

Evaluating an app to help people quit smoking

Submission date 08/10/2020	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 15/10/2020	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 27/11/2024	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

The majority of smokers want to stop smoking and many try to quit each year, but success rates are low. Methods of supporting smokers during a quit attempt that are low-cost and easy to access are needed. We are hoping to find out how likely smokers who are motivated to quit are to be successful in quitting, and how far this is influenced by how they try to quit. Specifically, we want to know whether offering a smoker a popular smartphone app can increase their chances of quitting successfully.

Who can participate?

People are eligible to take part in this study if they are aged 18 years or older, are able to provide informed consent, are an English speaker, own a smartphone, are a current cigarette smoker, are willing to be followed-up by email and complete four brief questionnaires after 1, 4 and 7 months and are interested in making a quit attempt in the next 30 days.

What does the study involve?

Participants will be asked to complete four brief online questionnaires: now, and in 1, 4 and 7 months' time. The first questionnaire is the longest, and will take around 10 minutes to complete. The other three are shorter and will take around 3-5 minutes. We will send an email to let them know when it is time to complete each survey.

What are the possible benefits and risks of participating?

Participating in the study will help us to understand more about how different tools can be used to help people quit smoking, making a valuable contribution to science and public health. On behalf of those who complete all four surveys we will make a £10 donation to Cancer Research UK or Macmillan Cancer Support, according to the participant's preference. We do not anticipate any problems related to participation in this study.

Where is the study run from?

University College London (UK). More information about the study team can be found at <https://www.ucl.ac.uk/iehc/research/behavioural-science-health/research/tobacco-alcohol>

When is the study starting and how long is it expected to run for?

August 2018 to December 2021

Who is funding the study?

This study is part of a large programme of work funded by Cancer Research UK (UK)

Who is the main contact?

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Contact information

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Scientific

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Additional identifiers

Protocol serial number

CEHP/2016/556

Study information

Scientific Title

Effectiveness of an offer of the Smoke Free smartphone application for smoking cessation compared with no support: the App for Smoking ceSsation Evaluation Trial (ASSET)

Acronym

ASSET

Study objectives

In Englishspeaking adult smokers willing to quit in the next 4 weeks who are recruited online or have previously used the Smoke Free app and agreed to be followedup and in an unrestricted setting, an offer to use the app plus followup (intervention) will increase selfreported smoking cessation for at least 26 weeks, assessed 30 weeks after enrolment, compared with no offer of the app and followup only (comparator).

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 06/09/2019, UCL Research Ethics Committee (University College London, 2 Taviton St, London WC1E 6BT, UK. +44 (0)207 6798717; ethics@ucl.ac.uk), ref: CEHP/2016/556

Study design

Interventional randomized controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Smoking cessation

Interventions

This will be a twoarm individually randomized controlled effectiveness trial. Participants will be adult smokers who are intending to quit in the next 4 weeks, willing to participate in a 30week study of their smoking and able to provide consent.

Those who are eligible and consent to participate in the trial will be randomized at that point to intervention or comparator conditions. Randomization will be 1:1 at the individual level with no restriction (i.e. no blocking) and will be automated using a random number function.

After consenting, participants in the comparator condition will receive a message encouraging them to make a quit attempt within the next 4 weeks and reminding them of the importance of responding to followup requests which are designed to track their progress.

Participants in the intervention condition will receive the same advice as those in the comparator condition plus offer of the full version of the Smoke Free app free of charge, encouragement to use the app and a link to download it. The Smoke Free app is based on behaviour change techniques that would be expected from theory and evidence with facetoface support to aid smoking cessation. It guides smokers through the first month of their quit

attempt by helping them to maintain their resolve by setting a clear goal, monitoring their progress towards that goal and becoming aware of benefits of being smokefree achieved to date. The app has several components:

1. A calculator which tracks the total amount of money not spent on buying cigarettes and the number of cigarettes not smoked ('Dashboard')
2. A calendar which tracks the amount of time elapsed since cessation ('Dashboard')
3. A scoreboard which awards virtual 'badges' to users for not smoking ('Badges')
4. Progress indicators which inform users of the health improvements made since the start of their quit attempt (e.g. pulse rate, oxygen levels, carbon monoxide levels; 'Dashboard')
5. A diary which tracks the frequency, strength, location and triggers of cravings to smoke ('Diary')
6. A graph which displays the frequency, location, strength and triggers of cravings to smoke ('Cravings')
7. Daily missions which are assigned from the start of a user's quit date for one calendar month ('Missions')
8. A chatbot which delivers evidencebased guidance about quitting smoking via a conversational interface which resembles text messaging ('Chatbot')
9. 24/7 online expert support

The investigators will be blinded to participants' treatment allocation until all data have been collected.

