A digital intervention to increase motivation and access to NHS Stop Smoking Services: Applying the Behaviour Change Wheel to develop the ‘Stop-app’.

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Phase 1: The Problem

- Smokers are 4 times more likely to stop smoking with the help of an NHS Stop Smoking Service (SSS), compared to going it alone (West, 2012).
- However attendance is in decline (Kmietowitz, 2015), despite the fact that approximately 2/3rds of smokers report that they want to quit (ASH, 2015).
- May be attributable, in part, to the increase in popularity of e-cigarettes.
- Should decommissioning occur need to ensure wasted appointments are reduced.
The Target Behaviour

- Could target referrals from professionals, however already the focus of Making Every Contact Count.

- Discussed with expert group (commissioners, Tobacco Control, Public Health England, Stop Smoking Service Manager, Stop Smoking Advisors).

- Identified need to increase self referrals to SSS. Smokers seeking help independently tend to be more successful at stopping than those referred by professionals (Borland et al, 2012).

- Specify target behaviour – All smokers to be provided with knowledge about SSS and the opportunity to book an appointment, at any time. Two behaviours – booking and attending SSS.

- Behaviour Change Wheel (Michie et al, 2014 used as a framework to design the intervention.

http://www.behaviourchangewheel.com/
What needs to change?

- Review of the literature and questionnaires to smokers and ex-smokers in Warwickshire (n=66) to explore the barriers and facilitators to individuals accessing SSS.

Phase 2: Applying Behavioural Analysis to the COM-B/TDF

E.g. Psychological Capability - A lack of knowledge about the service and approach.

E.g. Reflective Motivation - Beliefs that using SSS is a sign of weakness.

E.g. Physical Opportunity – Beliefs that it is difficult to book, or appointments will not be available at convenient times/locations.

COM-B Model (Michie et al., 2011)
Behaviour Change Techniques (BCT’s)

- Active ingredients of the intervention to elicit change (from the Behaviour Change Technique Taxonomy, BCTTv1).
- Independently rated and discrepancies discussed.
- 19 initially identified, 2 later removed, to be recoded when intervention content finalised.

Mode of Delivery:

- Web-app Accessible via Smartphones, tablets, computers, screens in library service etc.
## Identifying BCT’s – 2 examples

<table>
<thead>
<tr>
<th>Relevant TDF</th>
<th>Description of what needs to be addressed based on data collected/literature</th>
<th>Intervention Functions</th>
<th>Policy Categories</th>
<th>Examples of Behaviour Change Techniques (BCTs) identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental context and resources</td>
<td>Perception that time is a barrier, SSS not easy to access.</td>
<td>Enablement Education Persuasion Environmental restructuring</td>
<td>Communication /Marketing Service provision Designing the physical/social environment</td>
<td>4.1 Instruction on how to perform the behaviour 7.1 Prompts/cues</td>
</tr>
<tr>
<td>Social influences</td>
<td>Perception that no one has used SSS successfully, stigma &amp; blame.</td>
<td>Education Persuasion Modelling Environmental restructuring</td>
<td>5.3 Information about social/ environmental consequences 5.6 Information about emotional consequences 6.2 Social Comparison</td>
<td></td>
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</tbody>
</table>
## Examples of BCTs and their draft representation in the StopApp

<table>
<thead>
<tr>
<th>BCT #</th>
<th>BCT label</th>
<th>BCT Definition (BCTTv1)</th>
<th>Examples of how this could be represented in the app</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4.1 Instruction on how to perform the behaviour</td>
<td>Advise or agree on how to perform the behaviour (includes ‘Skills training’)</td>
<td>Instructions in the app about how to find a service near home or work, how to book.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Information on how to attend (location, how to get there)</td>
</tr>
<tr>
<td>9</td>
<td>6.2 Social comparison</td>
<td>Draw attention to others’ performance to allow comparison with the person’s own performance</td>
<td>Stories from peers about success at SSS, not being judged, offered more than could do alone etc.</td>
</tr>
<tr>
<td>11</td>
<td>7.1 Prompts/cues</td>
<td>Introduce or define environmental or social stimulus with the purpose of prompting or cueing the behaviour.</td>
<td>Information about and provision of text reminders to attend appt.</td>
</tr>
<tr>
<td>14</td>
<td>10.1 Material incentive</td>
<td>Inform that money, vouchers or other valued objects will be delivered if and only if there has been effort and/or progress in performing the behaviour</td>
<td>Provide the message that they can get free or subsidised NRT from SSS.</td>
</tr>
</tbody>
</table>
Stop-App

• Brief tailored behaviour change intervention to increase motivation and attendance at SSS.

• Designed to engage users with info-graphics and quotes from previous users of SSS/ex-smokers rather than heavy text.

• E-referral system to capture behaviour change when motivation is increased. Instant booking at location/time of choice.

• SMS confirmation, reminder 1 week before appt with details about transport/parking, plus 2nd SMS day before.

• Links to the existing live booking system in Warwickshire. Information is securely sent to the SSS, not stored on the app.
Phase 3: Intervention Development & Evaluation

• StopApp currently in development with web developers.

• PPI Group of smokers, ex smokers (all ages) contributing to content, graphic design, functionality, stories and end-user testing.

• **Acceptability testing:** Interviews with public health service staff (children’s centres, Library service, CAB, mental health & wellbeing hubs, stop smoking advisors), NHS health professionals - thoughts about the intervention, promotion and delivery.

**Next steps:** RCT to evaluate effectiveness at increasing referrals and attendance at SSS compared to standard methods (e.g. SSS leaflet). Assess health economic effectiveness, compare settings for delivery and heterogeneity - who benefits most/least, targeting deprived smokers?
Thank you

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