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The Role of Clinicians in Supporting Smoking Cessation for Individuals with Cardiovascular Disease and Mental Illness

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Disclosures

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Presenter: No conflicts to declare and no tobacco-related funding sources over the last 10 years for any research

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My Journey into Tobacco Research

What does 'choice' mean when it comes to health?

Cardiovascular disease (CVD) causes 31% of deaths worldwide (1)

17% of people in Europe are living with CVD (2).

Tobacco is a key risk factor—and quitting can prevent both first-time and repeat cardiac events (3-4).

8000 people with CVD event

- 26% were smoking at diagnosis
- Six months later 61% still smoking
- Majority prescribed ACE inhibitors, statins and beta-blockers
- 19% advised to attend a stop smoking clinic
- 20% of those who attended were offered medication

1 in 8 people live with mental illness in the world (6).

People with serious mental illness die 15–20 years younger, mostly from preventable physical illnesses (7).

Smoking is the leading contributor for these preventable physical illnesses (8).

Inequalities?

UK general smoking rate: 46% (1970s) → 12.9% (2022) (9).

Smoking rates have not decreased for people living with mental illness in UK(10).

Up to 85% of people with schizophrenia smoke (11).

Many use smoking to cope with stress with ~40% believe it relieves stress (12,13).

Common in both psychiatric and general populations (14,15).

Fear of mental health decline deters quitting and clinicians may hesitate to recommend smoking cessation (16,17).

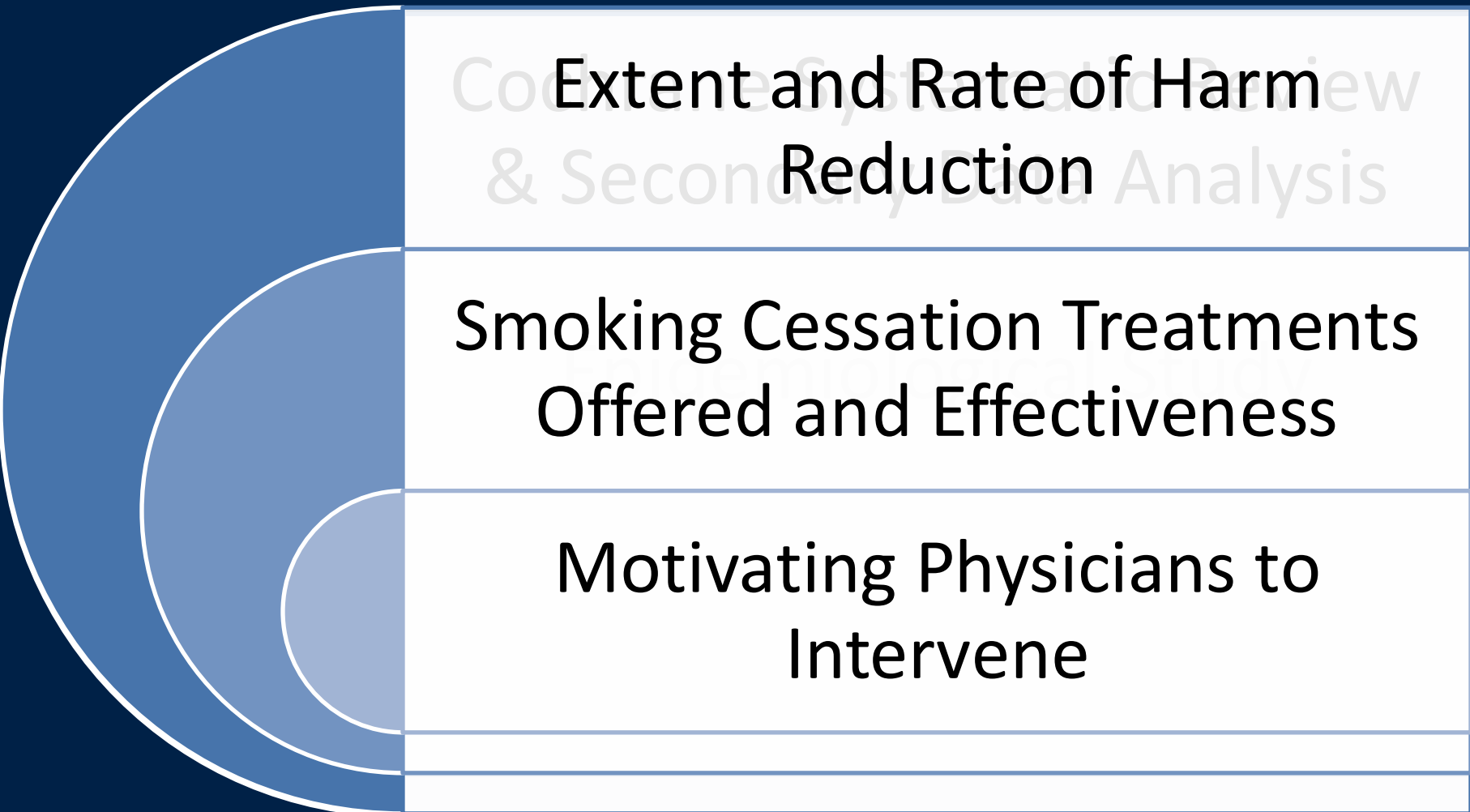
BUT quitting associated with improved mental health (18,19).

Cardiovascular Disease

Mental Illness

Smoking cessation as an intervention

PhD Aims and Project Breakdown



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Smoking cessation for secondary prevention of cardiovascular disease, a systematic review

Cochrane Library

Trusted evidence.
Informed decisions.
Better health.

Cochrane Database of Systematic Reviews

[Intervention Review]

Smoking cessation for secondary prevention of cardiovascular disease

Angela Difeng Wu[1], Nicola Lindson[1], Jamie Hartmann-Boyce[1], Azizia Wahedi[2], Anisa Hajizadeh[1], Annika Theodoulou[1], Elizabeth T Thomas[1], Charlotte Lee[1], Paul Aveyard[1]

Risk Reduction for secondary CVD events →

Authors' conclusions

Implications for practice

- People with heart disease who smoke, and their clinicians, can be reassured that stopping smoking is associated with a decreased risk of secondary cardiovascular disease (CVD) outcomes, including CVD, major adverse cardiovascular events (MACE), all-cause mortality, non-fatal myocardial infarction, non-fatal stroke and new-onset angina.
- People with heart disease who smoke, and their clinicians, can be reassured that smoking cessation will not worsen, and may improve quality of life.

Implications for research

- Further studies that examine the impact of smoking cessation while controlling for secondary CVD prevention medication and severity of initial coronary heart disease (CHD) event, as well as other listed confounding factors, would strengthen the evidence on the impact of smoking cessation.
- Research investigating the severity of the initial CHD event, as well as intensity of smoking prior to cessation, may strengthen the evidence on magnitude and speed of smoking cessation impact.
- Studies should also consider investigating the impact of combined benefit of smoking cessation and secondary prevention medication.
- Future studies should also stratify results by sex, where feasible, as the majority of studies in this review were predominately focused on men.
- Additional, larger studies that examine the impact of smoking cessation on CVD would also strengthen the evidence as the smaller studies included in the review may be exaggerating the benefits of cessation.
- A systematic review of intervention studies supporting smoking cessation in people with established cardiac disease would strengthen the evidence of causality. Individual trials are likely to be too small to show benefits, but pooling can improve statistical power to reveal the health impact.

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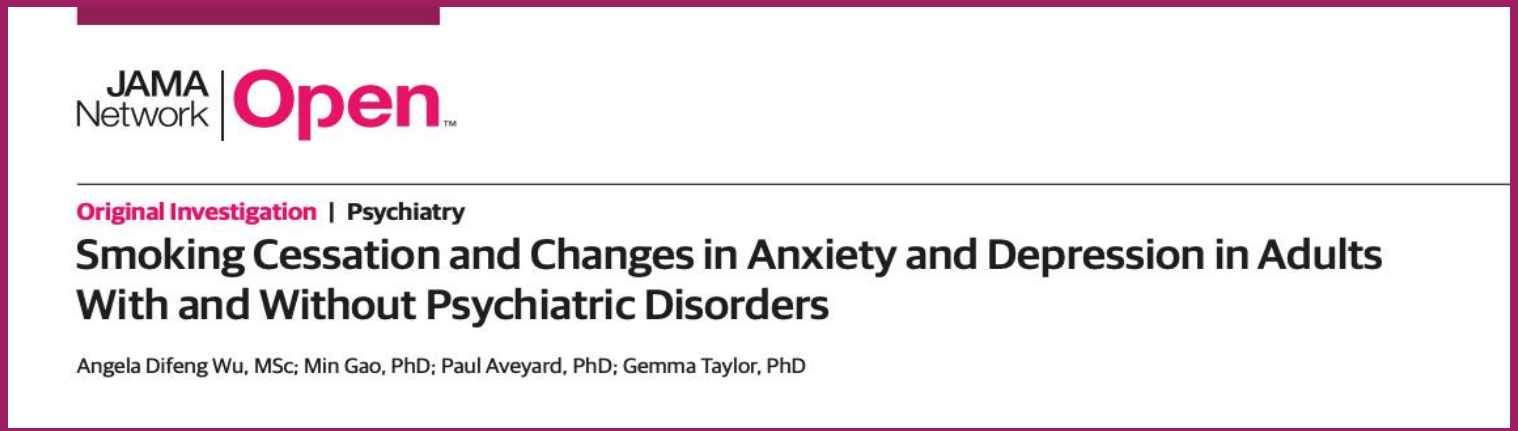
Smoking cessation for mental health, secondary data analysis of randomised control trial



JAMA Network | Open

Original Investigation | Psychiatry

Smoking Cessation and Changes in Anxiety and Depression in Adults With and Without Psychiatric Disorders

Angela Difeng Wu, MSc; Min Gao, PhD; Paul Aveyard, PhD; Gemma Taylor, PhD

Results and Implications

Table 2. Hospital Anxiety and Depression Scale Scores for Participants by Smoking Status and Unadjusted Complete Case Tobit Regression

Outcome and time	Score, mean (SD)
Anxiety[a]	
Continued smoking	
Baseline	4.31 (3.67)
Follow-up	2.29 (3.43)
Stopped smoking	
Baseline	3.81 (3.43)
Follow-up	1.51 (2.79)
Depression[b]	
Continued smoking	
Baseline	2.51 (2.92)
Follow-up	1.67 (2.77)
Stopped smoking	
Baseline	2.21 (2.81)
Follow-up	0.92 (2.10)

[a] β = −0.28 (95% CI, −0.41 to −0.14).

[b] β = −0.29 (95% CI, −0.4 to −0.19).

Table 3. Change in Hospital Depression and Anxiety Scale Scores for People Who Remained Abstinent Between Weeks 9 and 24

Outcome	β (95% CI)
Depression	
Tobit complete adjusted	−0.47 (−0.61 to −0.33)
PSM Tobit adjusted	−0.42 (−0.6 to −0.24)
Tobit removal of bupropion	−0.37 (−0.53 to −0.21)
Tobit without psychiatric history	−0.32 (−0.48 to −0.15)
Tobit with psychiatric history	−0.60 (−0.82 to −0.38)
Multiple imputation Tobit	−0.97 (−1.15 to −0.78)
Multiple imputation PSM	−0.53 (−0.67 to −0.4)
Anxiety	
Tobit complete adjusted	−0.40 (−0.58 to −0.22)
PSM Tobit adjusted	−0.32 (−0.53 to −0.11)
Tobit removal of bupropion	−0.33 (−0.53 to −0.12)
Tobit without psychiatric history	−0.29 (−0.50 to −0.80)
Tobit with psychiatric history	−0.48 (−0.76 to −0.20)
Multiple imputation Tobit	−0.33 (−0.53 to −0.12)
Multiple imputation PSM	−0.54 (−0.7 to −0.37)

Abbreviation: PSM, propensity score matching.

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Why Focus on Smoking Cessation in CVD and Mental Illness?

Initial studies **highlighted smoking cessation as a key intervention** to improve outcomes for people with **cardiovascular disease (CVD)** and **mental illness**

These findings led to **two PhD projects** exploring:

What is currently being offered by **GPs** for smoking cessation	**How we can incentivise** more effective interventions in practice

The Role of Financial Incentives (Quality of Outcomes Framework)

- GPs are incentivised to:
  - Record smoking status
  - Provide advice/support
- System rewards advice to quit the same as providing treatment
  - despite differences in effectiveness (20).

- Overuse of advice codes; underuse of effective interventions in general population with minimal change in smoking abstinence rates (21).

Objectives and Methods

- Measure frequency/types of cessation support in heart disease patients
- Compare support and success rates in patients with vs. without mental illness

- Source: Electronic GP records
- Participants: Adults with incident heart disease (1996–2019)

Categorised Interventions:	Smoking services referral
	Brief intervention
	Education or advice
	Medication
	Counselling

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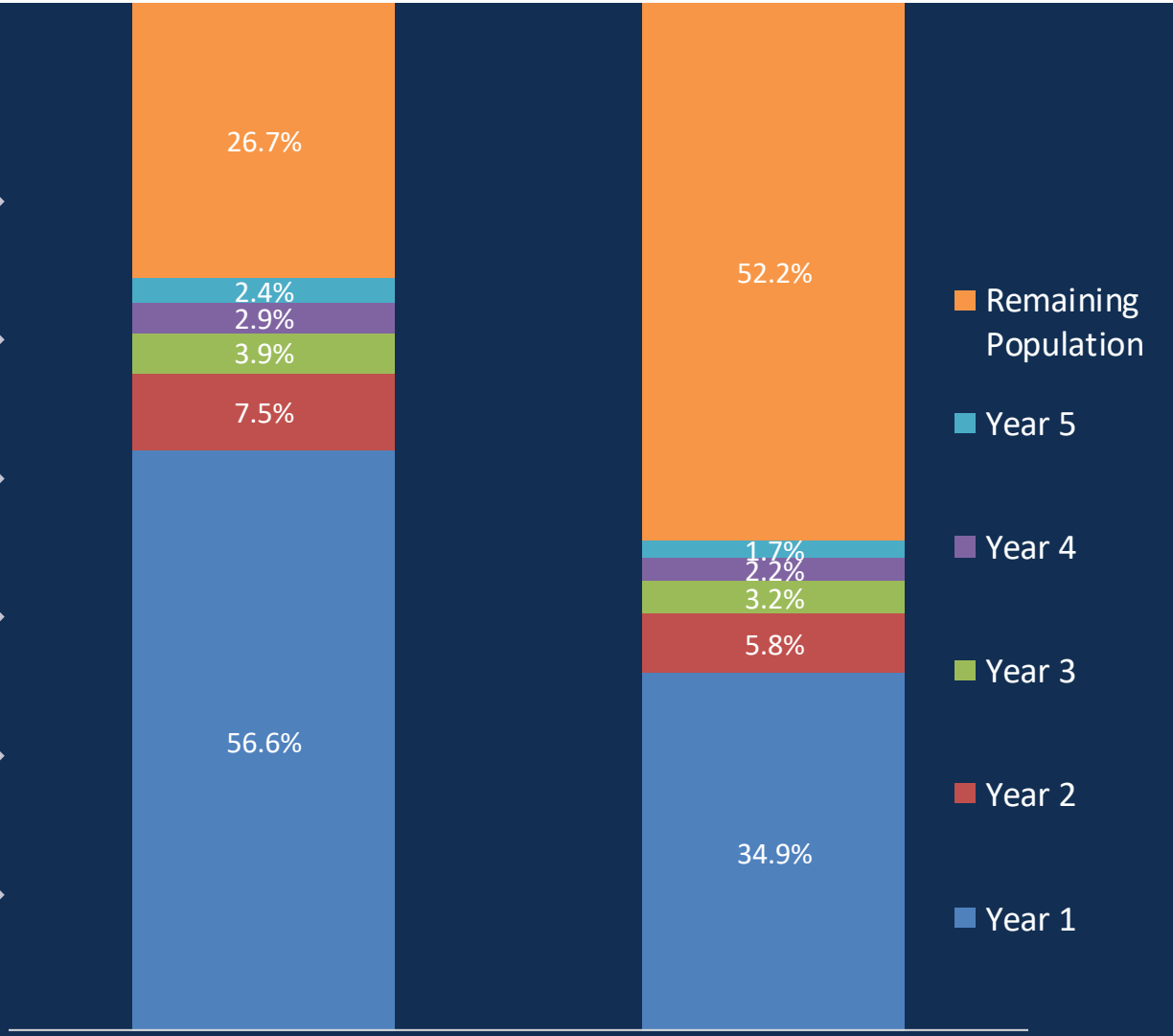
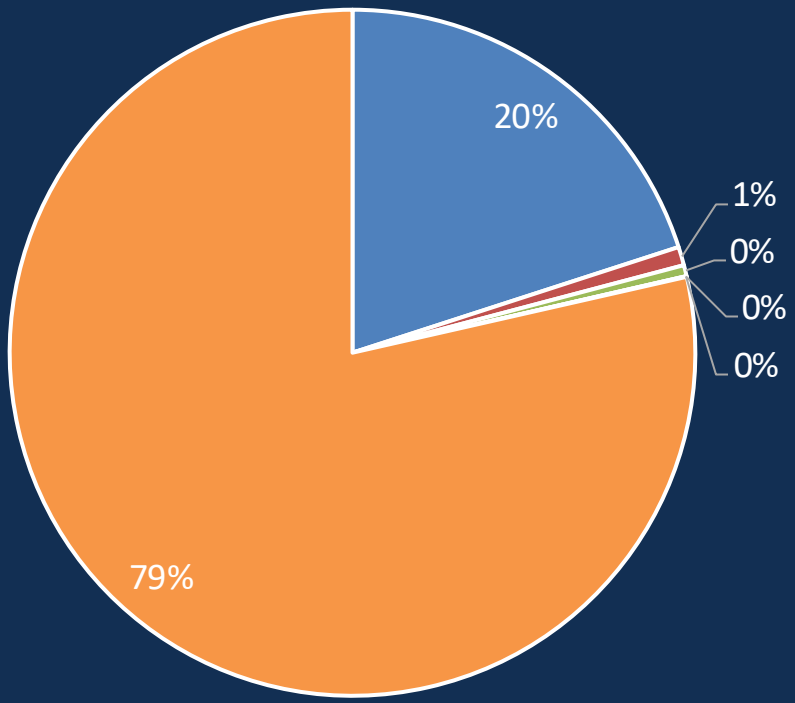
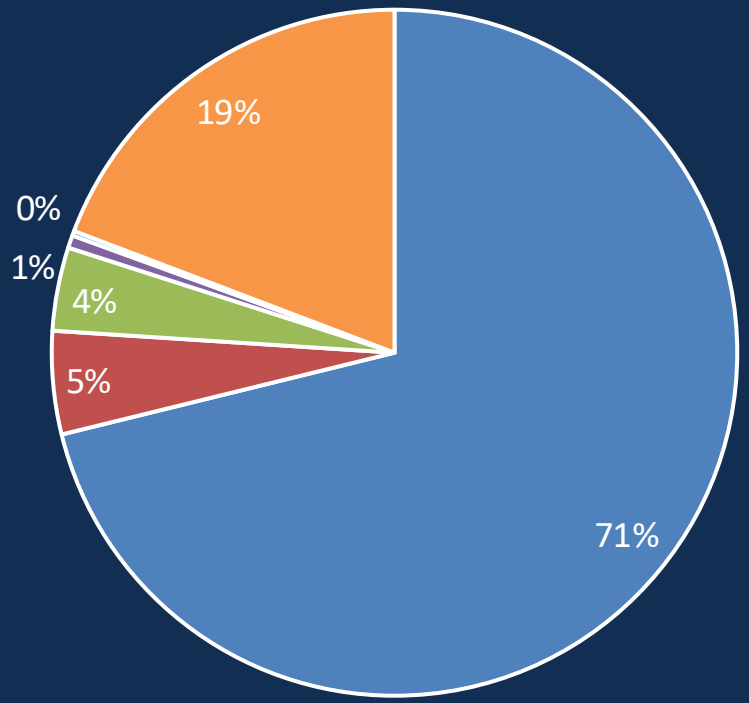
Total Participants:	158,470
Female Participants:	33.9%
Most Common Age Group:	51–60 years
Common Mental Illness:	15%
Serious Mental Illness:	1.7%
Diagnosed After QOF (March 2024):	63.9%



