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Bridging Research, Industry and the NHS: Scaling Up Smoking Cessation Support

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20 Years

Disclosures and funding

- This work was supported by a Cancer Research UK (CRUK) Postdoctoral Fellowship (C56067/A21330), CRUK Prevention Research Project Grant (PPRCPJT\100023), and the National Institute for Health Research (NIHR) Oxford Biomedical Research Centre (BRC).
- I am funded by an NIHR Advanced Fellowship (NIHR504385) and the Causality in Healthcare AI Hub, funded by the Engineering and Physical Sciences Research Council (EPSRC) and UK Research and Innovation (UKRI). I also report funding from the NIHR Bristol BRC, University Hospitals Bristol and Weston NHS Foundation Trust, at the University of Bristol (NIHR203315).
- I report previous funding from Pfizer for an unrelated project.
- I was employed 2022-2024 by a scientific consulting company as a Director and statistical consultant to pharmaceutical companies for products unrelated to this research.

Overview

Studies

1. Systematic review of association between smoking cessation and mental health.
2. Two pilot RCTs: Integration of smoking cessation treatment into psychological care via face-to-face and internet-based platforms.



Public contribution

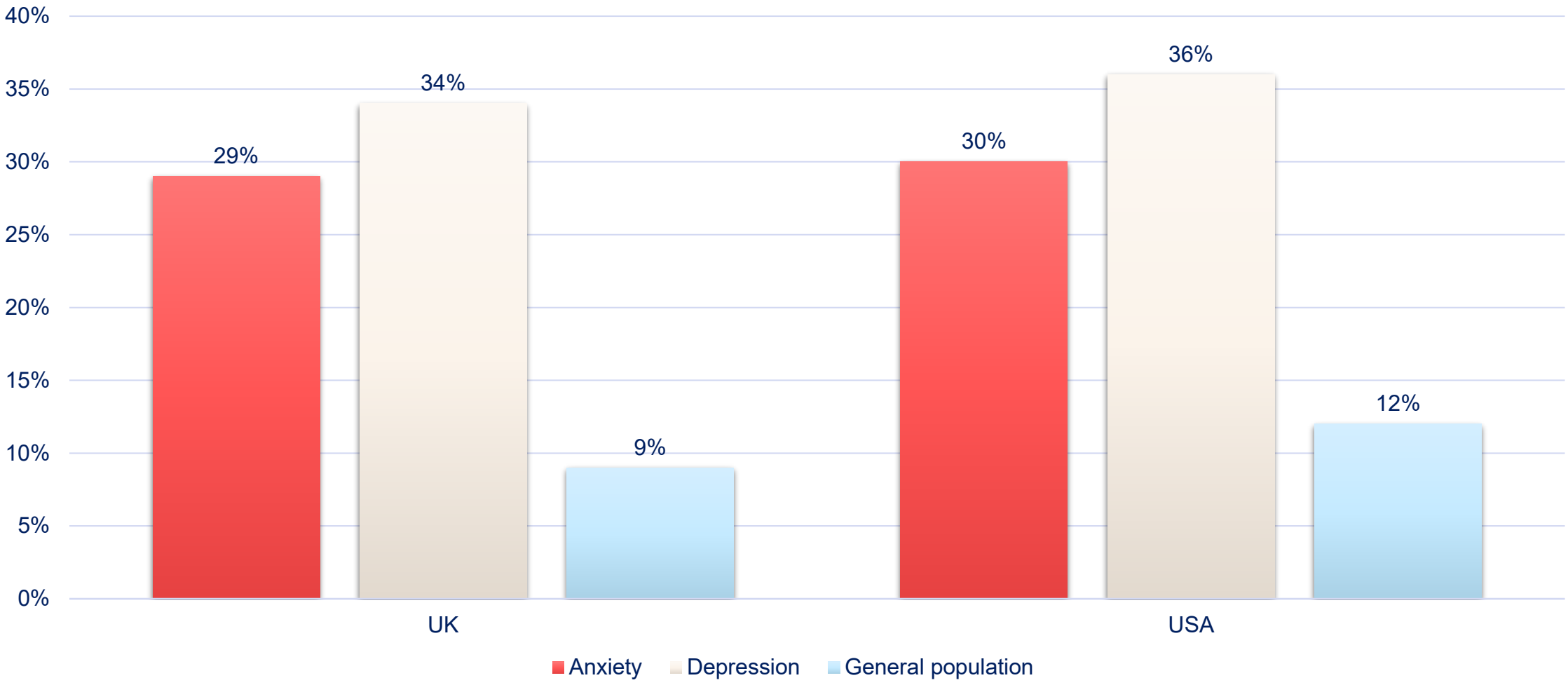
“I felt like a dark cloud has been lifted from my life”

Nigel Taylor

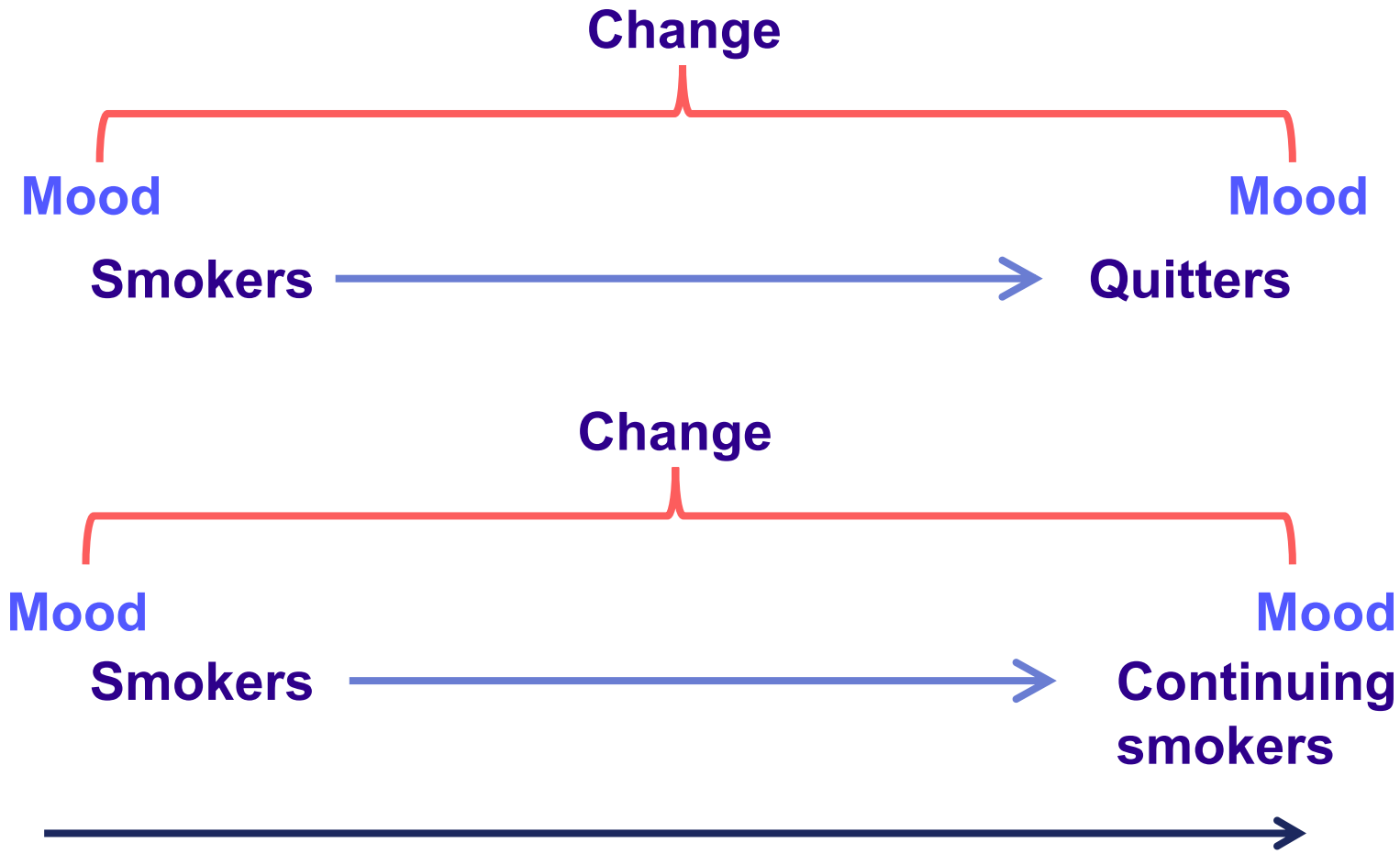
October 1954 to July 2026



Smoking prevalence (%) in high income countries by mental health status, 2021-2026



