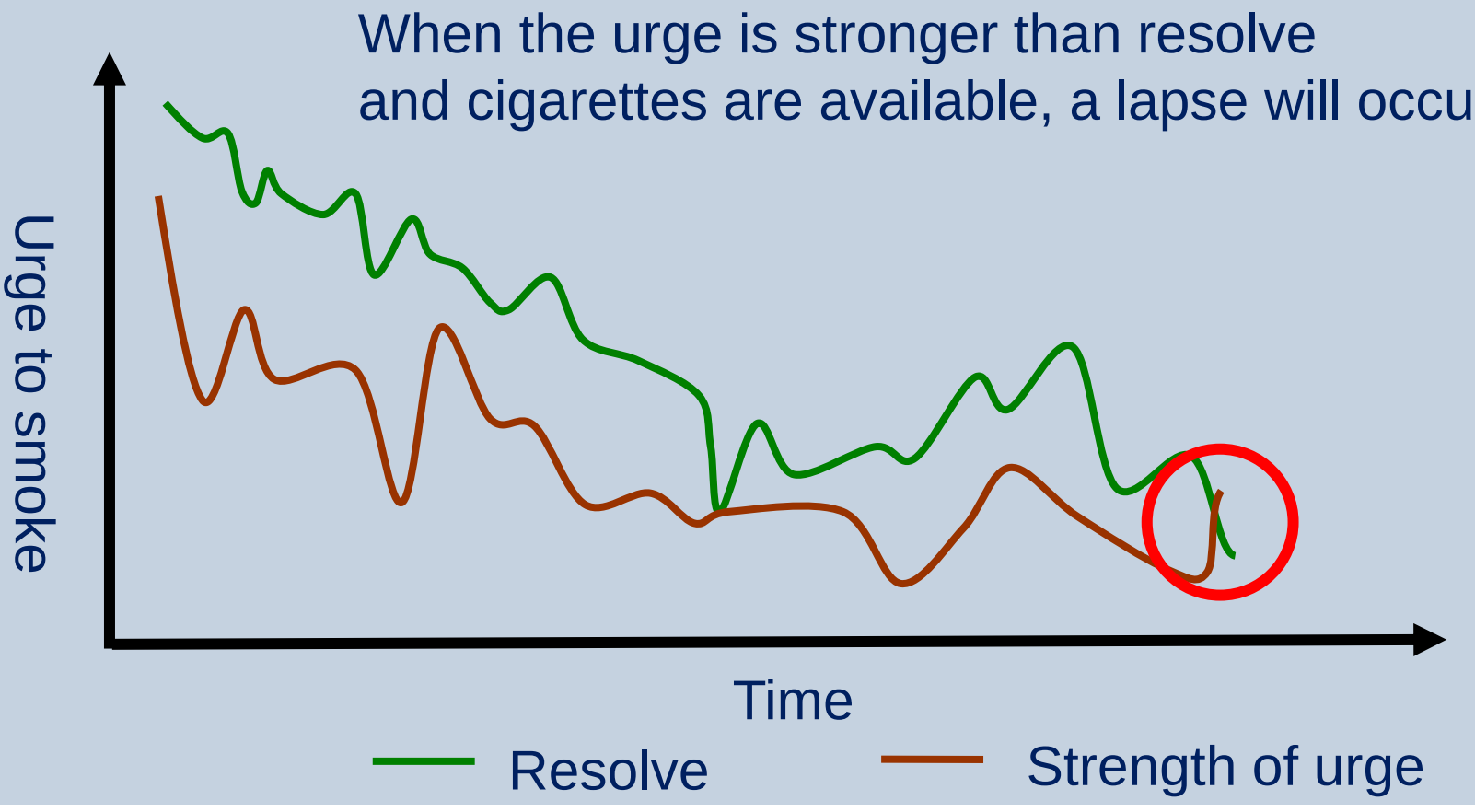
The battle over time between resolve and urge to smoke



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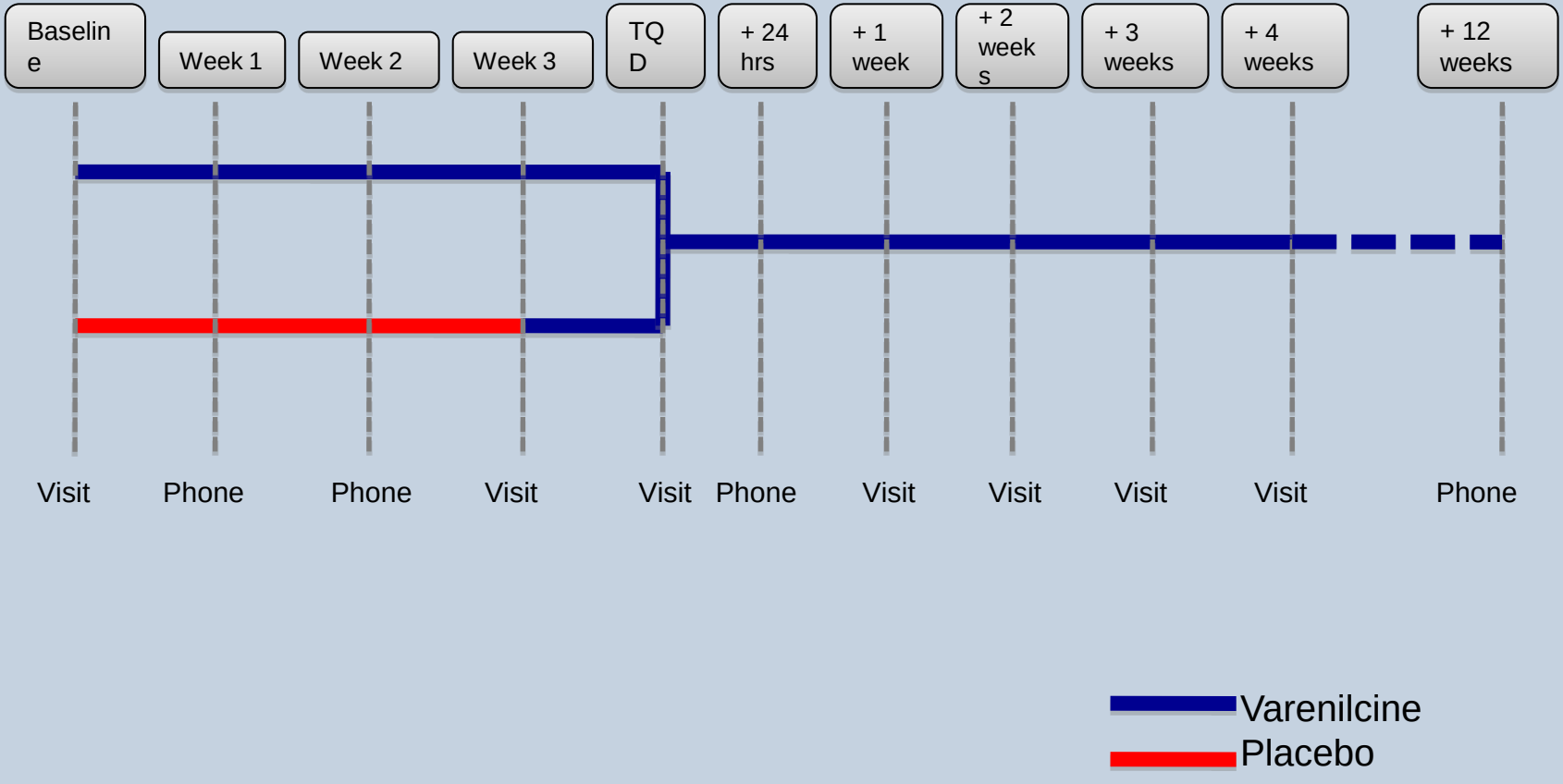
Study Design



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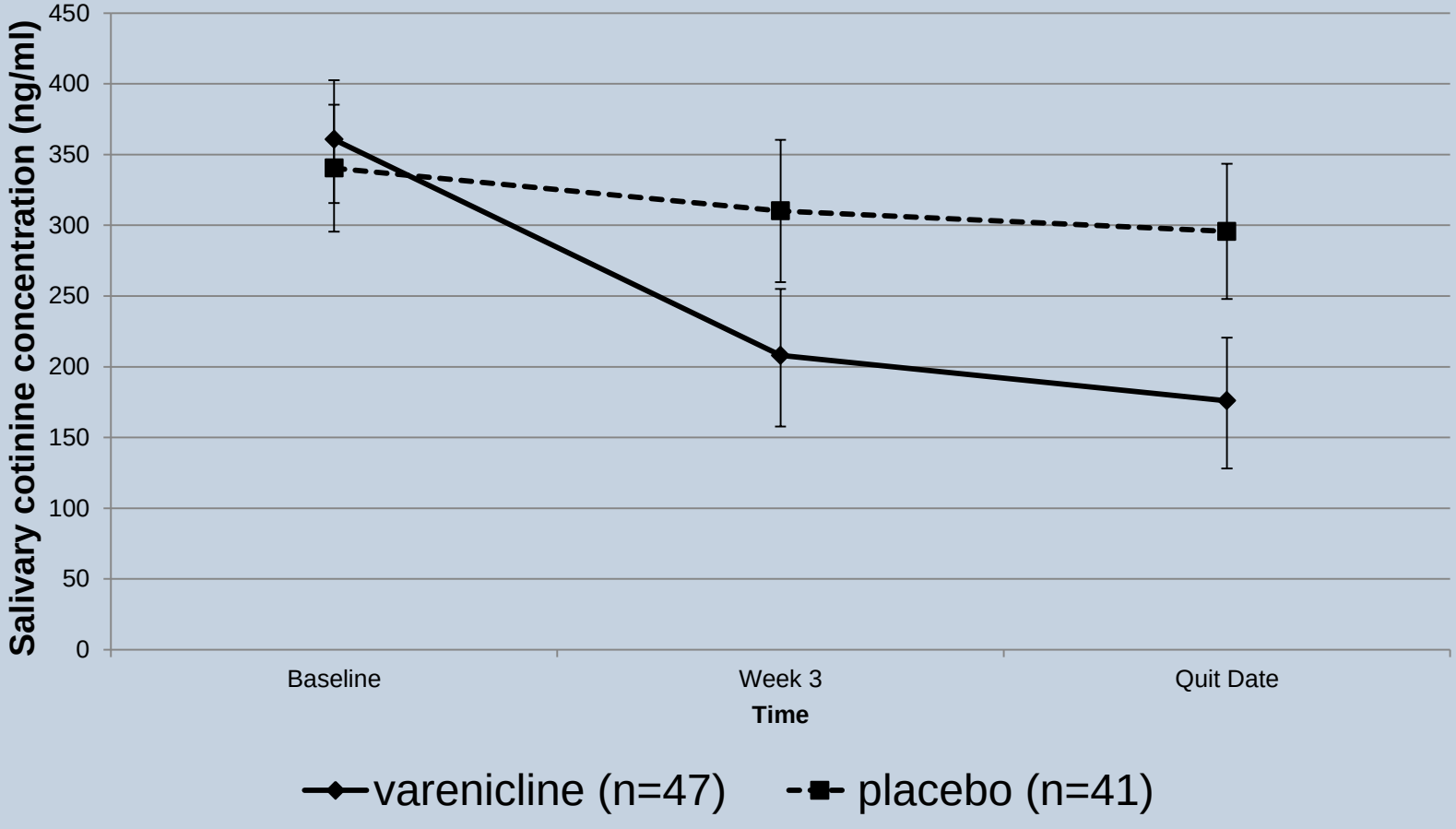
Archives of Internal Medicine 2011;171(8):770-777