Before Incentive
N=57,211



After Incentive
N=101,259



Education | Pharmacological | Referral | Brief | Counselling | No intervention

Smoking Cessation Intervention on Likelihood of Abstinence	Odds Ratio (OR)	95% Confidence Interval (CI)	
Education	1.31	1.27	1.34
Prescription	0.66	0.61	0.71
Referral	0.45	0.42	0.49
Brief	0.49	0.40	0.60
Counselling	0.65	0.46	0.92
Merged Interventions	1.41	1.36	1.45

	OR	95% CI	Reference Group
Likelihood of Smoking Intervention Record			No Mental Illness
Common Mental Illness (CMI)	1.08	1.04, 1.13	
Serious Mental Illness (SMI)	1.07	0.96, 1.20	
Likelihood of Abstinence with Intervention Record			
CMI	0.74	0.71, 0.77	
SMI	0.51	0.44, 0.57	
Likelihood of Abstinence with Intervention Record			
Before Financial Incentive	5.09	4.84, 5.35	After Incentive

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Investigating the association between recorded smoking cessation interventions and smoking cessation in people living with cardiovascular disease using UK general practice data

Research | Open access | Published: 01 May 2025

Volume 26, article number 141, (2025) Cite this article

People who receive intervention are more likely to quit HOWEVER most widely used intervention is least effective for smoking cessation

System-level incentives like QOF may need reform to reward quality, not just presence of “support”

Doctor Attitude towards Smoking

- UK guidance frames smoking as a dependency needing treatment (22).
- Beliefs about patient responsibility affect likelihood to offer support (23).
- Clinicians less likely to intervene if they feel the patient is “choosing” to smoke (24).

People must take more responsibility for their own health, says health secretary Matt Hancock

Agency Awareness

(6,7)

Research Question

Does responsibility framing influence a GP's likelihood of offering evidence-based cessation support?

What attitudes do UK doctors have regarding smoking and health?

Participants:	GPs, students, doctors
Setting:	Between-subjects online study
Exposure:	Responsibility-framed scenarios
Primary Outcomes:	Intention, duty, desire to help

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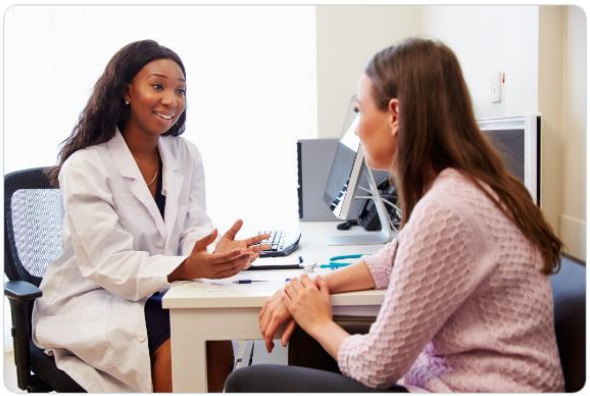
Frames

Control Condition

OxPrimaryCareSci
@OxPrimaryCare

Newest research reaffirms that the most effective way to help people #stopsmoking is through behavioural support and/or medication. GPs should give all patients smoking cessation support.
Learn more: http://bit.ly/3YqvbpA



4:03 PM · Mar 9, 2023

2 Retweets **1** Quote Tweet **4** Likes

Shared Responsibility

OxPrimaryCareSci
@OxPrimaryCare

Newest research reaffirms that the most effective way to help people #stopsmoking is through behavioural support and/or medication. GPs should remind patients they need not quit on their own and offer patients smoking cessation support.
Learn more: http://bit.ly/3YqvbpA

4:03 PM · Mar 9, 2023

2 Retweets **1** Quote Tweet **4** Likes

Professional Obligation

OxPrimaryCareSci
@OxPrimaryCare

Newest research reaffirms that the most effective way to help people #stopsmoking is through behavioural support and/or medication. GP failure to provide a patient with smoking cessation support is a failure to meet professional obligations.
Learn more: http://bit.ly/3YqvbpA

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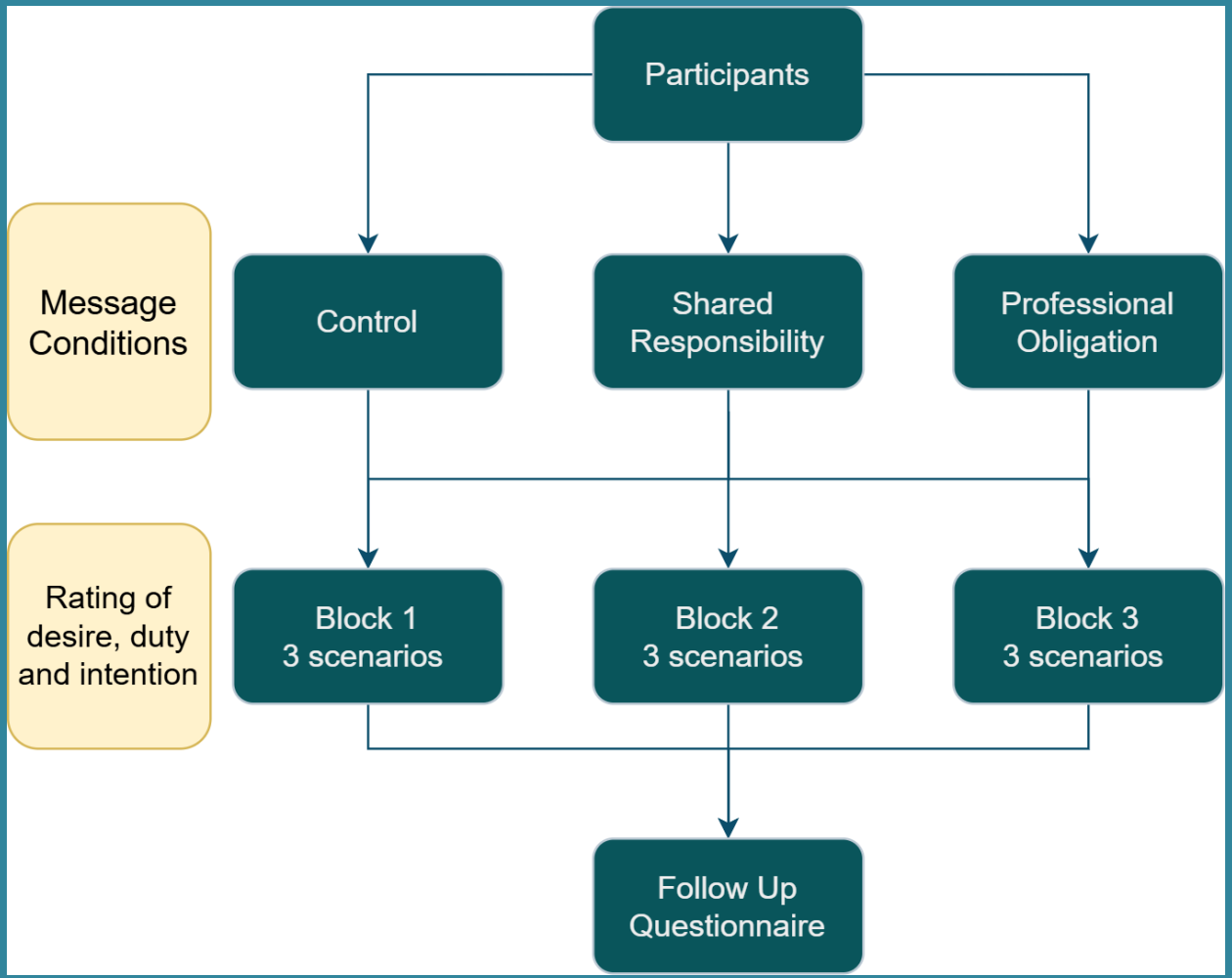
2 Retweets **1** Quote Tweet **4** Likes

Scenarios

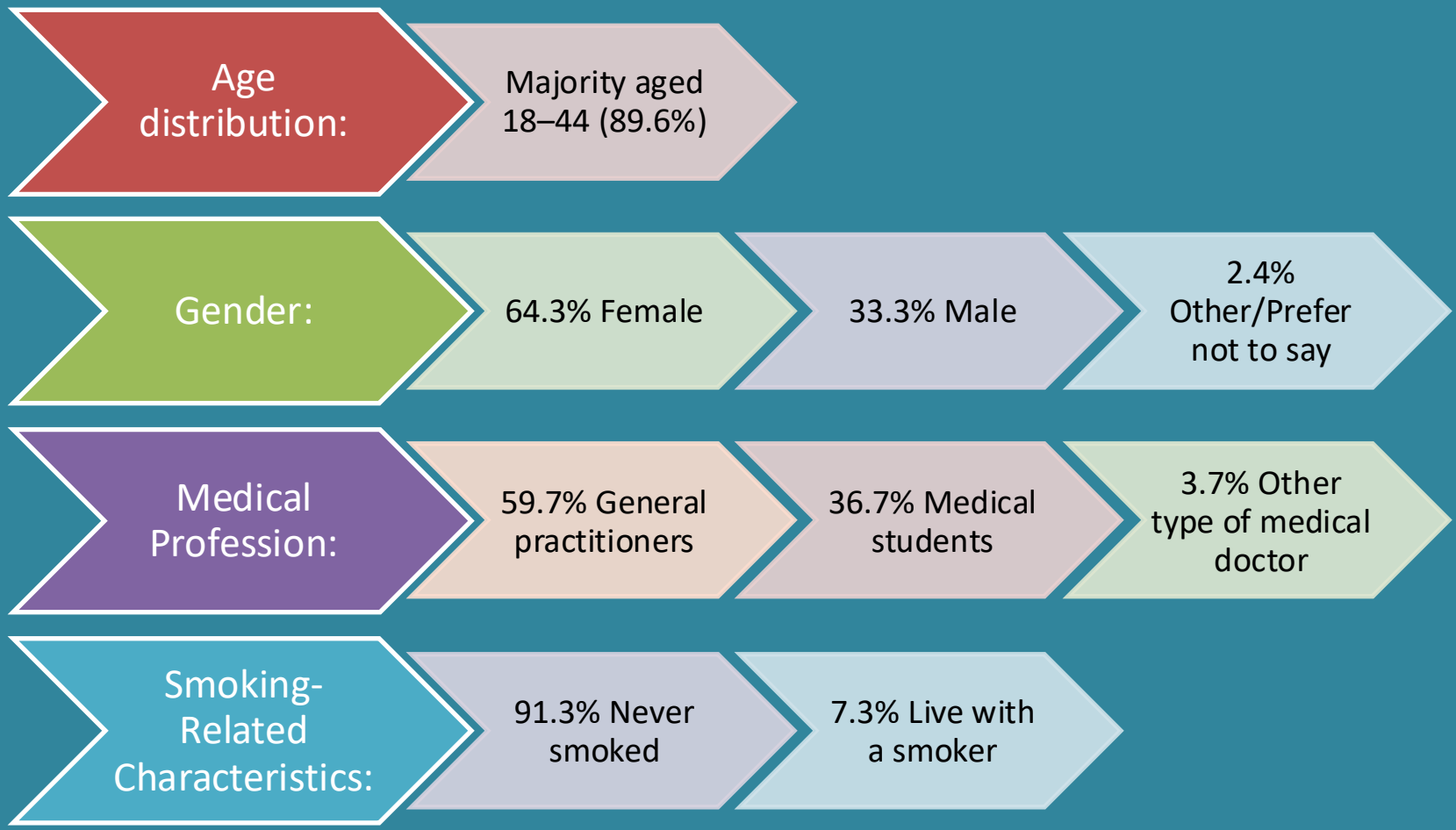
Context of Illness		Context of Consultation
Cardiovascular Disease		Computer record
Serious Mental Illness	+	Time constraints
Non-smoking illness- sprained ankle		Patient previous mention of no motivation to quit

Your patient, Sandy, has come in to see you about a sprained ankle. You are confident that they will recover swiftly. Their records indicate that when they last visited the clinic they smoked cigarettes.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I ought to offer this patient smoking cessation support	○	○	○	○	○
I want to offer this patient smoking cessation support	○	○	○	○	○
I intend to offer this patient smoking cessation support	○	○	○	○	○


Participants
Message Conditions
Control
Shared Responsibility
Professional Obligation
Rating of desire, duty and intention
Block 1
3 scenarios
Block 2
3 scenarios
Block 3
3 scenarios
Follow Up Questionnaire

Sample population



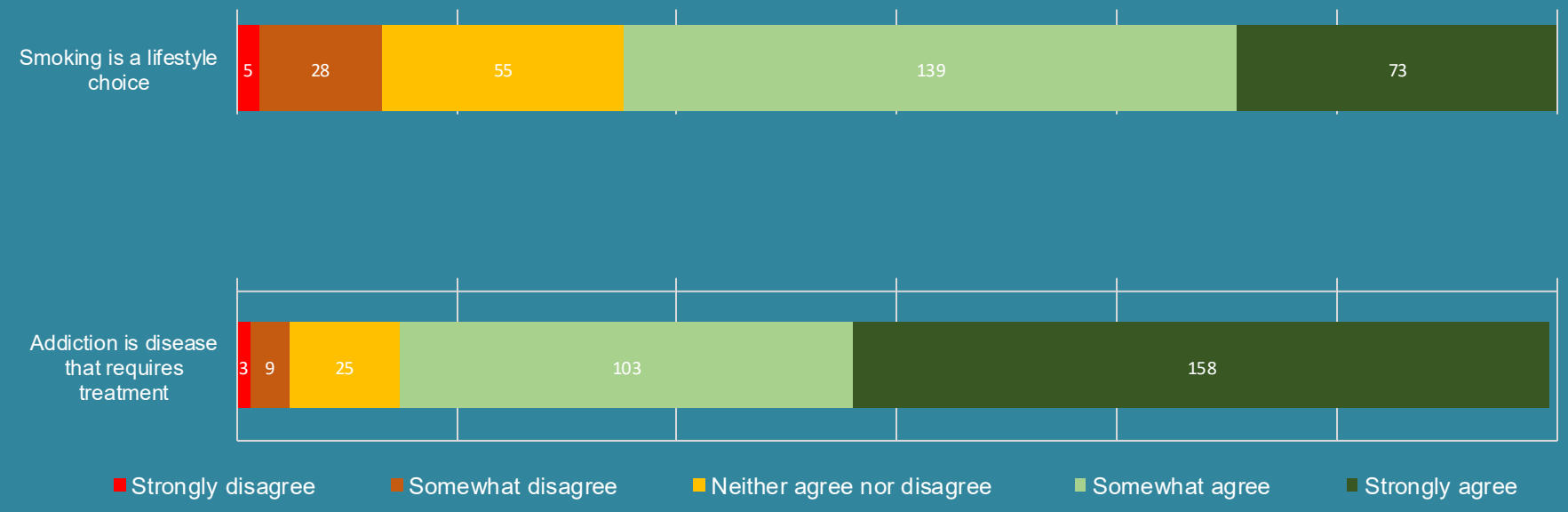
Multivariable Linear Regression

Framing had no effect on:

- *Desire* to offer support
- *Duty* to offer support

Professional obligation frame associated with ↑ intention to offer support

Attitude Statements



Implications

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Oxford Tobacco Addiction Group (OXTAG)

Our group produces primary research and systematic reviews of the evidence on interventions to prevent and treat tobacco addiction. This includes interventions for smoking cessation, for preventing smoking uptake, and public policy interventions for reducing smoking prevalence.

WHO WE ARE

We are a group of researchers and doctoral students based within the **Centre for Evidence-Based Medicine** and the **Interdisciplinary Research in Health Sciences team** at the **Nuffield Department of Primary Care Health Sciences**, chaired by **Dr Nicola Lindson**. We work together to produce research that reduces the burden of tobacco use and smoking-related disease.

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Any Questions?

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