Change in mental health after smoking cessation



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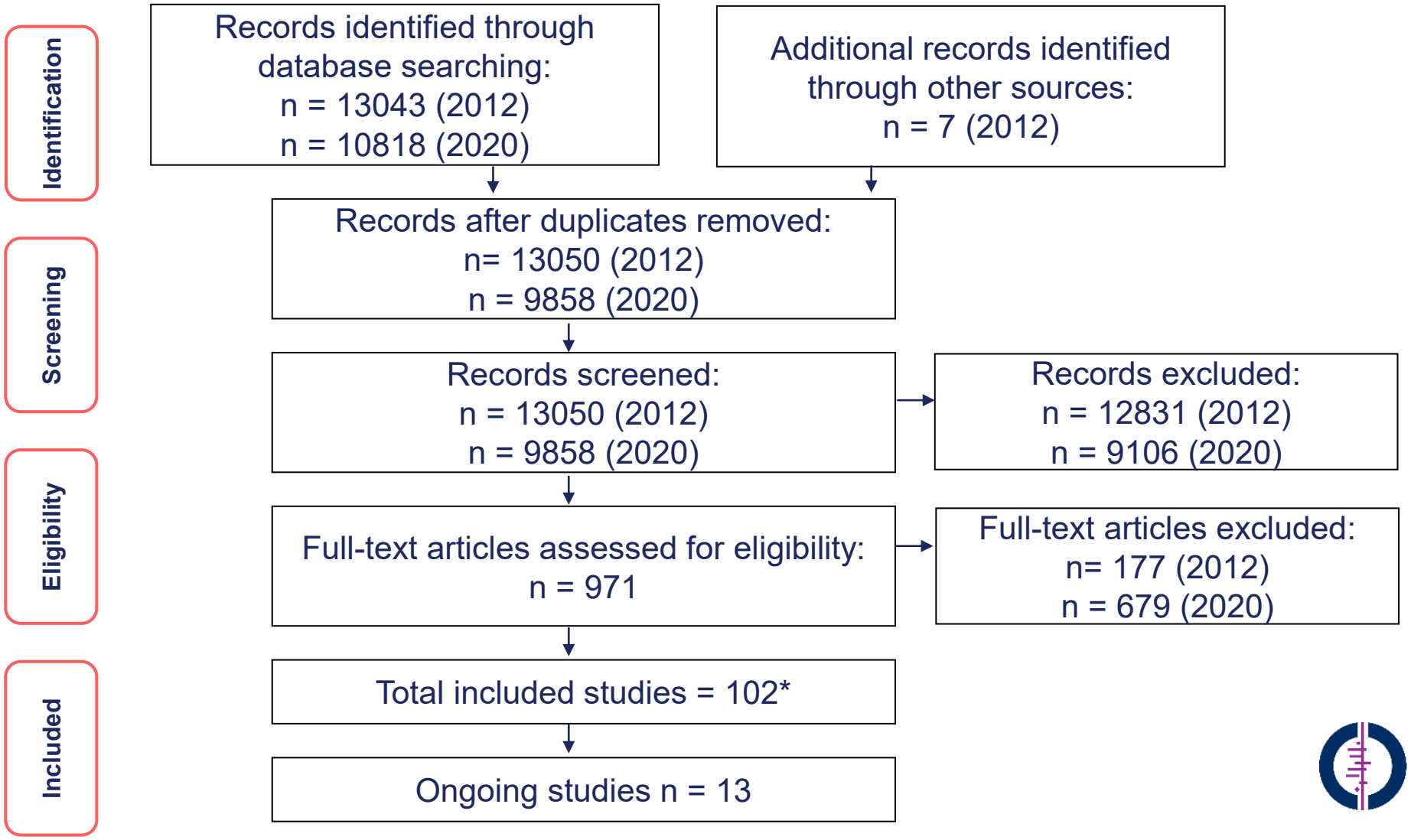
Flow diagram



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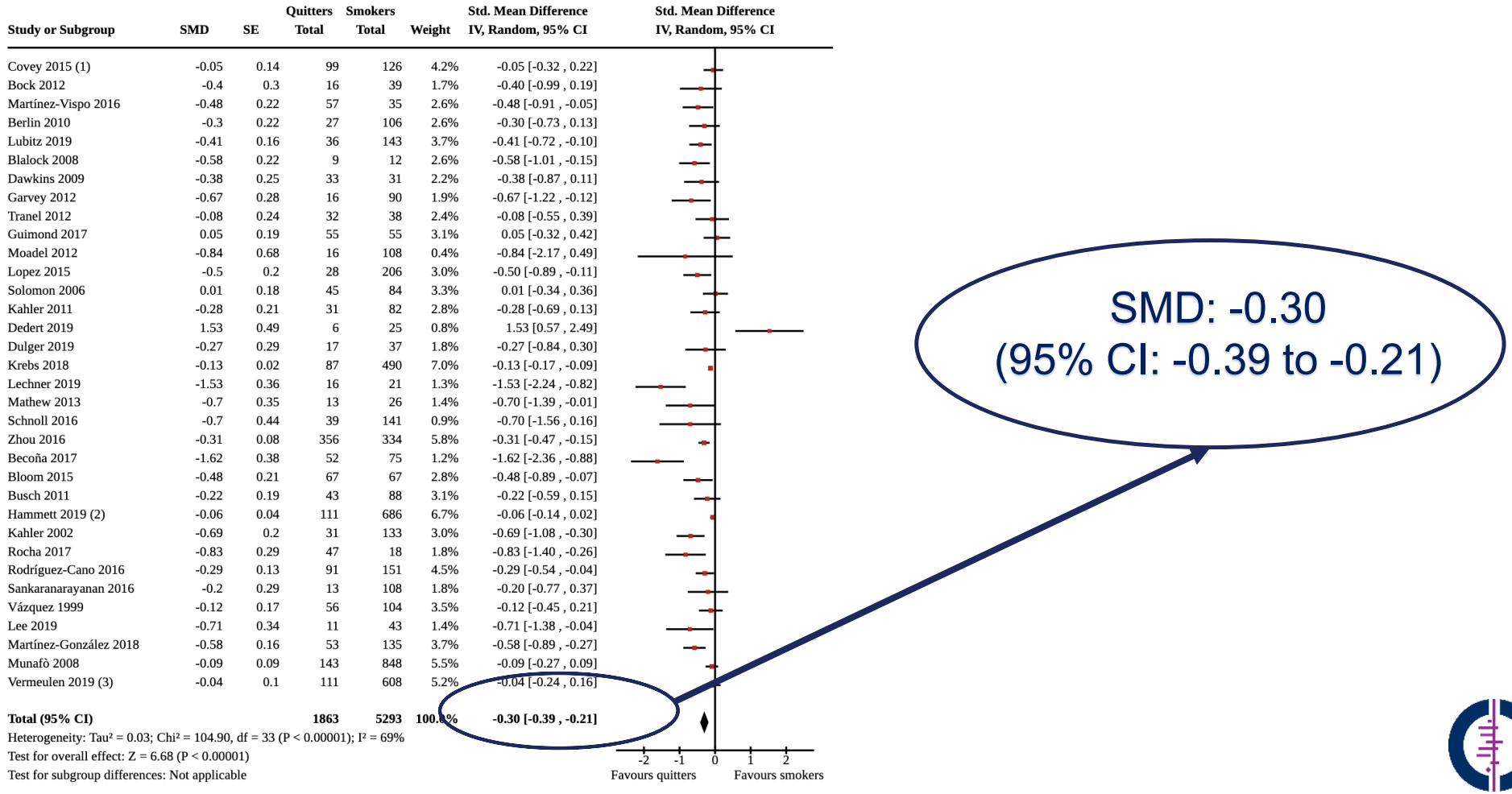
Difference in change in depression, between quitters and continuing smokers, SMD (95% CI)



Study or Subgroup	SMD	SE	Quitters Total	Smokers Total	Weight	Std. Mean Difference IV, Random, 95% CI
Covey 2015 (1)	-0.05	0.14	99	126	4.2%	-0.05 [-0.32 , 0.22]
Bock 2012	-0.4	0.3	16	39	1.7%	-0.40 [-0.99 , 0.19]
Martínez-Vispo 2016	-0.48	0.22	57	35	2.6%	-0.48 [-0.91 , -0.05]
Berlin 2010	-0.3	0.22	27	106	2.6%	-0.30 [-0.73 , 0.13]
Lubitz 2019	-0.41	0.16	36	143	3.7%	-0.41 [-0.72 , -0.10]
Blalock 2008	-0.58	0.22	9	12	2.6%	-0.58 [-1.01 , -0.15]
Dawkins 2009	-0.38	0.25	33	31	2.2%	-0.38 [-0.87 , 0.11]
Garvey 2012	-0.67	0.28	16	90	1.9%	-0.67 [-1.22 , -0.12]
Tranel 2012	-0.08	0.24	32	38	2.4%	-0.08 [-0.55 , 0.39]
Guimond 2017	0.05	0.19	55	55	3.1%	0.05 [-0.32 , 0.42]
Moadel 2012	-0.84	0.68	16	108	0.4%	-0.84 [-2.17 , 0.49]
Lopez 2015	-0.5	0.2	28	206	3.0%	-0.50 [-0.89 , -0.11]
Solomon 2006	0.01	0.18	45	84	3.3%	0.01 [-0.34 , 0.36]
Kahler 2011	-0.28	0.21	31	82	2.8%	-0.28 [-0.69 , 0.13]
Dedert 2019	1.53	0.49	6	25	0.8%	1.53 [0.57 , 2.49]
Dulger 2019	-0.27	0.29	17	37	1.8%	-0.27 [-0.84 , 0.30]
Krebs 2018	-0.13	0.02	87	490	7.0%	-0.13 [-0.17 , -0.09]
Lechner 2019	-1.53	0.36	16	21	1.3%	-1.53 [-2.24 , -0.82]
Mathew 2013	-0.7	0.35	13	26	1.4%	-0.70 [-1.39 , -0.01]
Schnoll 2016	-0.7	0.44	39	141	0.9%	-0.70 [-1.56 , 0.16]
Zhou 2016	-0.31	0.08	356	334	5.8%	-0.31 [-0.47 , -0.15]
Becoña 2017	-1.62	0.38	52	75	1.2%	-1.62 [-2.36 , -0.88]
Bloom 2015	-0.48	0.21	67	67	2.8%	-0.48 [-0.89 , -0.07]
Busch 2011	-0.22	0.19	43	88	3.1%	-0.22 [-0.59 , 0.15]
Hammett 2019 (2)	-0.06	0.04	111	686	6.7%	-0.06 [-0.14 , 0.02]
Kahler 2002	-0.69	0.2	31	133	3.0%	-0.69 [-1.08 , -0.30]
Rocha 2017	-0.83	0.29	47	18	1.8%	-0.83 [-1.40 , -0.26]
Rodríguez-Cano 2016	-0.29	0.13	91	151	4.5%	-0.29 [-0.54 , -0.04]
Sankaranarayanan 2016	-0.2	0.29	13	108	1.8%	-0.20 [-0.77 , 0.37]
Vázquez 1999	-0.12	0.17	56	104	3.5%	-0.12 [-0.45 , 0.21]
Lee 2019	-0.71	0.34	11	43	1.4%	-0.71 [-1.38 , -0.04]
Martínez-González 2018	-0.58	0.16	53	135	3.7%	-0.58 [-0.89 , -0.27]
Munafò 2008	-0.09	0.09	143	848	5.5%	-0.09 [-0.27 , 0.09]
Vermeulen 2019 (3)	-0.04	0.1	111	608	5.2%	-0.04 [-0.24 , 0.16]
Total (95% CI)			**1863**	**5293**	**100.0%**	**-0.30 [-0.39 , -0.21]**

Heterogeneity: Tau² = 0.03; Chi² = 104.90, df = 33 (P < 0.00001); I² = 69%
Test for overall effect: Z = 6.68 (P < 0.00001)
Test for subgroup differences: Not applicable

SMD: -0.30
(95% CI: -0.39 to -0.21)

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Quitting smoking compared to taking antidepressants

Increased

Psychological quality of life

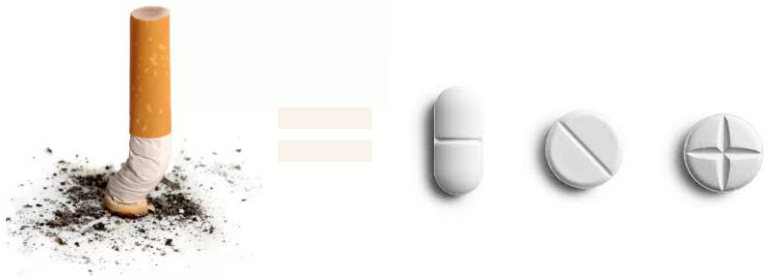
Happiness

Depression

Anxiety

Stress

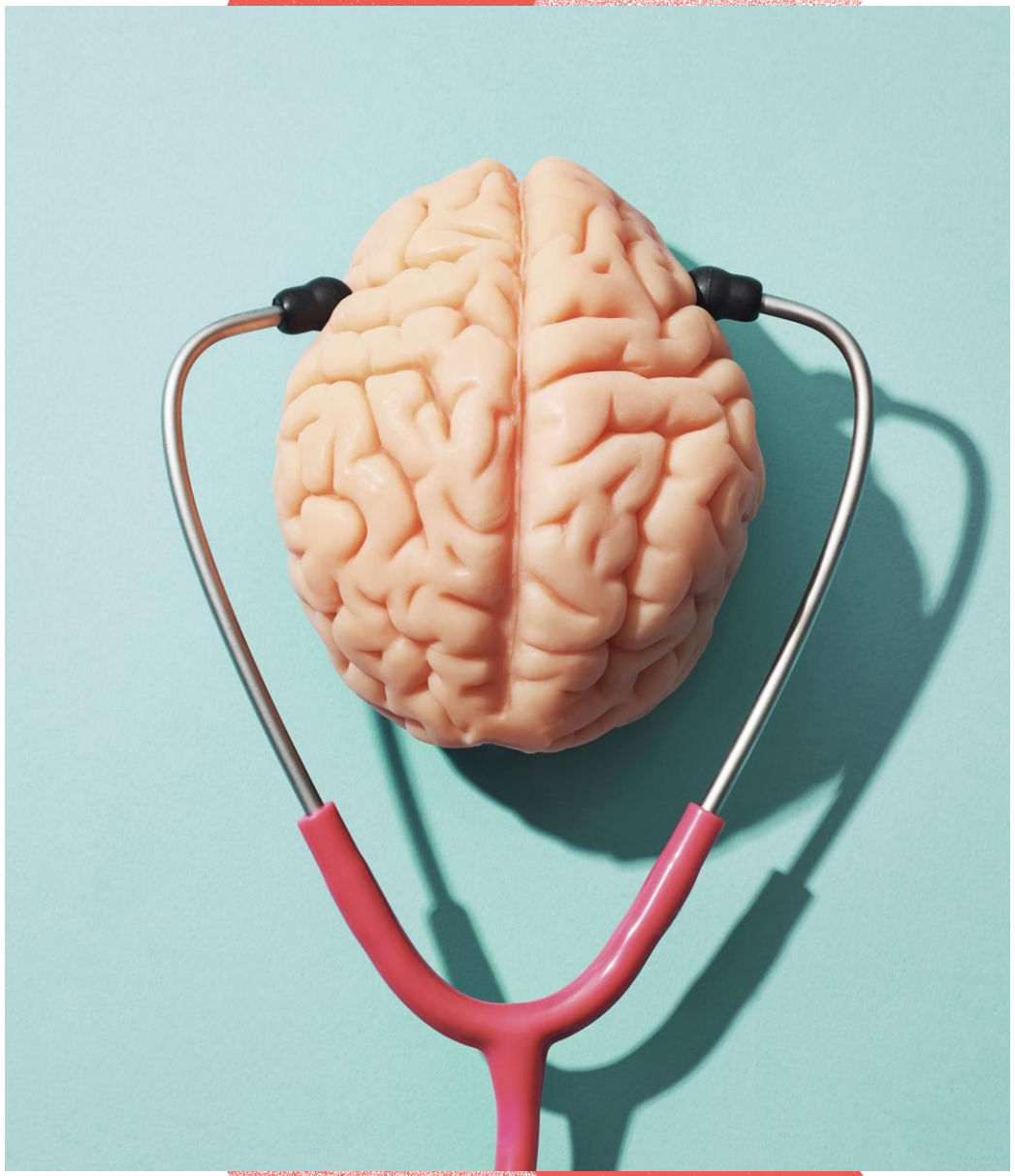
Decreased



thebmjawards

Why isn’t stopping smoking part of routine mental health care?

- Two trials in NHS psychology services
    - Face to face and digital
- Does offering smoking cessation treatment impact on completing usual care?
- Are the intervention and trial procedures acceptable and feasible?



NHS Talking Therapies

- NHS Talking Therapies aka. IAPT
- Treats common mental illness (depression, anxiety, OCD)
- Receive 1.2 million referrals each year
- 50% receive therapy
- Evidence based therapies (CBT, online CBT)



PICO (ESCAPE face-to-face)



Four English regions and included five NHS Talking Therapies services. ISRCTN99531779.



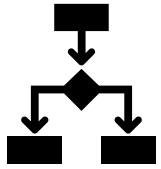
Participants: Adults (≥18 yrs) with depression and/or anxiety (PHQ-9 ≥ 10 or GAD-7 ≥ 8), daily smokers for ≥1 year; other mental health comorbidities allowed; excluded if pregnant or clinically unwell.



Treatment: Integrated smoking cessation delivered within usual care. Therapists provided parallel support for smoking and mental health during regular 1:1 sessions (5-15 min/session, ≥6 sessions), combining behavioural support + smoking cessation medication.



Control: Usual NHS Talking Therapies care + delayed signposting to stop smoking services.



Outcome: NHS Talking Therapies treatment completion status.

Integrated intervention – CBT example

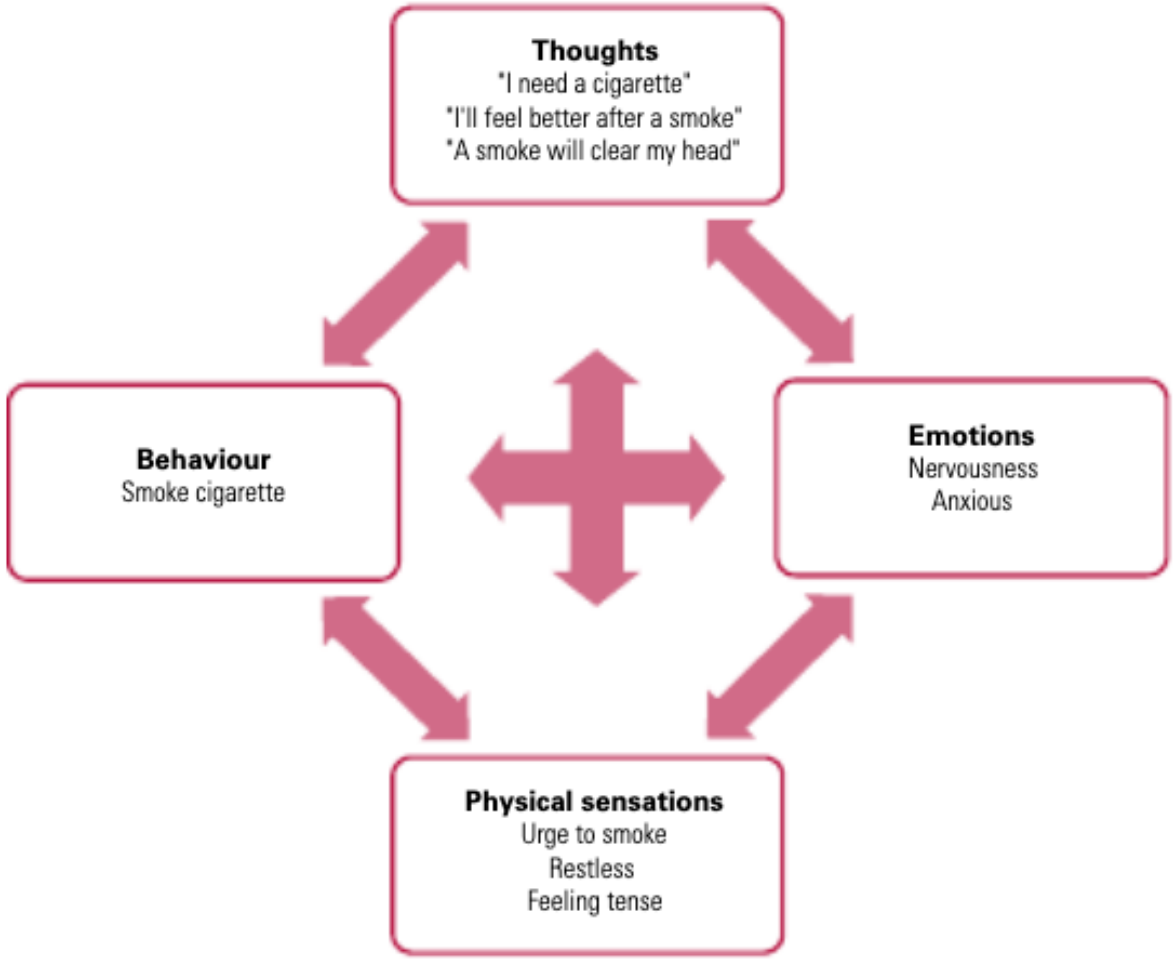
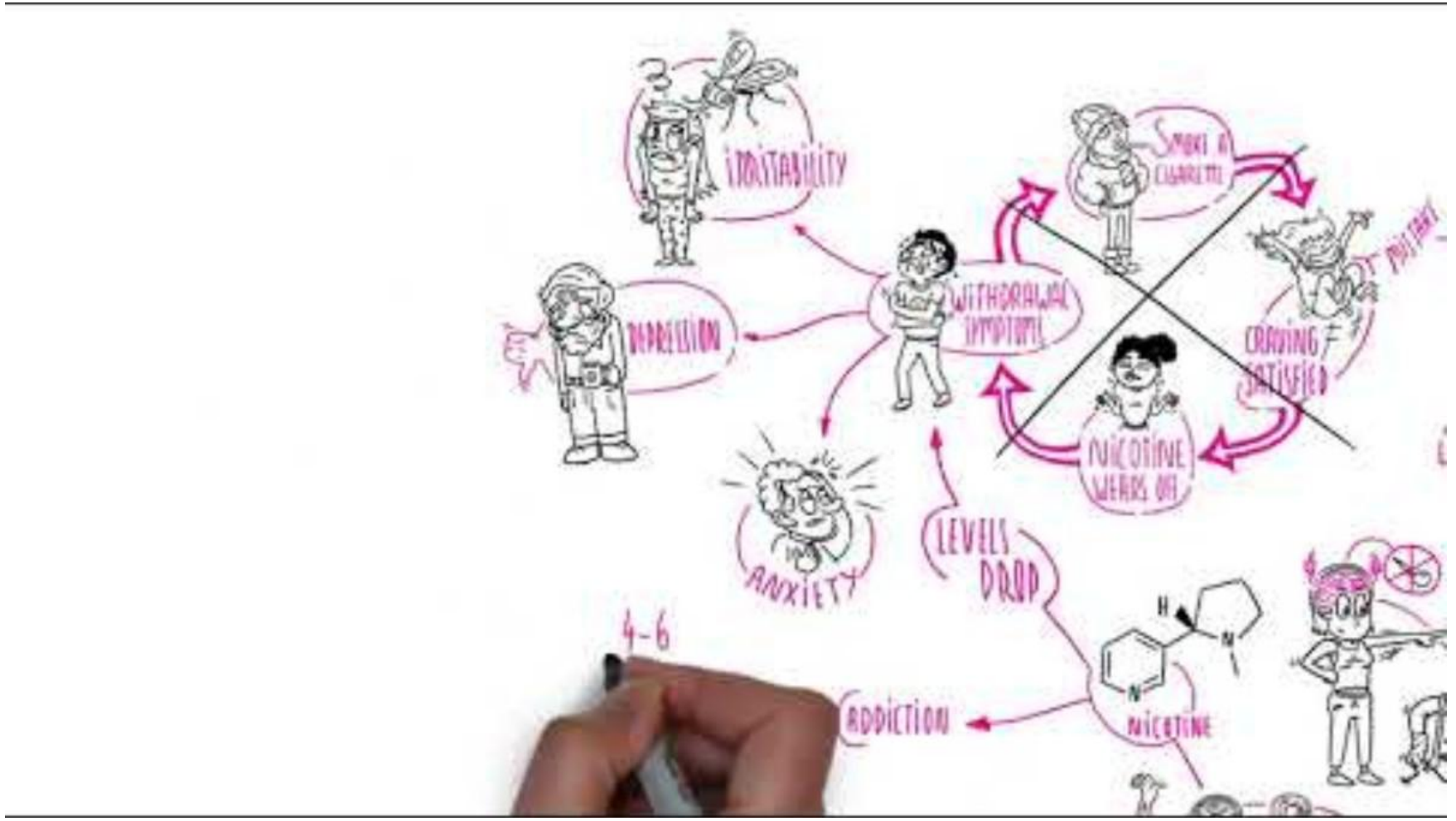


FIG 3 The anxiety cycle in smoking: the trigger is an anxiety-provoking event.

Psychoeducational video



Baseline characteristics

		Control N=67	Treatment N=68
Age in years		33.7 (11.9)	37.4 (13.3)
Gender, N (%)	Female	40 (59.7%)	46 (67.6%)
Ethnicity, N (%)	White	60 (89.6%)	61 (89.7%)
	Mixed	4 (6.0%)	3 (4.4%)
	Indian	1 (1.5%)	1 (1.5%)
	Pakistani	2 (3.0%)	1 (1.5%)
	Bangladeshi	0 (0.0%)	1 (1.5%)
	Other	0 (0.0%)	1 (1.5%)
Highest level of education, N (%)	Some high school	1 (1.6%)	1 (1.5%)
	GCSE/O-grade/equivalent	15 (24.6%)	18 (26.9%)
	A-level equivalent	6 (9.8%)	12 (17.9%)
	Apprenticeship	5 (8.2%)	3 (4.5%)
	Other vocational	13 (21.3%)	14 (20.9%)
	Degree	16 (26.2%)	14 (20.9%)
	Higher degree	5 (8.2%)	5 (7.5%)
Index of Multiple Deprivation		18.1 (12.9)	18.3 (12.4)
PHQ-9		14.9 (5.8)	14.0 (6.1)
GAD-7		13.7 (4.7)	12.3 (5.1)
Heaviness of Smoking Index		2.1 (1.6)	2.6 (1.6)
Cigarettes per Day		13.1 (7.8)	15.7 (8.4)
Previous number of quit attempts		5.0 (7.0)	3.7 (6.7)

Stakeholder perspectives

Reciprocal impact of smoking cessation and mental health treatment

"…most of my patients… often ***recovered on the standard minimum dataset for anxiety and depression once they'd given up smoking****... I think one of the reasons for that is because as they gave up,* ***it almost like gave them a confidence boost which then kick started their motivation and some of the behaviours that were maintaining the depression*** *side of things fell away"*

- Therapist

Natural fit of cessation treatment into NHS Talking Therapies

"I think it's a really good idea… We work on sleeping. We work on eating. We work on exercise. We work on caffeine. We work on all the elements of somebody's wellbeing … we even work on alcohol use … ***Smoking seems to be the only one we don't really touch, so that's – I think it would sit really nicely in the NHS Talking Therapies service."***

- Therapist

Value of the therapist–client alliance

"the practitioner knew the difficulties I was going through as well, so rather than it being two separate people, it was ***one person, she understood fully the struggles that life was bringing me, as well as trying to help me stop smoking****"*

– Participant

Effect of intervention on main feasibility and clinical outcomes at 3-months, N=135

Logistic regression models	**Control (N=67)**	**Treatment (N=68)**	**Unadjusted OR (95% CI)**
Talking Therapies treatment completion, N completed (%)	14/67 (20.9%)	12/68 (17.6%)	0.81 (0.31 to 2.09), P=0.79
Bio-verified self-reported 7-day smoking abstinence, N quit (%)	1/67 (1.5%)	8/68 (11.8%)	8.69 (1.11 to 396.26)
Quit attempt, N attempted (%)	4/67 (6.0%)	14/68 (20.6%)	4.04 (1.18 to 17.88)
Linear regression models			**Beta-coefficient (95% CI)**
GAD-7, mean (SD)	9.7 (5.8)	9.7 (5.5)	0.65 (-1.59 to 2.90)
PHQ-9, mean (SD)	10.4 (6.0)	10.0 (5.9)	0.01 (-2.19 to 2.22)

Effect of intervention on main feasibility and clinical outcomes at 6-months, N=135

Logistic regression models	**Control (N=67)**	**Treatment (N=68)**	**Unadjusted OR (95% CI)**
Talking Therapies treatment completion, N completed (%)	22/67 (32.8%)	17/68 (25.0%)	0.68 (0.30 to 1.53), P=0.42
Bio-validated self-reported 7-day smoking abstinence, N quit (%)	4/67 (6.0%)	10/68 (14.7%)	2.70 (0.73 to 12.43)
Quit attempt, N attempted (%)	9/67 (13.4%)	16/68 (23.5%)	1.97 (0.75 to 5.53)
Linear regression models			**Beta-coefficient (95% CI)**
GAD-7, mean (SD)	9.7 (6.1)	8.4 (6.2)	0.10 (-2.13 to 2.33)
PHQ-9, mean (SD)	9.7 (6.7)	10.0 (7.2)	0.96 (-1.75 to 3.66)



SilverCloud
by Amwell

Cochrane Library

Cochrane Database of Systematic Reviews

Internet-based interventions for smoking cessation

Taylor GMJ, Dalili MN, Semwal M, Civljak M, Sheikh A, Car J

PICO (ESCAPE digital)



Seventeen NHS Talking Therapies services across 13 NHS trusts. ISRCTN10612149.



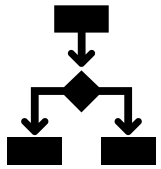
Participants: Adults (≥18 yrs) referred for supported online treatment for depression and/or anxiety, self-reported smokers; no exclusion criteria, not required to be motivated to quit to take part.



Treatment: TAU + codesigned smoking cessation programme. Received email information about mental health benefits of quitting, and how to access the online programme.

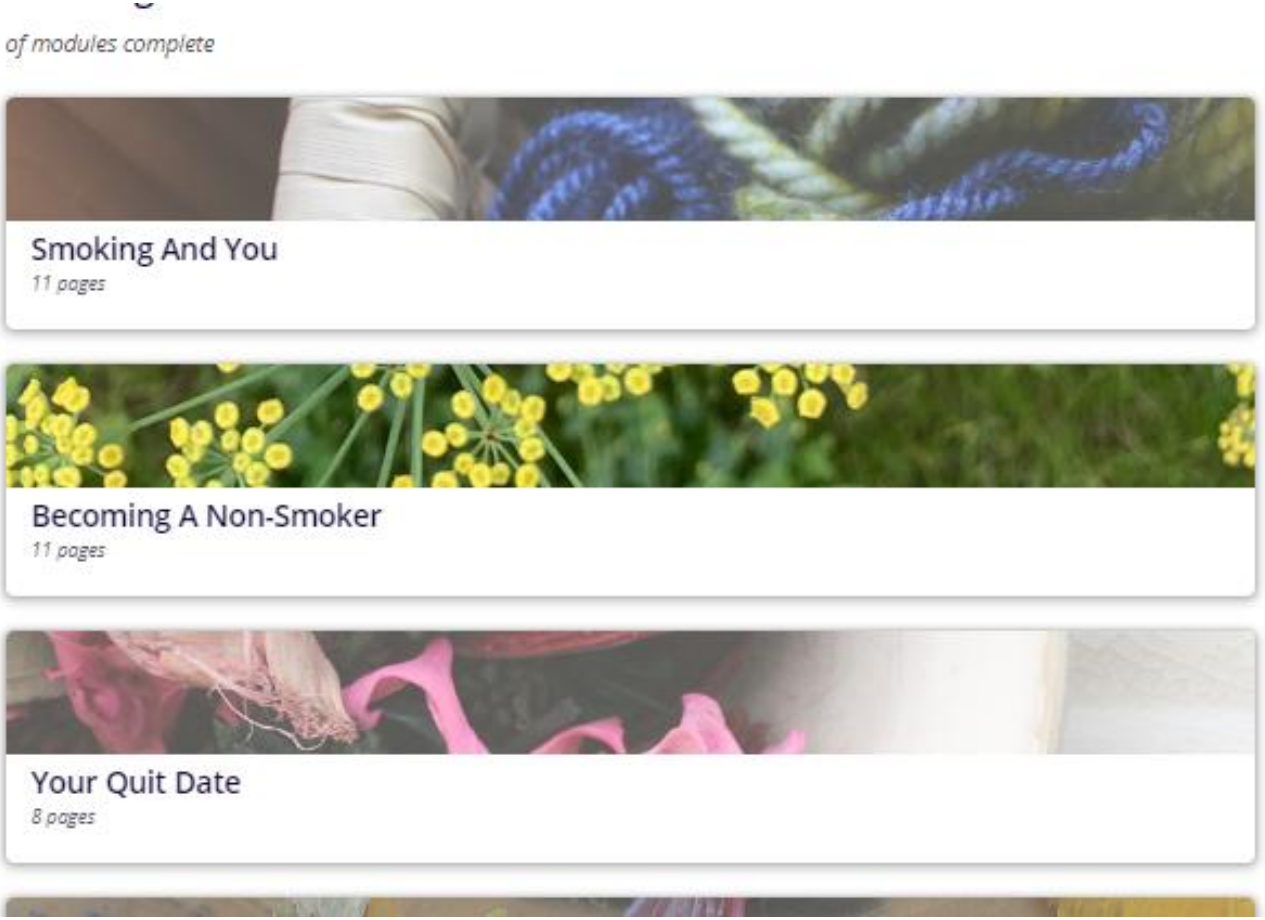


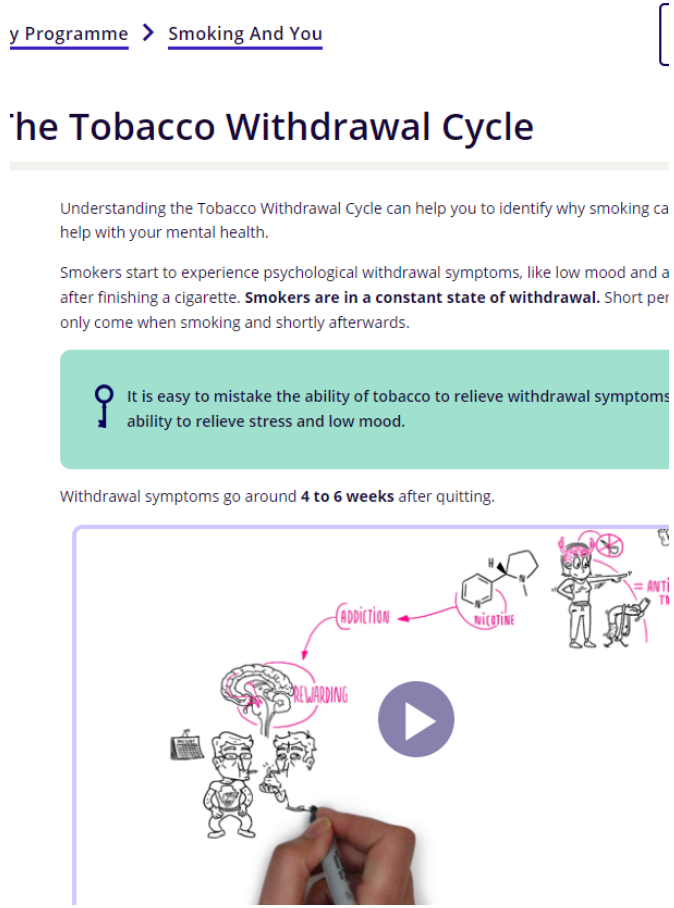
Control: TAU was access to self-guided internet-based CBT for anxiety and/or depression, which included approximately six reviews with a clinician over 6-12 weeks.



Outcome: Self-reported quit attempt.

Co-designed internet-based smoking cessation intervention





Baseline characteristics

Measure	Intervention (n=154)	Control (n=155)
Age	38.0 (12.0)	37.0 (11.0)
Number of cigarettes per day	14.3 (7.8)	13.4 (7.9)
Sex: Female	92 (59.7%)	96 (61.9%)
Sex: Other	2 (1.3%)	0 (0.0%)
Education: Higher education or equivalent	44 (28.6%)	41 (26.5%)
Education: A level or equivalent	34 (22.1%)	39 (25.2%)
Education: GCSE grade A*-C or equivalent	58 (37.7%)	48 (31.0%)
Education: Qualifications at level ≤1	4 (2.6%)	12 (7.7%)
Education: Other qualifications: level unknown	4 (2.6%)	6 (3.9%)
Education: No qualifications	10 (6.5%)	9 (5.8%)
Ethnicity: White	148 (96.1%)	146 (94.2%)
Ethnicity: Other	6 (3.9%)	9 (5.8%)
HSI: Low (0–2)	67 (43.5%)	75 (48.4%)
HSI: Medium (3–4)	73 (47.4%)	70 (45.2%)
HSI: High (5–6)	14 (9.1%)	10 (6.5%)
Quit attempt (≥24 hrs in past 12 months) (yes)	68 (44.2%)	63 (40.6%)
Current use of stop smoking medication/e-cigarettes (yes)	25 (16.2%)	21 (13.5%)
Previous use of stop smoking medication/e-cigarettes (yes)	103 (66.9%)	90 (58.1%)
Reason for referral: Depressive disorders	81 (52.6%)	80 (51.6%)
Reason for referral: Anxiety disorders	61 (39.6%)	66 (42.6%)
Co-morbidities: Asthma	16/150 (10.7%)	11/154 (7.1%)
Co-morbidities: Diabetes	7/150 (4.7%)	9/154 (5.8%)
Co-morbidities: Hypertension	5/150 (3.3%)	3/154 (1.9%)
PHQ-9	15.2 (5.7)	14.5 (5.7)
GAD-7	12.9 (4.8)	13.3 (4.8)
EQVAS	55.7 (21.0)	57.7 (19.3)

Feasibility outcomes

- **21% (309/1484)** of eligible participants enrolled in the trial ☺
- **20% (31/154)** viewed the stop smoking programme ☺
- **18% (27/154)** made a quit attempt in the intervention arm ☺
- **High level of missing data (70%)…** ☹
  - 50% of participants drop out of NHS Talking Therapies by 6 months.
  - In our Cochrane review, 30% of studies had >60% loss-to-follow-up.

Effect of intervention on main feasibility and clinical outcomes at 3-months, N=309

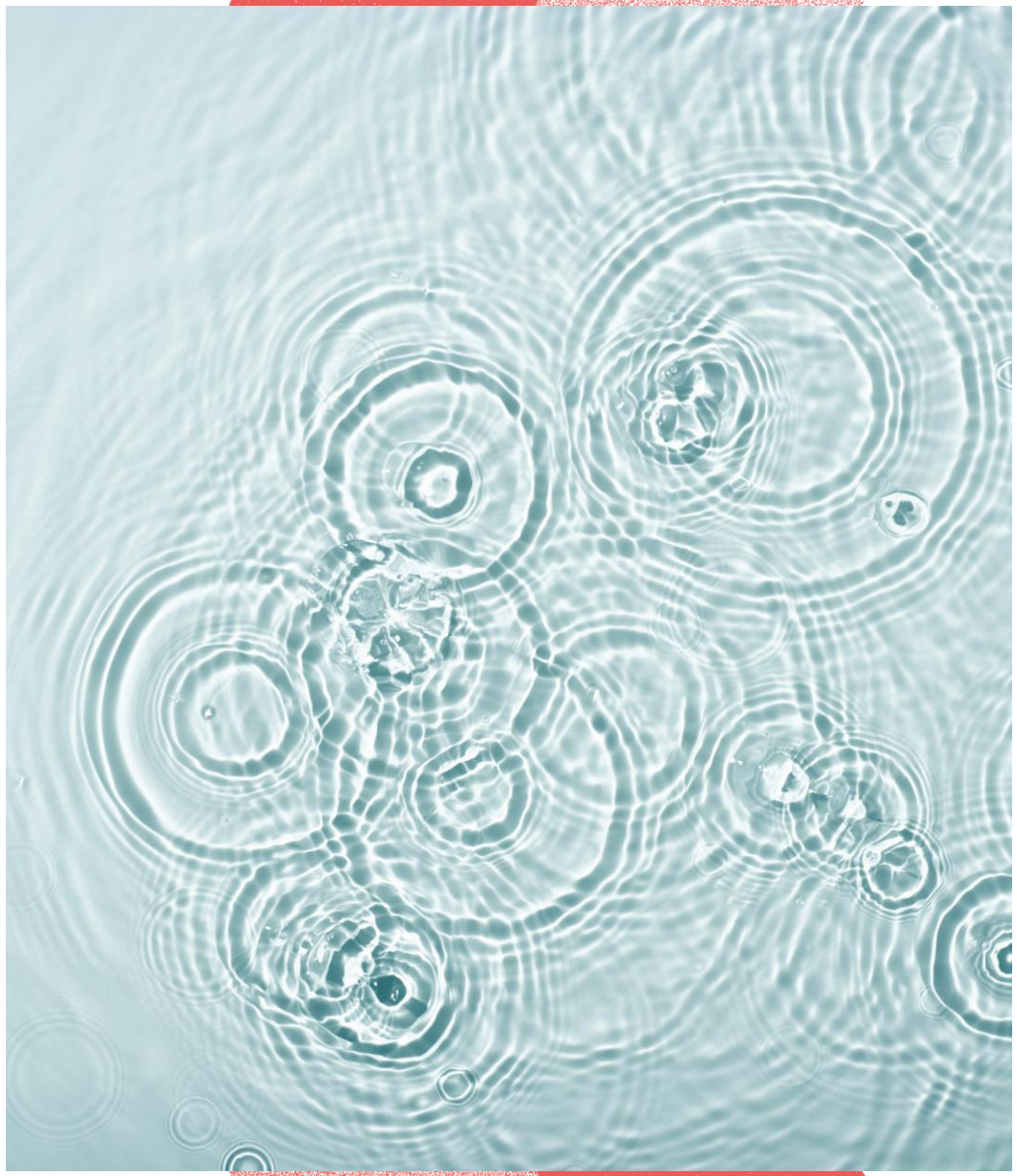
		Intervention (n=154)	Control (n=155)	Coefficient (95% CI) (Beta-coefficient)
Self-reported abstinence	Complete case (N=89)	15/39 (38.5%)	16/50 (32.0%)	OR=1.3 (0.6 to 3.2)
	ITT (N=309)	15/154 (9.7%)	16/155 (10.3%)	OR=0.9 (0.5 to 2.0)
Bio-validated abstinence	Complete case (N=89)	9/39 (23.1%)	3/50 (6.0%)	OR=4.7 (1.2 to 18.8)
	ITT (N=309)	9/154 (5.8%)	3/155 (1.9%)	OR=3.1 (0.8 to 11.9)
PHQ-9	Complete case (N=81)	17.3 (5.7)	19.9 (7.6)	-2.0 (-4.7 to 0.8)
	ITT (N=309)	19.0 (6.8)	20.0 (7.4)	-1.7 (-4.4 to 1.1)
GAD-7	Complete case (N=78)	14.1 (5.0)	15.8 (6.7)	-0.9 (-3.5 to 1.7)
	ITT (N=309)	16.5 (5.9)	16.1 (6.3)	-0.2 (-2.4 to 1.9)
EQ VAS	Complete case (N=87)	60.5 (20.7)	57.9 (20.4)	3.3 (-4.6 to 11.1)
	ITT (N=309)	56.4 (22.0)	59.1 (22.6)	2.6 (-6.2 to 11.4)

Effect of intervention on main feasibility and clinical outcomes at 6-months, N=309

		Intervention (n=154)	Control (n=155)	Coefficient (95% CI)
Self-reported abstinence	Complete case (N=87)	23/47 (48.9%)	12/40 (30.0%)	OR=2.2 (0.9 to 5.4)
	ITT (N=309)	23/154 (14.9%)	12/155 (7.7%)	OR=2.1 (1.0 to 4.4)
Bio-validated abstinence	Complete case (N=30)	3/17 (17.6%)	4/13 (30.8%)	OR=0.5 (0.09 to 2.7)
	ITT (N=309)	3/154 (1.9%)	4/155 (2.6%)	OR=0.8 (0.2 to 3.4)
PHQ-9	Complete case (N=79)	17.5 (6.3)	18.3 (7.6)	-0.6 (-3.5 to 2.2)
	ITT (N=309)	19.2 (6.7)	19.5 (7.4)	-0.2 (-3.7 to 3.4)
GAD-7	Complete case (N=78)	13.8 (4.8)	15.7 (6.9)	-1.5 (-3.9 to 1.0)
	ITT (N=309)	17.4 (6.5)	16.7 (7.0)	-0.9 (-3.7 to 1.8)
EQ VAS	Complete case (N=82)	64.6 (19.4)	58.7 (15.5)	6.1 (-1.7 to 13.9)
	ITT (N=309)	51.8 (24.3)	55.6 (20.6)	1.6 (-9.0 to 12.2)

Impact

- **220+** clinical and policy guidelines globally
- **>90,000** UK professionals reached
- **National** Smoking Cessation for Mental Health **Training Manual**
- **5** UK parliamentary submissions
- **IP** and commercial **license** with SilverCloud
- Digital intervention offered to NHS Talking Therapies for evaluation
- SE PH campaign = **73,923** quit dates set



Conclusions

- **NHS Talking Therapies offers an opportunity to support quitting alongside treatment for depression and anxiety.**
- **Collaboration between researchers, industry and the NHS has created routes to wider delivery.**
- **The next step is implementing sustained adoption.**



With special thanks to

Cancer Research UK
NIHR
SilverCloud
Participants, PWPs & researchers involved in ESCAPE
Paul Aveyard
Kyla Thomas
Chris Metcalfe
David Kessler
Anna Blackwell
Shiying Jia
Beyza Cihan
Sally Adams
Shadi Daryan
Deborah Roy
Daniel Duffy
Garrett Hisler
Nicola Lindson
Kate Bartlem
Alison Shaw
Amanda Farley
Andrea Leinberger-Jabari
Rebecca Te Water Naude
Annika Thedoulou
Naomi King
Jamie Brown
Doug Hiscock
Sophia Papadakis
Ben Ainsworth
Chloe Burke
Katherine Sawyer
Avon And Wiltshire Partnership Trust
Northeast London Foundation Trust
Oxford Health NHS Foundation Trust
Black Country Healthcare Partnership Trust

Thank you

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20 Years

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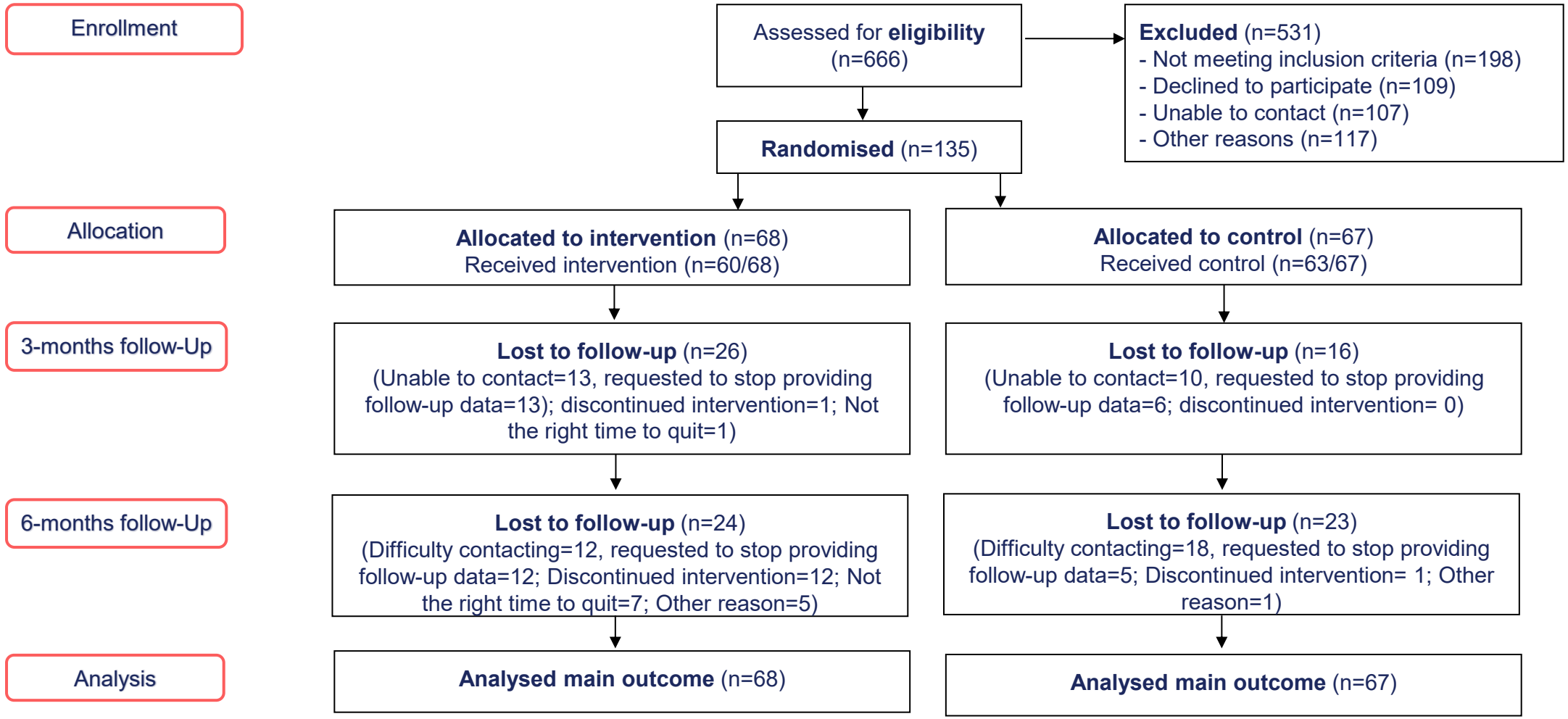
CONSORT flow diagram



CONSORT flow diagram