Effect on cotinine prior to TQD



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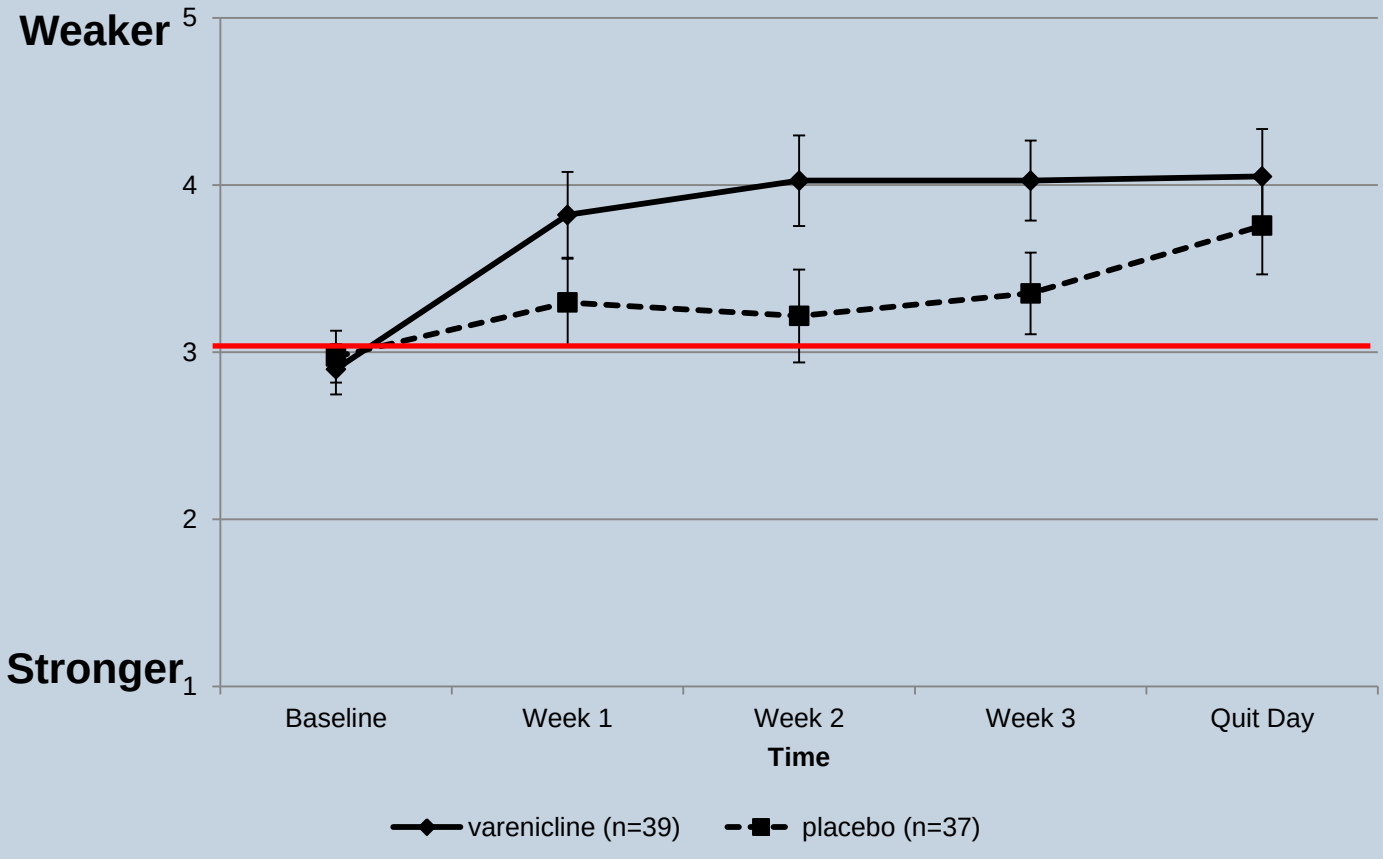
Pre-quit strength of urges to smoke



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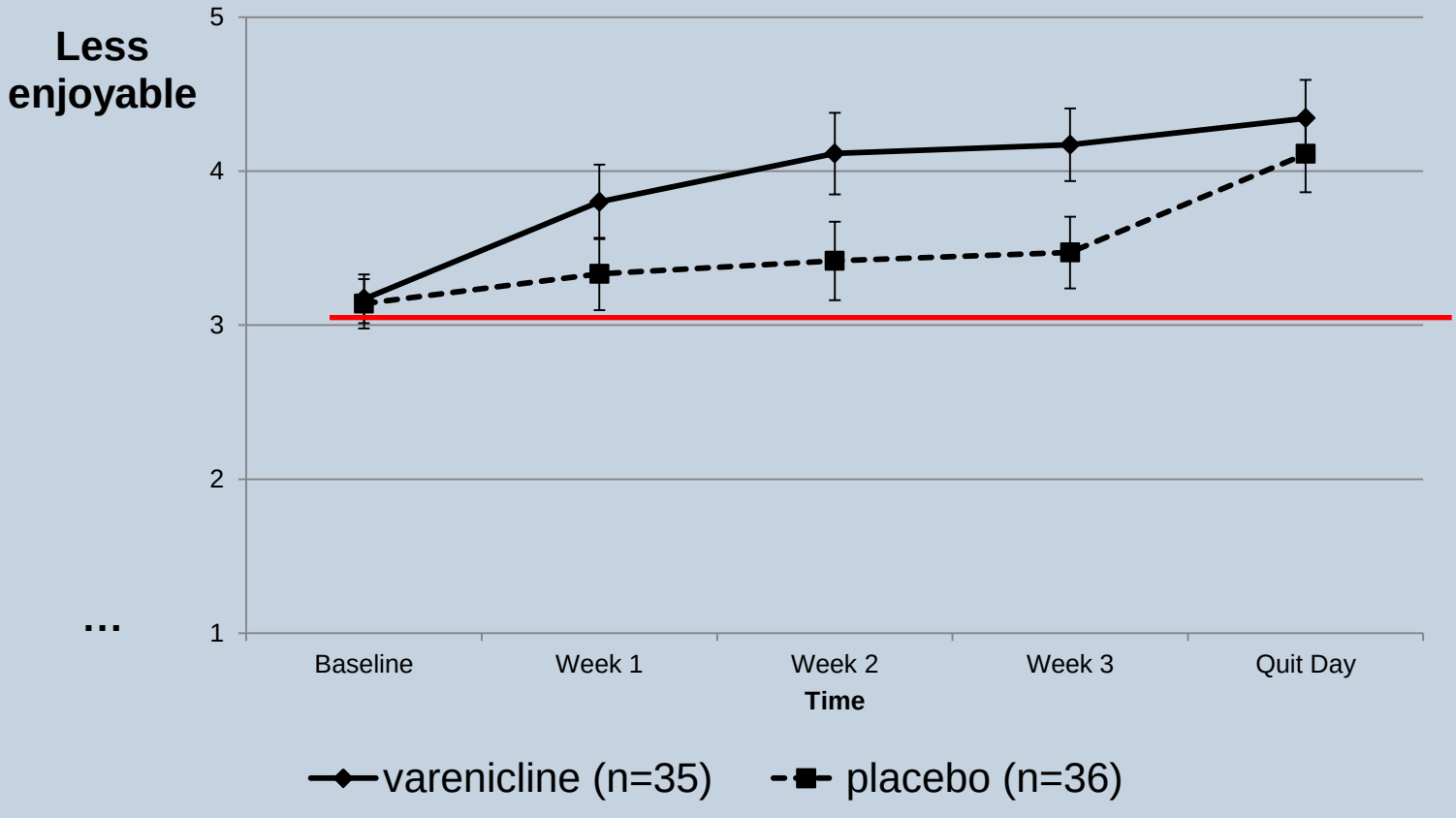
Change in enjoyment of cigarettes



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Effect on quit rates

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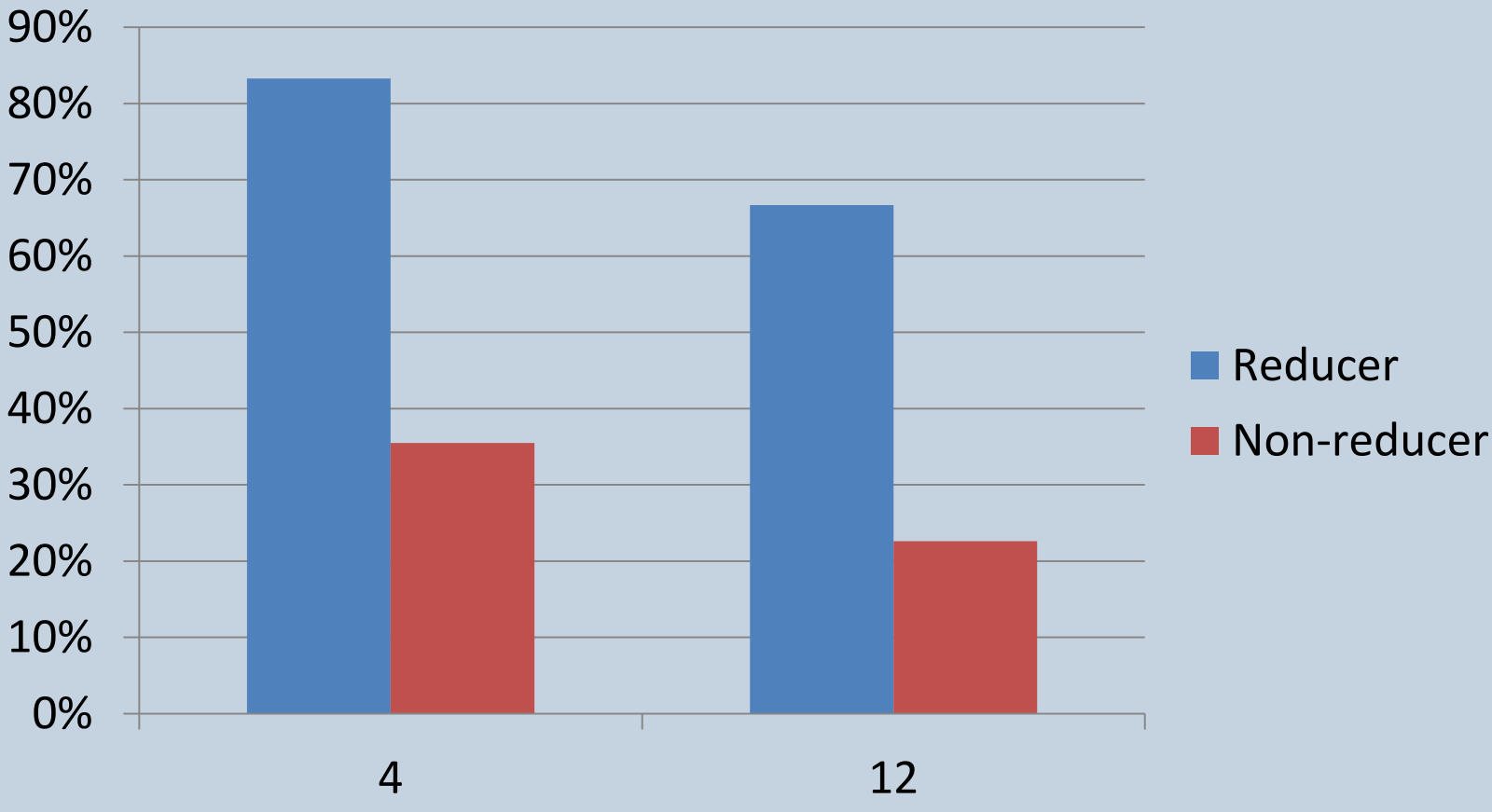
You can tell if your strategy is likely to work by the degree of reduction



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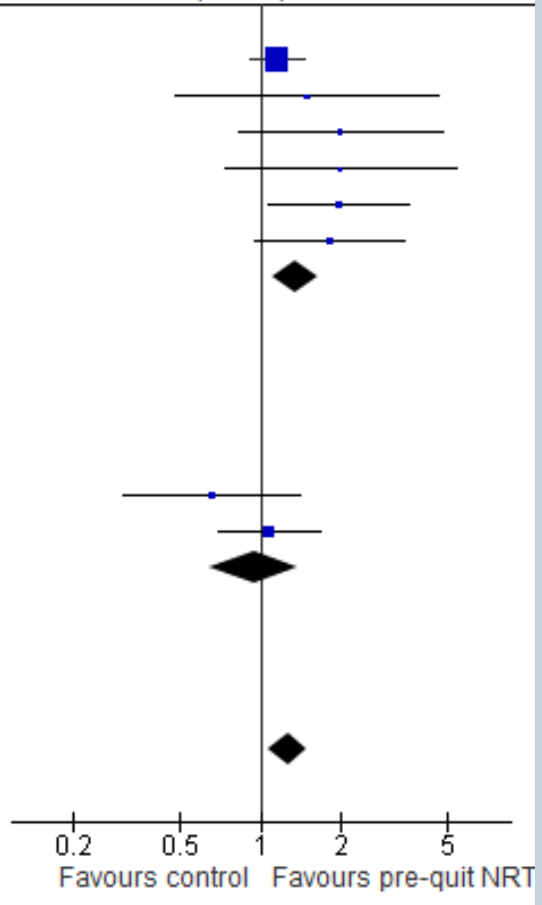
NRT patches (might) work too

Study or Subgroup	Pre-quit NRT Events	Pre-quit NRT Total	Control Events	Control Total	Weight	Risk Ratio M-H, Fixed, 95% CI
1.4.1 Patch						
Bullen 2010	118	514	98	492	54.1%	1.15 [0.91, 1.46]
Rose 1994	6	24	4	24	2.2%	1.50 [0.48, 4.65]
Rose 1998	12	40	6	40	3.2%	2.00 [0.83, 4.81]
Rose 2006	10	48	5	48	2.7%	2.00 [0.74, 5.42]
Rose 2009	28	191	14	188	7.6%	1.97 [1.07, 3.62]
Schuurmans 2004	22	100	12	100	6.5%	1.83 [0.96, 3.50]
Subtotal (95% CI)		**917**		**892**	**76.3%**	**1.37 [1.12, 1.66]**
Total events	196		139			
Heterogeneity: Chi² = 5.46, df = 5 (P = 0.36); I² = 8%						
Test for overall effect: Z = 3.14 (P = 0.002)						
1.4.2 Gum						
Bullen 2010	7	35	18	59	7.2%	0.66 [0.30, 1.41]
Etter 2009	32	154	31	160	16.4%	1.07 [0.69, 1.67]
Subtotal (95% CI)		**189**		**219**	**23.7%**	**0.94 [0.65, 1.38]**
Total events	39		49			
Heterogeneity: Chi² = 1.19, df = 1 (P = 0.28); I² = 16%						
Test for overall effect: Z = 0.29 (P = 0.77)						
Total (95% CI)		**1106**		**1111**	**100.0%**	**1.27 [1.07, 1.51]**
Total events	235		188			
Heterogeneity: Chi² = 9.20, df = 7 (P = 0.24); I² = 24%						
Test for overall effect: Z = 2.68 (P = 0.007)						
Test for subgroup differences: Chi² = 2.87, df = 1 (P = 0.09), I² = 65.2%						



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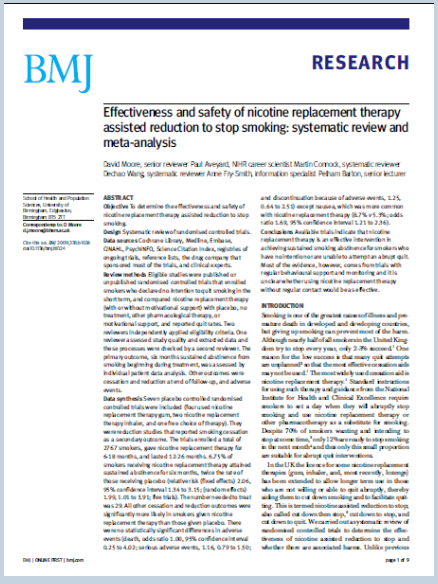
Psychopharmacology 2011:214:579–592

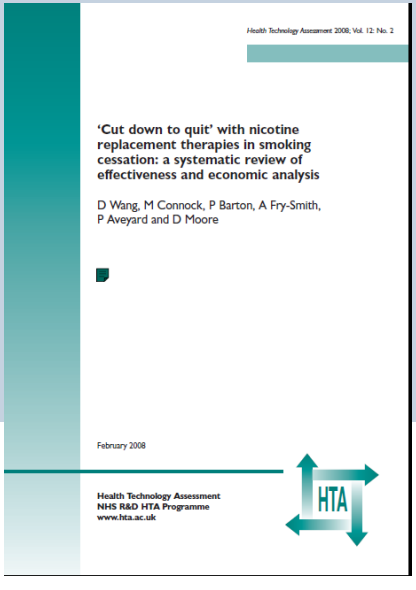


BMJ

RESEARCH

Effectiveness and safety of nicotine replacement therapy assisted reduction to stop smoking: systematic review and meta-analysis

David Moore, senior reviewer Paul Aveyard, NHR career scientist Martin Connock, systematic reviewer Dechao Wang, systematic reviewer Anne Fry-Smith, information specialist Pelham Barton, senior lecturer



Health Technology Assessment 2008; Vol. 12: No. 2

'Cut down to quit' with nicotine replacement therapies in smoking cessation: a systematic review of effectiveness and economic analysis

D Wang, M Connock, P Barton, A Fry-Smith, P Aveyard and D Moore

February 2008

Health Technology Assessment
NHS R&D HTA Programme
www.hta.ac.uk

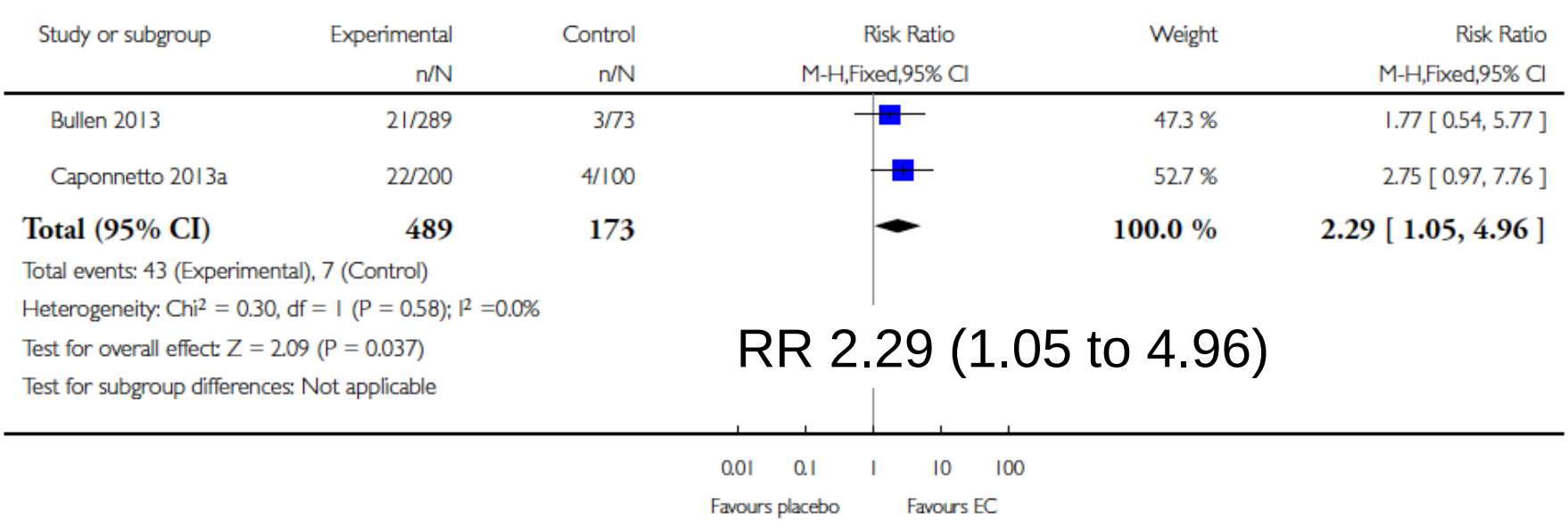
HTA

Quitting by reduction

- Smokers who have no immediate plans to quit but are prepared to try to reduce their smoking
- Double the rate of abstinence with NRT
- The costs of treating smokers to reduce or treating them to quit abruptly are roughly equal

BMJ 2009;338:b1024 doi: 10.1136/bmj.b1024

E-cigarettes: effect on cessation



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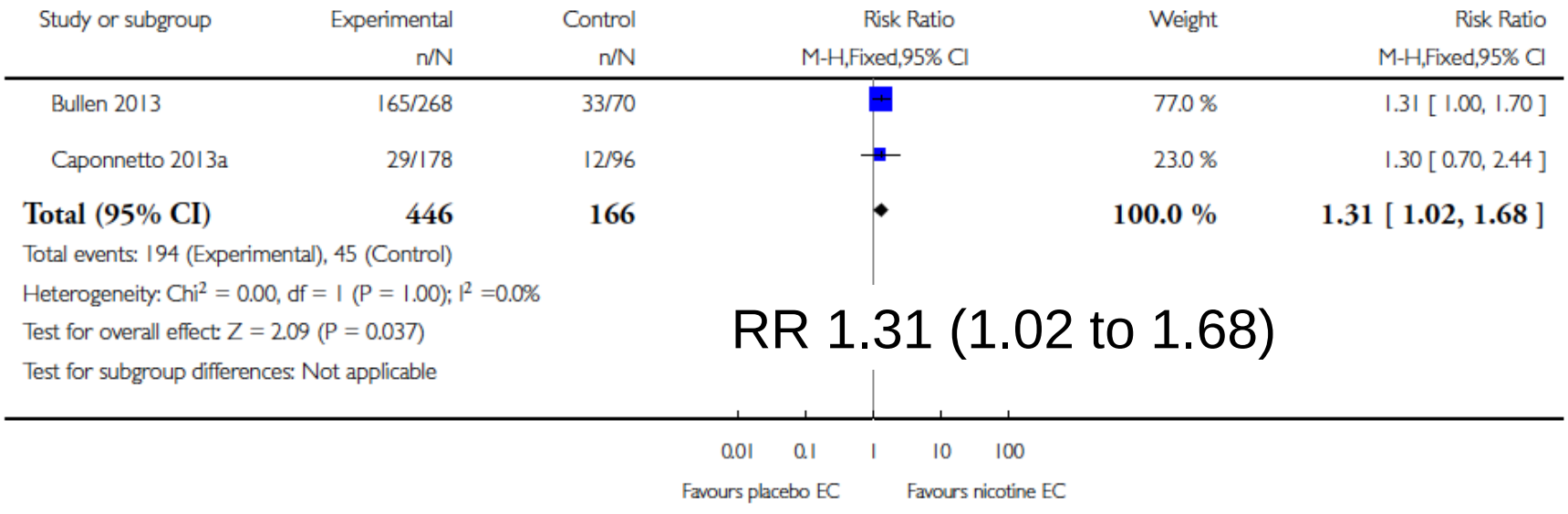
E-cigarettes: effect on reduction



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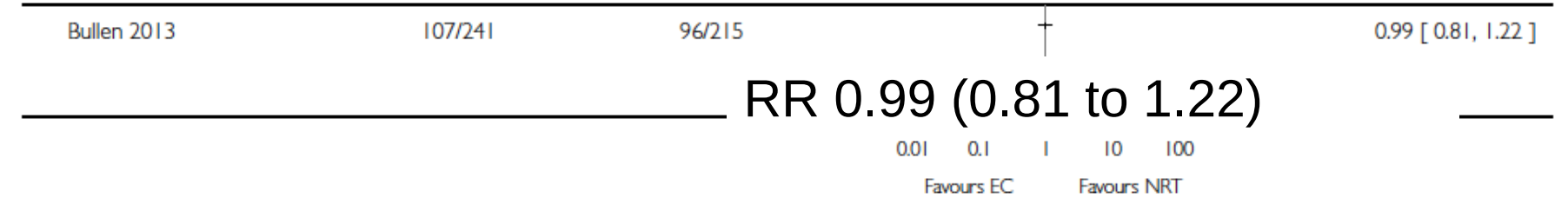
E-cigarettes: adverse events

Versus placebo e-cigarettes

Study or subgroup	Experimental n/N	Control n/N	Risk Ratio M-H,Fixed,95% CI	Risk Ratio M-H,Fixed,95% CI
Bullen 2013	107/241	26/57		0.97 [0.71, 1.34]

Versus placebo NRT

Study or subgroup	Experimental n/N	Control n/N	Risk Ratio M-H,Fixed,95% CI	Risk Ratio M-H,Fixed,95% CI
Bullen 2013	107/241	96/215		0.99 [0.81, 1.22]



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Conclusions

- The easy way to motivate people is offer help to stop
  - Back this up by taking the arrangements out of the patient's hands
  - Do not routinely link a person's health condition to their smoking
- Using cessation medication prior to quitting smoking can reduce the need to smoke and assist quitting
- In people who do not want to quit you can encourage them to cut down with NRT or e-cigarettes

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Treating obesity in primary care

Professor Susan Jebb. 18 May 2015

"as the nation's waistline keeps piling on the pounds, we're piling on billions of pounds in future taxes

just to pay for preventable illnesses"

NHS

October 2014

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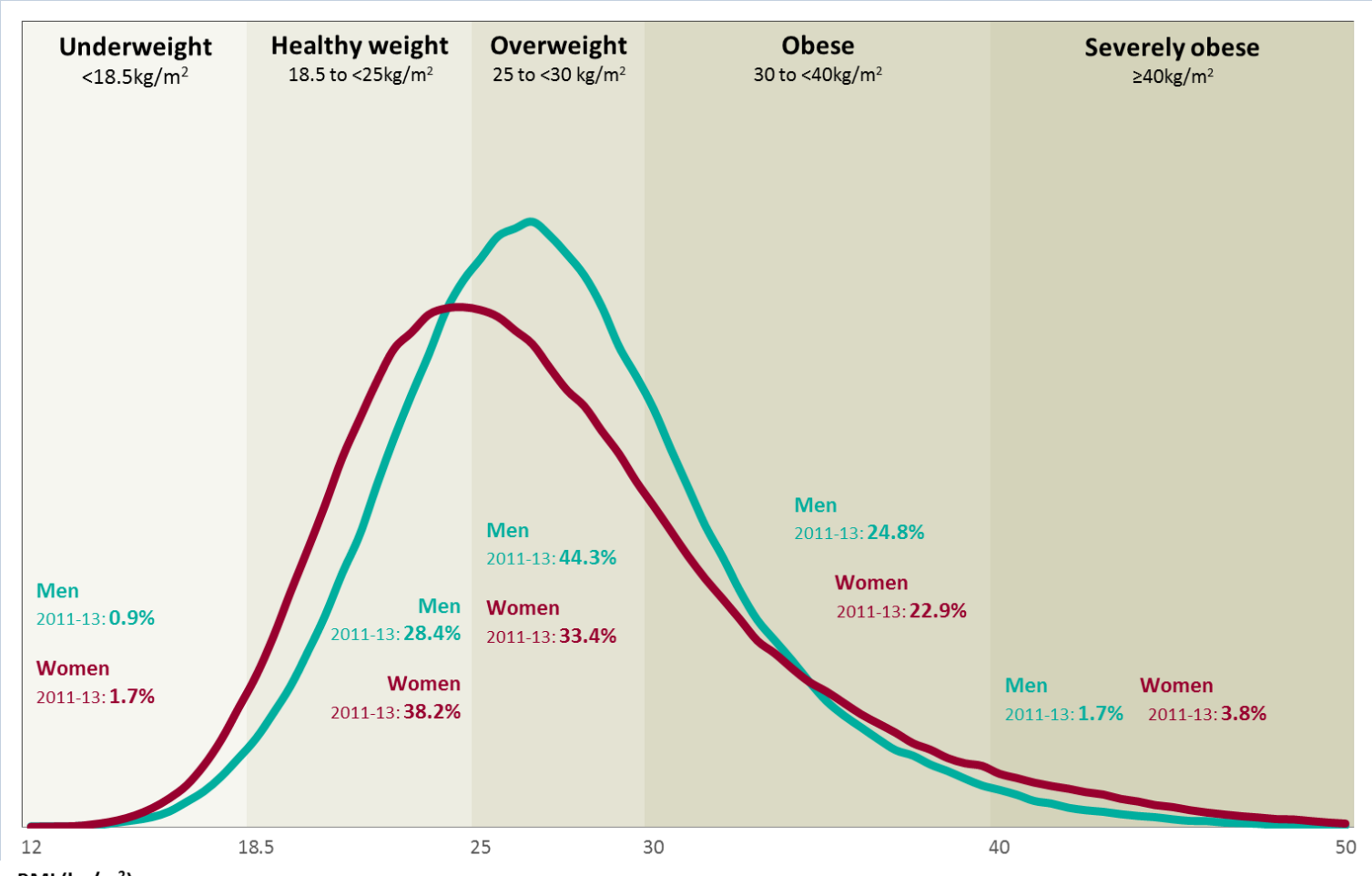
Adult BMI distribution

Health Survey for England 2011-2013



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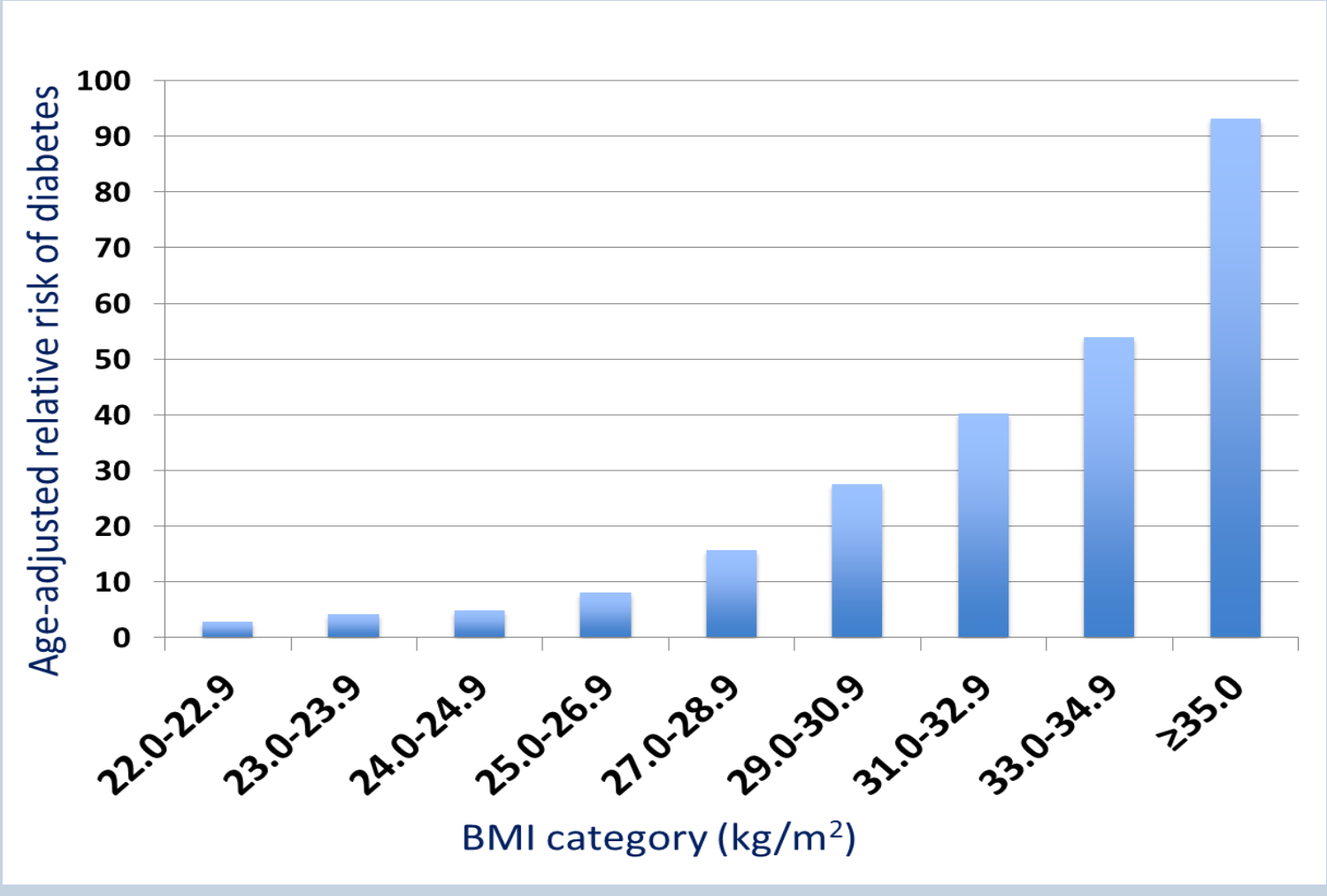
Adults aged 18+ years (population weighted)

BMI and risk of diabetes



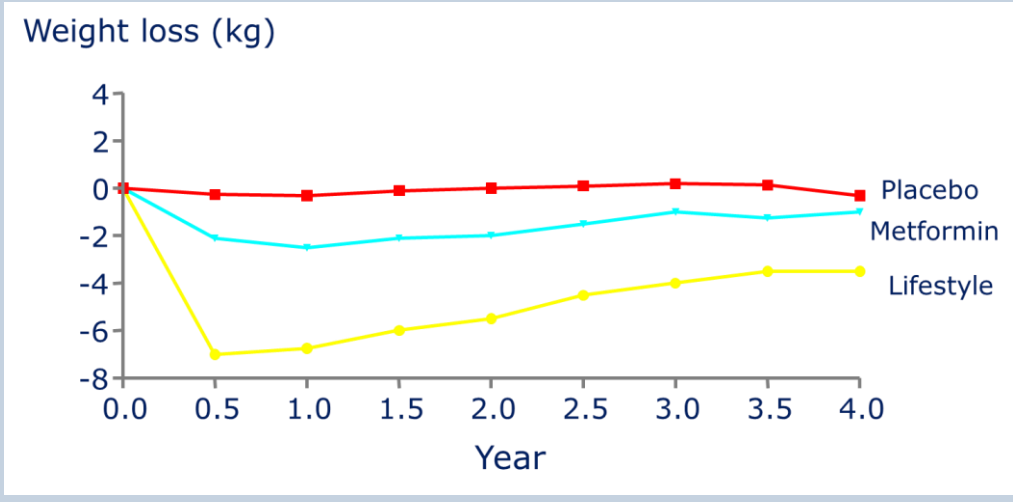
Colditz *et al.* (1995) *Ann Intern Med* **122**(7): 481-6

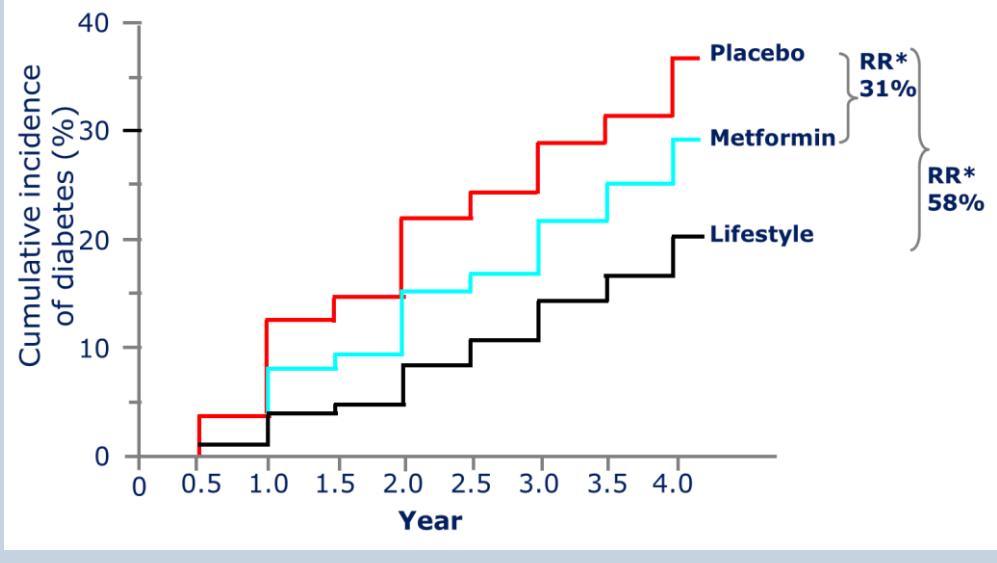
Diabetes Prevention Program

Intensive 'lifestyle' (behavioural) intervention

Modest weight loss

58% reduction in incidence of diabetes over 4 years





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DPP. N Engl J Med. 2002; 346: 393-403

Most patients who are overweight do not receive support to lose weight

The challenge:

- Sensitivities in raising the issue of obesity
- So many patients, so little time
- Perceived lack of training or specialist skills
- Paucity of treatment options
- Pessimism about long term success

Plenty of NICE guidance …

CG 189: Obesity: identification, assessment and management of overweight and obesity in children, young people and adults

NG7: Maintaining a healthy weight and preventing excess weight gain among adults and children

PH47: Managing overweight and obesity among children and young people: lifestyle weight management services

PH53: Managing overweight and obesity in adults: lifestyle weight management services

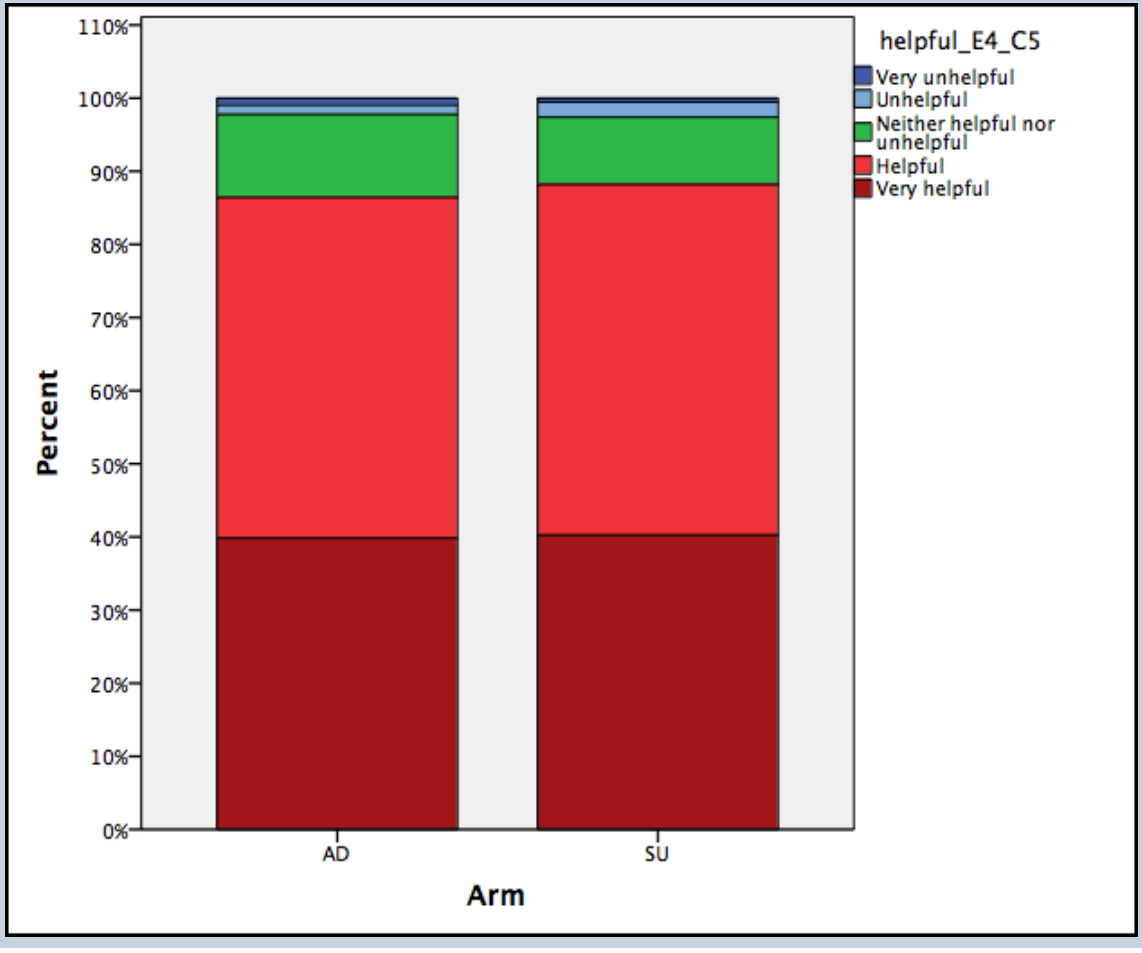
PH27: Weight management before, during and after pregnancy

Diagnosis

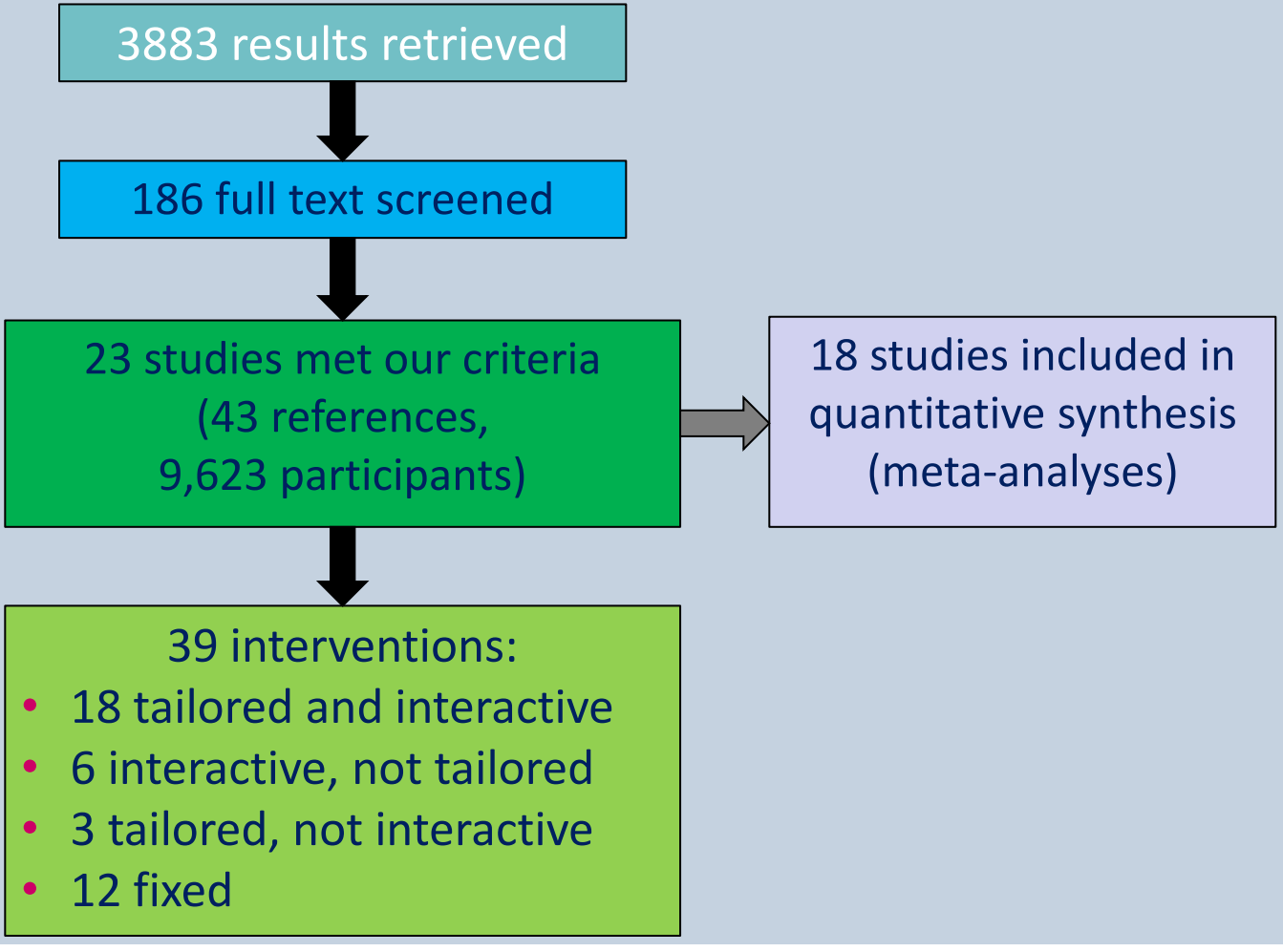
BMI	Waist circumference		
	Low	**High**	**Very high**
	Men: <94cm Women: <80cm	**Men: 94-102cm Women: 80-88cm**	**Men: >102cm Women: >88cm**
Underweight (<18.5kg/m^2)	Underweight (Not Applicable)	Underweight (Not Applicable)	Underweight (Not Applicable)
Healthy weight (18.5-24.9kg/m^2)	No increased risk	No increased risk	Increased risk
Overweight (25-29.9kg/m^2)	No increased risk	Increased risk	High risk
Obese (30-34.9kg/m^2)	Increased risk	High risk	Very high risk
Very obese (≥40kg/m^2)	Very high risk	Very high risk	Very high risk

Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children. http://www.nice.org.uk/guidance/CG43

The BWeL trial: "How helpful was it for your doctor to discuss your weight?"



Systematic review of self-help interventions



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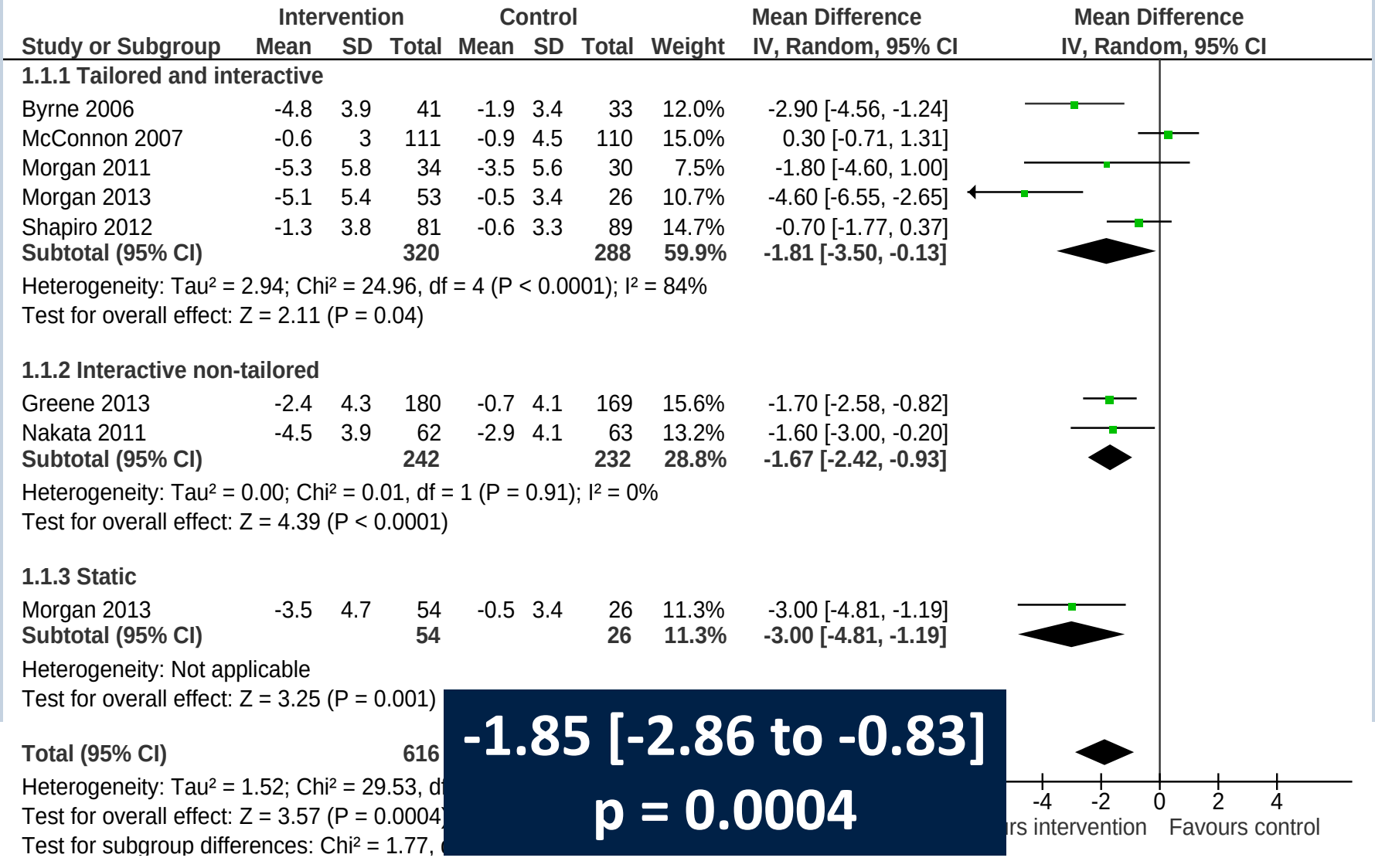
Hartmann-Boyce, Jebb, Fletcher & Aveyard.
Am J Public Health. 2015 Mar;105(3):e43-57.

Self-help interventions versus minimal controls (BOCF; 6 months)



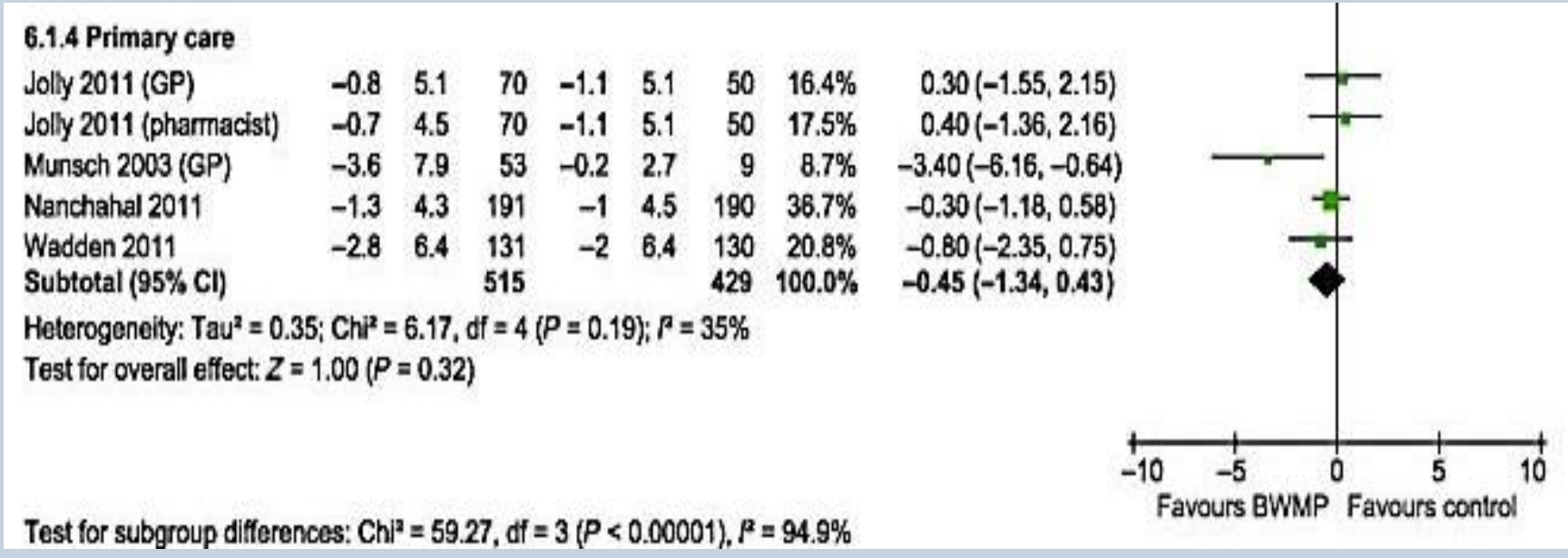
-1.85 [-2.86 to -0.83]
p = 0.0004

Counterweight: Nurse-led support

- 1 hour training for GPs, 8 hour training for practice nurses
- On-going monitoring: 1 – 2 sessions with per month for 6 months
- 65 practices recruited, 56 participated
- 1906 eligible participants (mean age = 49y ; BMI = 37, 77% female)
- 1419 attended baseline assessment, 642 (45%) completed 12 months
- Mean weight loss among completers: -2.96 kg at 12 months, equivalent to approximately -1.33 kg BOCF

Counterweight Project Team. BJGP 2008

Effectiveness of primary care treatment



6.1.4 Primary care								
Jolly 2011 (GP)	−0.8	5.1	70	−1.1	5.1	50	16.4%	0.30 (−1.55, 2.15)
Jolly 2011 (pharmacist)	−0.7	4.5	70	−1.1	5.1	50	17.5%	0.40 (−1.36, 2.16)
Munsch 2003 (GP)	−3.6	7.9	53	−0.2	2.7	9	8.7%	−3.40 (−6.16, −0.64)
Nanchahal 2011	−1.3	4.3	191	−1	4.5	190	36.7%	−0.30 (−1.18, 0.58)
Wadden 2011	−2.8	6.4	131	−2	6.4	130	20.8%	−0.80 (−2.35, 0.75)
Subtotal (95% CI)			**515**			**429**	**100.0%**	**−0.45 (−1.34, 0.43)**

Heterogeneity: $Tau^2 = 0.35$; $Chi^2 = 6.17$, $df = 4$ ($P = 0.19$); $I^2 = 35\%$

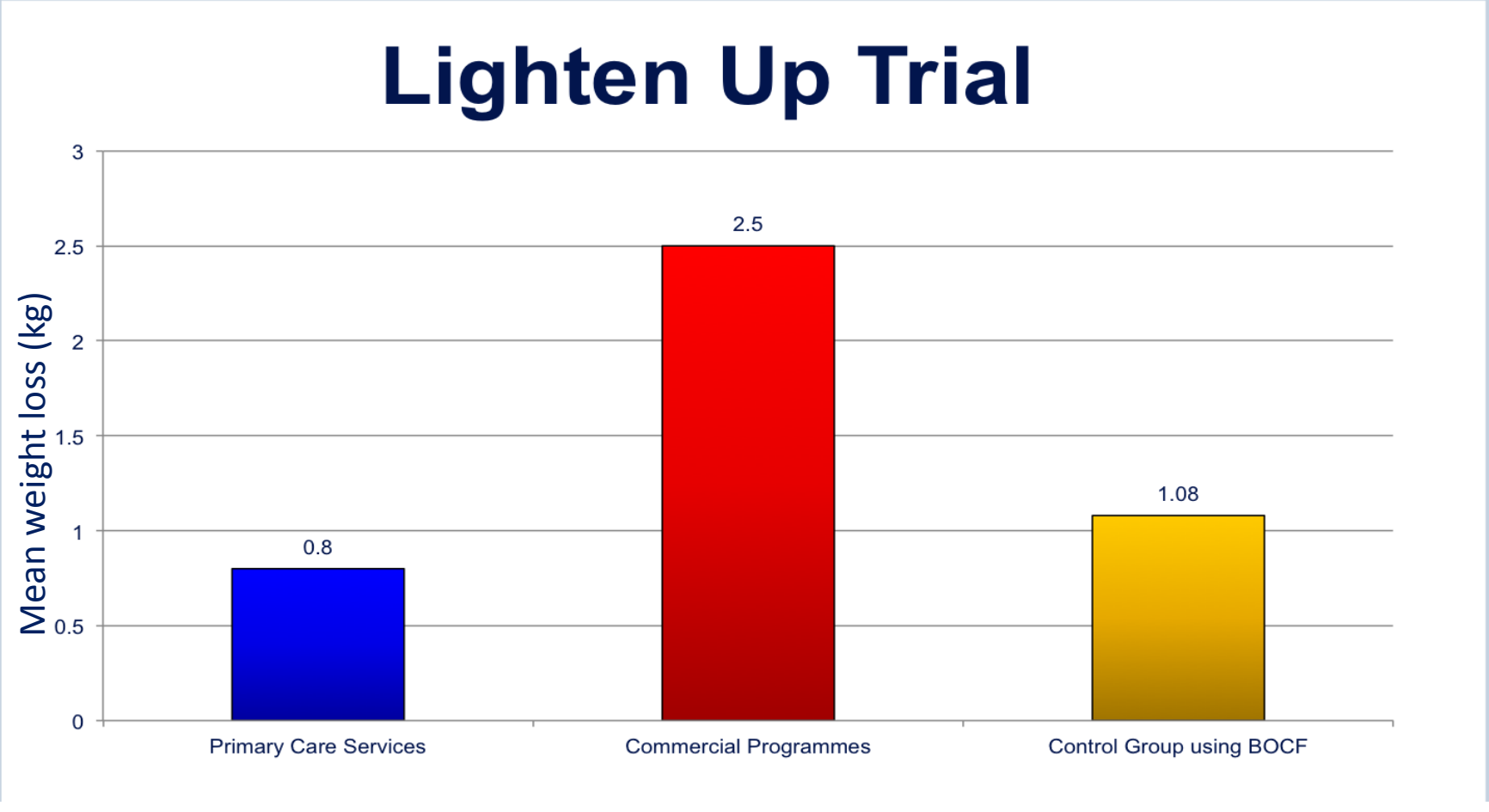
Test for overall effect: $Z = 1.00$ ($P = 0.32$)

Test for subgroup differences: $Chi^2 = 59.27$, $df = 3$ ($P < 0.00001$), $I^2 = 94.9\%$

Primary care vs control: -0.45 kg
(95% CI: -1.34, 0.43); p = 0.32

Hartmann-Boyce, Johns, Jebb, Summerbell, Aveyard.
Obes Rev. 2014 Nov;15(11):920-32.

Standard care vs. commercial programmes in routine obesity service in Birmingham (BOCF, 12 months)



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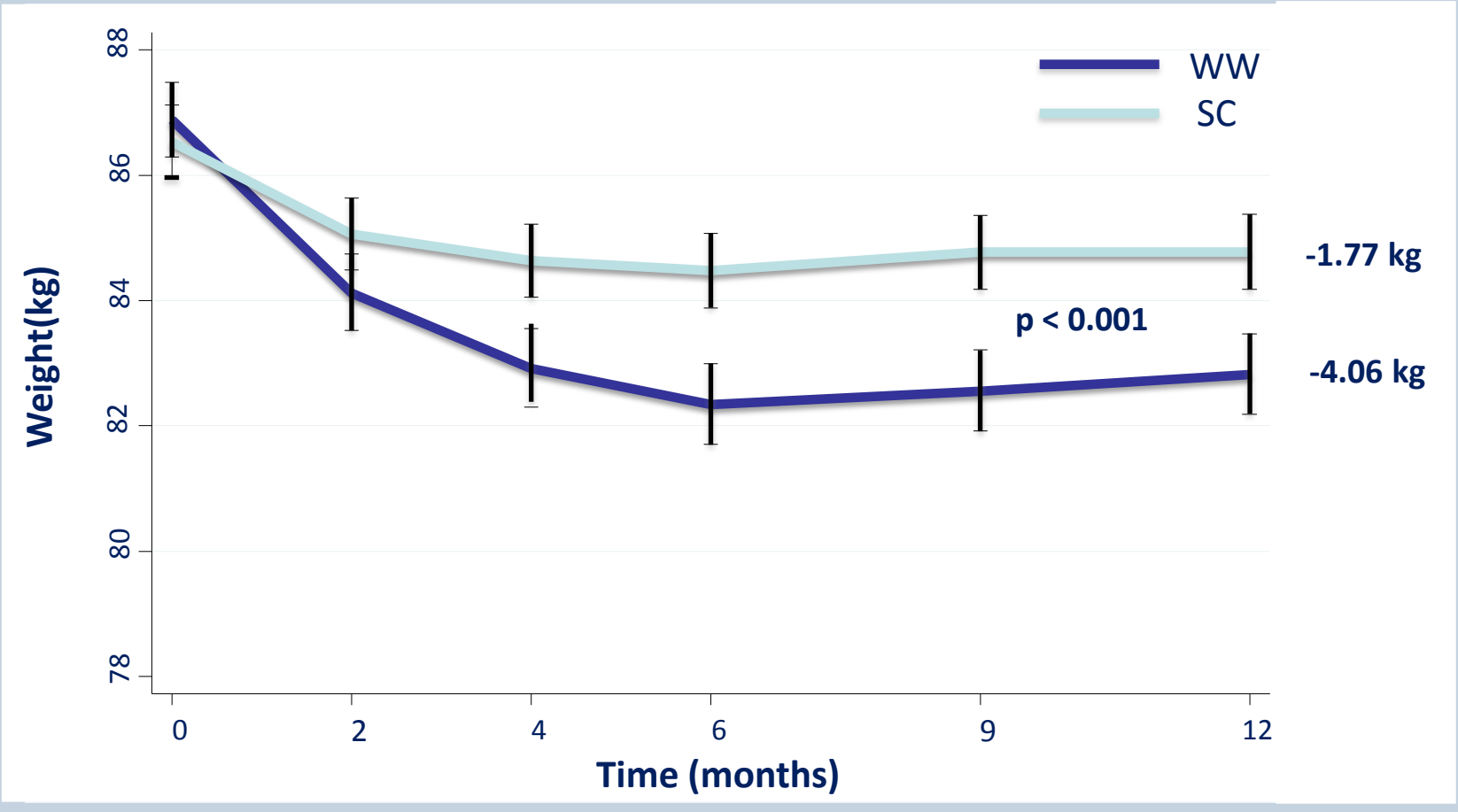
Jolly *et al.* (2011) *BMJ* **343**: d6500

Referral to a commercial provider significantly increases weight loss (BOCF, 12 months)



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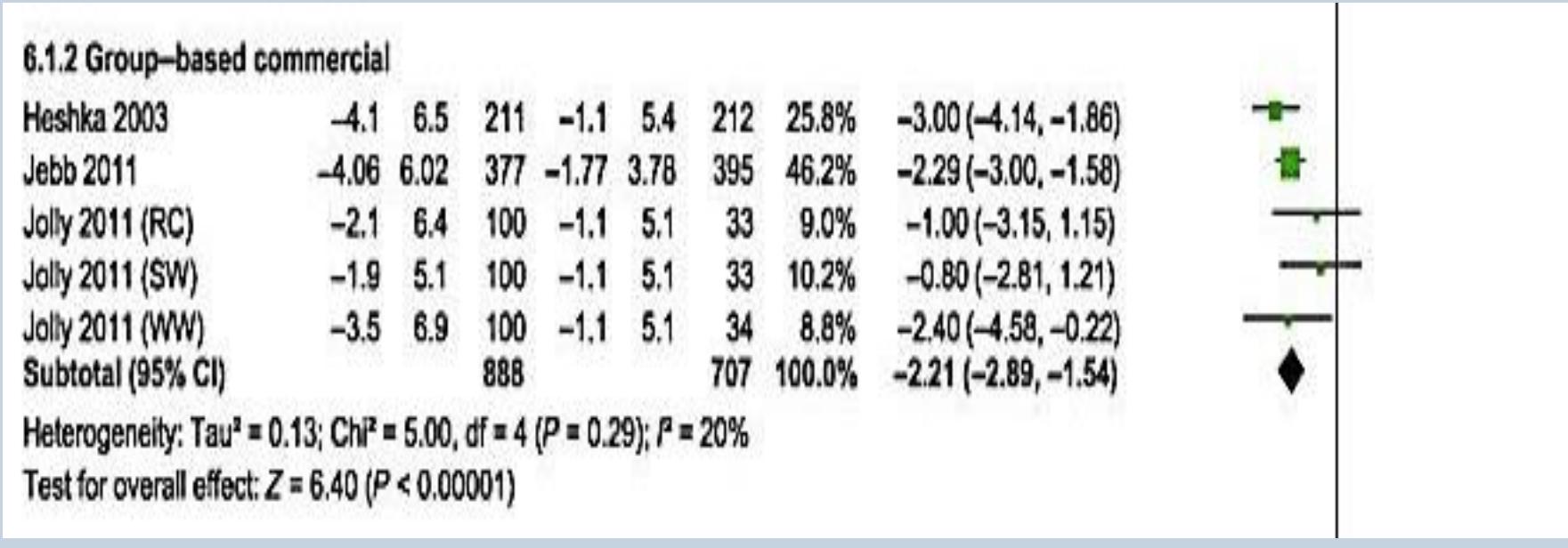
Jebb et al Lancet. 2011;378(9801):1485-92

Effectiveness of group-based commercial weight management providers



6.1.2 Group–based commercial								
Heshka 2003	–4.1	6.5	211	–1.1	5.4	212	25.8%	–3.00 (–4.14, –1.86)
Jebb 2011	–4.06	6.02	377	–1.77	3.78	395	46.2%	–2.29 (–3.00, –1.58)
Jolly 2011 (RC)	–2.1	6.4	100	–1.1	5.1	33	9.0%	–1.00 (–3.15, 1.15)
Jolly 2011 (SW)	–1.9	5.1	100	–1.1	5.1	33	10.2%	–0.80 (–2.81, 1.21)
Jolly 2011 (WW)	–3.5	6.9	100	–1.1	5.1	34	8.8%	–2.40 (–4.58, –0.22)
Subtotal (95% CI)			888			707	100.0%	–2.21 (–2.89, –1.54)

Heterogeneity: $Tau^2 = 0.13$; $Chi^2 = 5.00$, $df = 4$ ($P = 0.29$); $I^2 = 20\%$

Test for overall effect: $Z = 6.40$ ($P < 0.00001$)

Commercial providers vs control:
-2.21 kg (95% CI: -2.89, -1.54); p<0.00001

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Hartmann-Boyce, Johns, Jebb, Summerbell, Aveyard.
Obes Rev. 2014 Nov;15(11):920-32.

Participants perceive the commercial provider is better tailored to their needs

Participants felt they needed **support** and **motivation** rather than education, and valued the **ease of access** and **frequent contact** the commercial provider offered

It isn't that I need educating, it's more that I need motivating [P1]

For me...what works is the fact that I know...I've got to go and see somebody...and I've got to explain why I haven't lost any weight [P6]

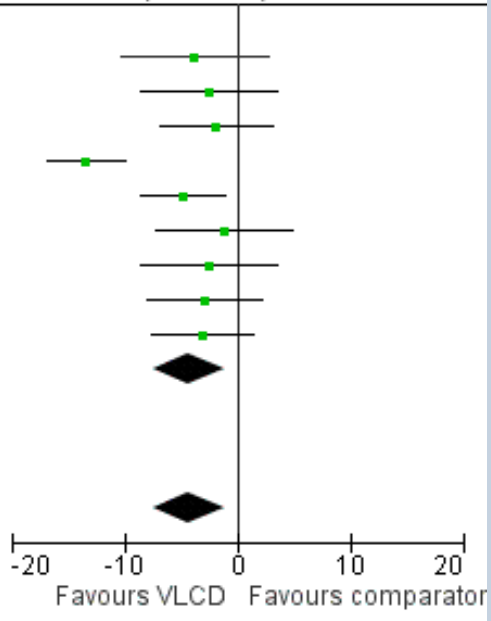
Weight Watchers was a structured plan and the GP was more trial and error yourself [P5]

there's so many [meetings] around...you don't have to make an appointment with your GP...flexibility and ease [P9]

Ahern, Boyland, Jebb, Cohn.
Ann Fam Med. 2013 May-Jun;11(3):251-7.

Very low energy diets enhance weight loss at 1 year

Study or Subgroup	VLCD programme Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI
1.1.1 VLCD + behavioural programme v behavioural programme								
Rossner 1997 (VLCD 1)	-10.4	12.3	30	-6.6	9.5	15	9.4%	-3.80 [-10.32, 2.72]
Rossner 1997 (VLCD 2)	-9.1	10.8	32	-6.6	9.5	16	10.1%	-2.50 [-8.47, 3.47]
Ryttig 1997 B&C	-11.2	11.85	54	-9.3	10.3	27	11.3%	-1.90 [-6.91, 3.11]
Stenius 2000	-11.1	5.35	19	2.3	5.35	19	13.3%	-13.40 [-16.80, -10.00]
Torgerson 1997	-11.3	11.9	58	-6.5	7.9	55	13.0%	-4.80 [-8.51, -1.09]
Wadden 1986 (VLCD+BCT)	-9.5	9.8	23	-8.4	7	9	9.9%	-1.10 [-7.18, 4.98]
Wadden 1994	-14.2	11.2	28	-11.7	10.3	21	10.0%	-2.50 [-8.55, 3.55]
Wing 1991	-8.6	5.6	17	-5.7	9.7	19	11.1%	-2.90 [-8.01, 2.21]
Wing 1994	-12	10.8	45	-8.97	11.3	48	11.9%	-3.03 [-7.52, 1.46]
Subtotal (95% CI)			**306**			**229**	**100.0%**	**-4.27 [-7.41, -1.14]**
Heterogeneity: Tau² = 16.23; Chi² = 29.15, df = 8 (P = 0.0003); I² = 73%								
Test for overall effect: Z = 2.67 (P = 0.008)								
Total (95% CI)			**306**			**229**	**100.0%**	**-4.27 [-7.41, -1.14]**
Heterogeneity: Tau² = 16.23; Chi² = 29.15, df = 8 (P = 0.0003); I² = 73%								
Test for overall effect: Z = 2.67 (P = 0.008)								
Test for subgroup differences: Not applicable								



VLED vs BWMP: -4.27 kg
(95% CI: -7.41, -1.14); p < 0.00003

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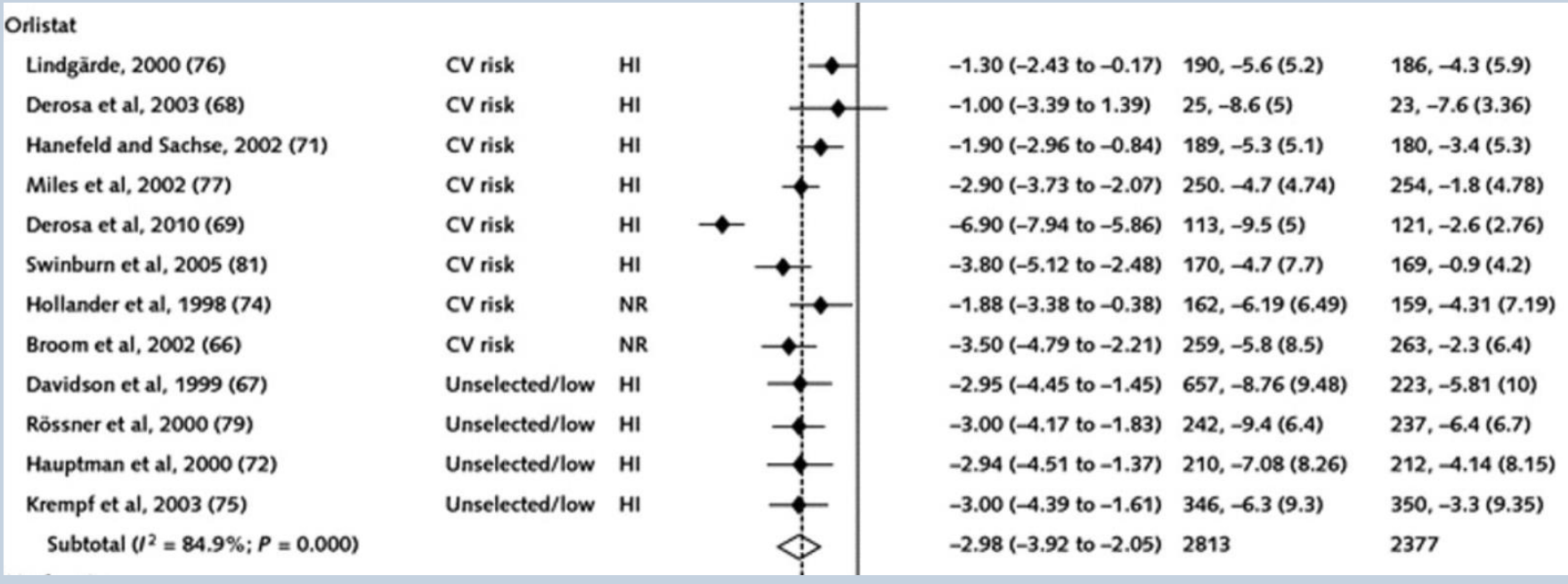
Parretti, Jebb, Johns, Lewis, Christian & Aveyard, in preparation

Centrally acting drugs for obesity have been withdrawn, but Orlistat remains …



Orlistat					
Lindgärde, 2000 (76)	CV risk	HI	−1.30 (−2.43 to −0.17)	190, −5.6 (5.2)	186, −4.3 (5.9)
Derosa et al, 2003 (68)	CV risk	HI	−1.00 (−3.39 to 1.39)	25, −8.6 (5)	23, −7.6 (3.36)
Hanefeld and Sachse, 2002 (71)	CV risk	HI	−1.90 (−2.96 to −0.84)	189, −5.3 (5.1)	180, −3.4 (5.3)
Miles et al, 2002 (77)	CV risk	HI	−2.90 (−3.73 to −2.07)	250. −4.7 (4.74)	254, −1.8 (4.78)
Derosa et al, 2010 (69)	CV risk	HI	−6.90 (−7.94 to −5.86)	113, −9.5 (5)	121, −2.6 (2.76)
Swinburn et al, 2005 (81)	CV risk	HI	−3.80 (−5.12 to −2.48)	170, −4.7 (7.7)	169, −0.9 (4.2)
Hollander et al, 1998 (74)	CV risk	NR	−1.88 (−3.38 to −0.38)	162, −6.19 (6.49)	159, −4.31 (7.19)
Broom et al, 2002 (66)	CV risk	NR	−3.50 (−4.79 to −2.21)	259, −5.8 (8.5)	263, −2.3 (6.4)
Davidson et al, 1999 (67)	Unselected/low	HI	−2.95 (−4.45 to −1.45)	657, −8.76 (9.48)	223, −5.81 (10)
Rössner et al, 2000 (79)	Unselected/low	HI	−3.00 (−4.17 to −1.83)	242, −9.4 (6.4)	237, −6.4 (6.7)
Hauptman et al, 2000 (72)	Unselected/low	HI	−2.94 (−4.51 to −1.37)	210, −7.08 (8.26)	212, −4.14 (8.15)
Krempf et al, 2003 (75)	Unselected/low	HI	−3.00 (−4.39 to −1.61)	346, −6.3 (9.3)	350, −3.3 (9.35)
Subtotal (I^2 = 84.9%; P = 0.000)			−2.98 (−3.92 to −2.05)	2813	2377

Orlistat vs placebo: -2.98 kg [-3.92, -2.06], p < 0.0001

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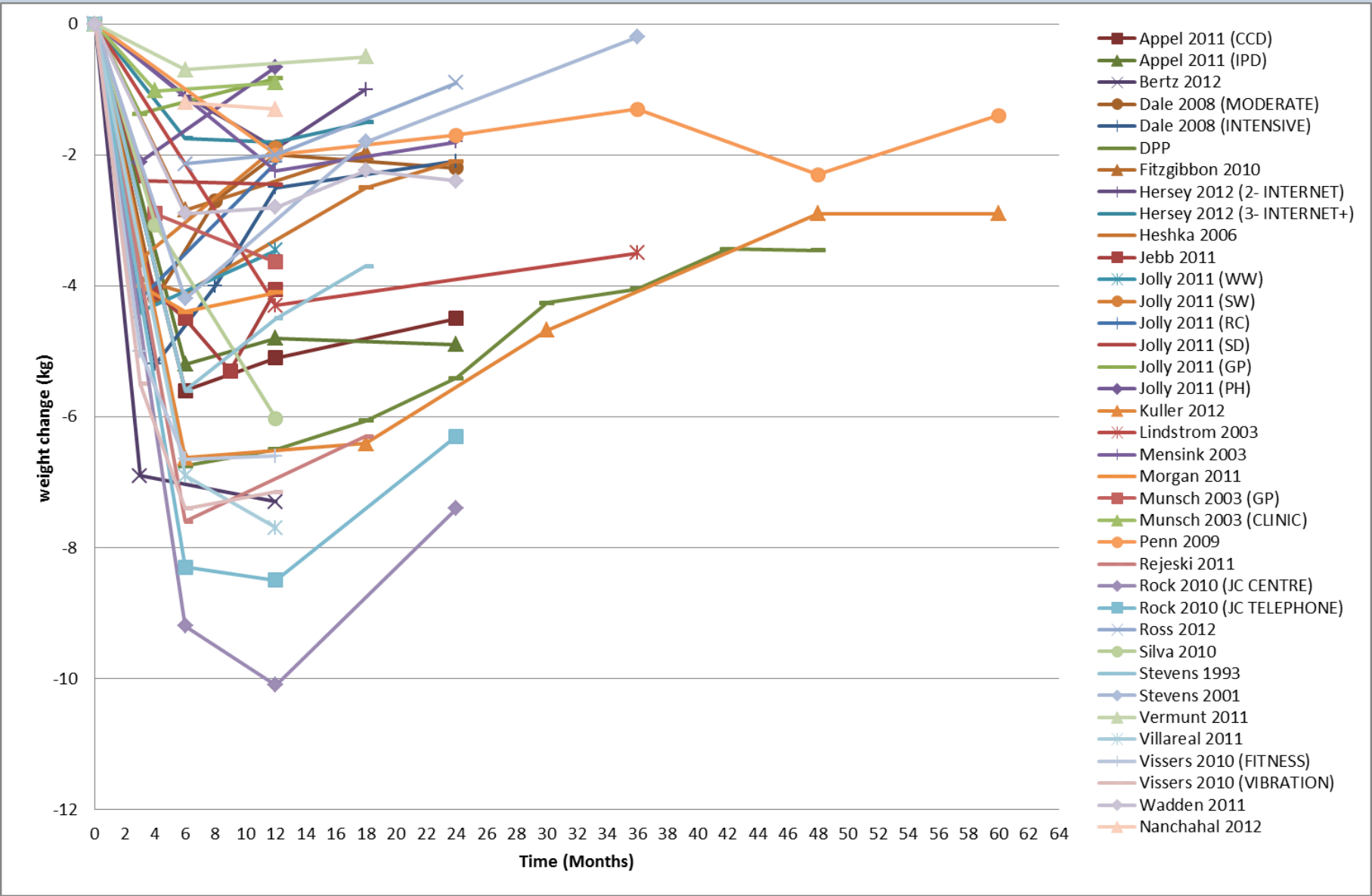
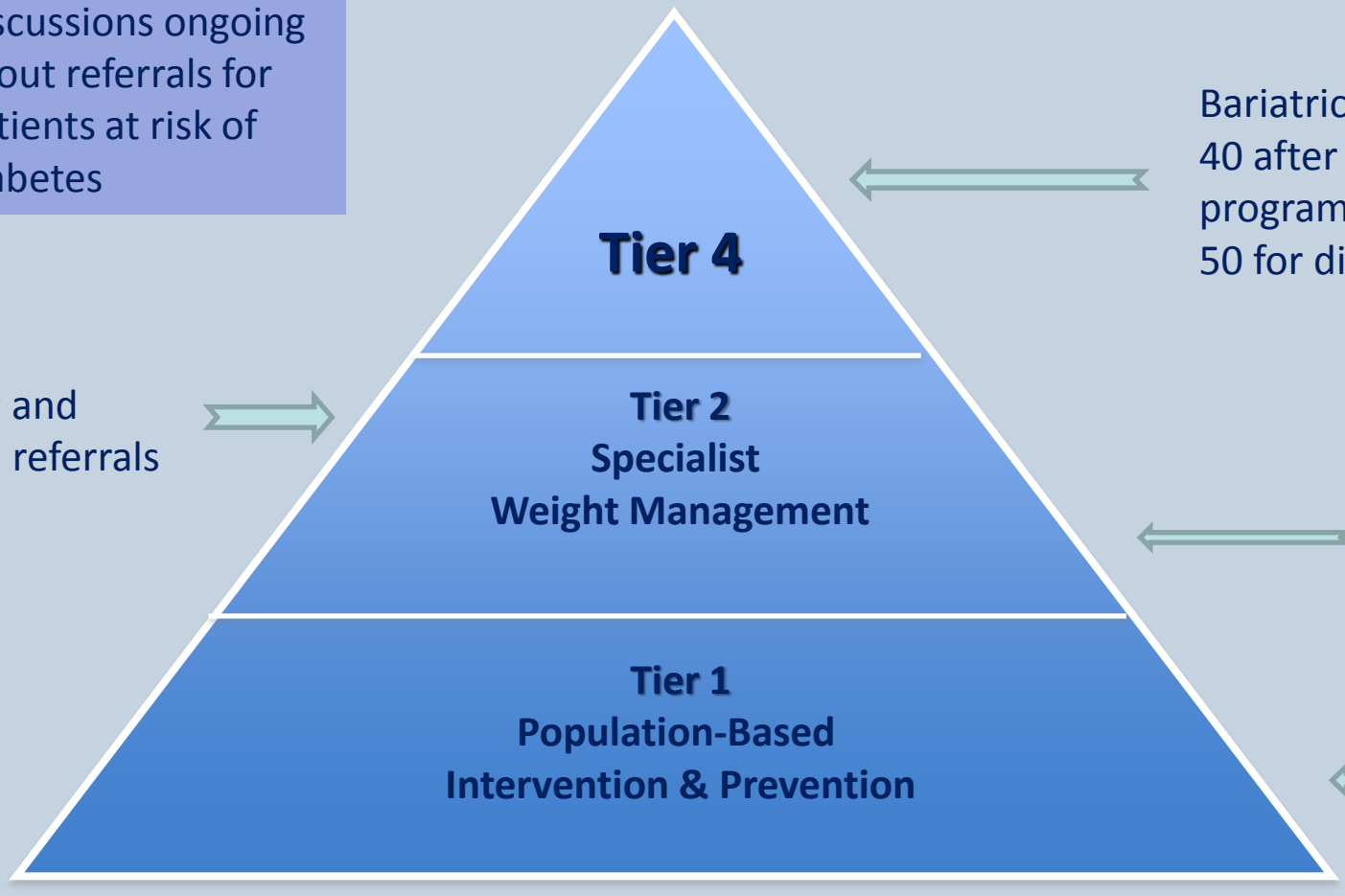
Ann Intern Med. 2011;155(7):434-447.

The challenge of weight regain



Oxford weight management pathway

Discussions ongoing about referrals for patients at risk of diabetes



Bariatric surgery BMI 40 after completing programme or BMI 50 for direct access

GP and PN referrals

MORELife programme

SW/ WW

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Note: Oxford obesity services commissioned differently than in NICE

More Life Tier 2 service

Psychologically-led programme: Includes elements of CBT but draws heavily on Acceptance Commitment Theory (ACT) and Mindfulness

Sessions 1-14

Modality: face-to-face, group sessions

Frequency: weekly **Duration:** 90 minutes

Content: Values, expectations, motivations, mindfulness, problem solving, planning, self-monitoring, diet and physical activity

Staffing: Weight Management Practitioner and Dietitian (x2 sessions)

'Maintenance' sessions

6x monthly 90 minute group sessions with WMP consolidating implementation of tools and skills learnt

Extra support

If indicated 1:1 sessions can be arranged with the Clinical Psychologist or Dietitan or GP

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TIER 2: YEAR 1 OUTCOMES

- KPI n= 500 patients per year
- Year 1 end n=783 referrals
- Approximately 20% removed from service e.g. moved from area, unable to contact
- Of those remaining in service 96% commenced in Tier 2
- 62% retention rate for intensive phase
- 47% of new referral ‘completers’ (10/14) achieved 5% wt loss at 6 mths
- 97% losing weight

Summary

- People value support from their doctor to lose weight
- Most people who seek to lose weight do so, at least initially
- Little or no evidence to date that interventions led by primary care staff are effective
- Referral to weight–loss groups run by commercial providers leads to modest weight loss, it is acceptable to patients and cost-effective
- Treatment with Orlistat leads to similar weight loss
- Very low calorie diets lead to greater weight loss but, as yet, rarely used in primary care settings
- Weight regain is common but does not invalidate the benefits of initial losses

Treating obesity can prevent or mitigate substantial ill-health
susan.jebb@phc.ox.ac.uk

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Lifestyle Q&A