Intervention Type

Device

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Smoke Free app

Primary outcome(s)

Selfreported smoking cessation for at least 26 weeks, assessed 30 weeks after enrolment

Key secondary outcome(s)

Assessed using self report:

1. Having made at least one quit attempt in the 4 weeks following enrolment in the study
2. Smoking cessation for at least 12 weeks, assessed 4 weeks after enrolment
3. Downloading or using the Smoke Free app at least once, assessed 30 weeks after enrolment

Completion date

30/12/2021

Eligibility

Key inclusion criteria

1. Aged at least 18 years
2. Able to provide consent
3. English speaker
4. Owns a smartphone
5. Current cigarette smoker

- 6. Willing to be followed up by email and complete online questionnaires after 1, 4 and 30 weeks
- 7. Interested in making a quit attempt within the next month

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Total final enrolment

3143

Key exclusion criteria

- 1. Used the Smoke Free app in the past 6 months

Date of first enrolment

20/08/2020

Date of final enrolment

30/04/2021

Locations

Countries of recruitment

United Kingdom

England

Afghanistan

Åland Islands

Albania

Algeria

American Samoa

Andorra

Angola

Anguilla
Antarctica
Antigua and Barbuda
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda
Bhutan
Bolivia
Bonaire Saint Eustatius and Saba
Bosnia and Herzegovina
Botswana
Bouvet Island
Brazil
British Indian Ocean Territory

Brunei Darussalam

Bulgaria

Burkina Faso

Burundi

Cabo Verde

Cambodia

Cameroon

Canada

Cayman Islands

Central African Republic

Chad

Chile

China

Christmas Island

Cocos (Keeling) Islands

Colombia

Comoros

Congo

Congo, Democratic Republic

Cook Islands

Costa Rica

Croatia

Cuba

Curaçao

Cyprus

Czech Republic

Côte d'Ivoire
Denmark
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Eswatini
Ethiopia
Falkland Islands
Faroe Islands
Fiji
Finland
France
French Guiana
French Polynesia
French Southern Territories
Gabon
Gambia
Georgia
Germany
Ghana

Gibraltar

Greece

Greenland

Grenada

Guadeloupe

Guam

Guatemala

Guernsey

Guinea

Guinea-Bissau

Guyana

Haiti

Heard Island and McDonald Islands

Holy See (Vatican City State)

Honduras

Hong Kong

Hungary

Iceland

India

Indonesia

Iran

Iraq

Ireland

Isle of Man

Israel

Italy

Jamaica
Japan
Jersey
Jordan
Kazakhstan
Kenya
Kiribati
Korea, North
Korea, South
Kosovo
Kuwait
Kyrgyzstan
Lao People's Democratic Republic
Latvia
Lebanon
Lesotho
Liberia
Libya
Liechtenstein
Lithuania
Luxembourg
Macao
Madagascar
Malawi
Malaysia
Maldives

Mali
Malta
Marshall Islands
Martinique
Mauritania
Mauritius
Mayotte
Mexico
Micronesia, Federated States of
Moldova
Monaco
Mongolia
Montenegro
Montserrat
Morocco
Mozambique
Myanmar
Namibia
Nauru
Nepal
Netherlands
New Caledonia
New Zealand
Nicaragua
Niger
Nigeria

Niue
Norfolk Island
North Macedonia
Northern Mariana Islands
Norway
Oman
Pakistan
Palau
Palestine, State of
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Pitcairn
Poland
Portugal
Puerto Rico
Qatar
Romania
Russian Federation
Rwanda
Réunion
Saint Barthélemy
Saint Helena, Ascension and Tristan da Cunha
Saint Kitts and Nevis

Saint Lucia

Saint Martin (French part)

Saint Pierre and Miquelon

Saint Vincent and the Grenadines

Samoa

San Marino

Sao Tome and Principe

Saudi Arabia

Senegal

Serbia

Seychelles

Sierra Leone

Singapore

Sint Maarten (Dutch part)

Slovakia

Slovenia

Solomon Islands

Somalia

South Africa

South Georgia and the South Sandwich Islands

South Sudan

Spain

Sri Lanka

Sudan

Suriname

Svalbard and Jan Mayen

Sweden
Switzerland
Syria
Taiwan
Tajikistan
Tanzania
Thailand
Timor-Leste
Togo
Tokelau
Tonga
Trinidad and Tobago
Tunisia
Turkmenistan
Turks and Caicos Islands
Tuvalu
Türkiye
Uganda
Ukraine
United Arab Emirates
United States Minor Outlying Islands
United States of America
Uruguay
Uzbekistan
Vanuatu
Venezuela

Viet Nam

Virgin Islands, British

Virgin Islands, U.S.

Wallis and Futuna

Western Sahara

Yemen

Zambia

Zimbabwe

Study participating centre
University College London
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Sponsor information

Organisation
University College London

ROR
<https://ror.org/02jx3x895>

Funder(s)

Funder type
Charity

Funder Name
Cancer Research UK

Alternative Name(s)
CR_UK, Cancer Research UK - London, Cancer Research UK (CRUK), CRUK

Funding Body Type

Private sector organisation

Funding Body Subtype

Other non-profit organizations

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be stored in a publically available repository. (Open Science Framework, <https://osf.io/umec4/>). Anonymised data will be shared without restriction upon submission of the trial report to a peer-reviewed journal.

IPD sharing plan summary

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		15/11/2024	27/11/2024	Yes	No
Protocol article	protocol	01/11/2019	08/10/2020	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Preprint results	results	12/01/2023	18/01/2023	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes