Mobile Apps vs Mobile Web for Cessation

A PRIMER
Rubric

• Hi, nice to meet you!
• In brief, why digital cessation?
• State of the Science
  • Mobile cessation apps
  • Online cessation interventions
• Practical recommendations for implementing digital cessation interventions:
  - Native/Hybrid Mobile App
  - Mobile-Optimized Website

• How you can learn more on this topic (at this very conference!)
Hi, nice to meet you!

Or, who am I and why am I here?
Truth Initiative Innovations

Products
- BecomeAnEX.org: web-based cessation resource + sms
- This is Quitting: young adult cessation mobile app + sms
- UbiQUITxt: standalone text messaging platform
- PositivelySmokeFree: web-based HIV+ cessation resource
- Internal web-based clinical trials mgmt system

Projects
- Federally-funded grants
- Internally-funded research/evaluation

Partnerships/Collaborations
- HBCU/Community Colleges/Universities + TIQ
- Mayo Clinic + Other organizations + BecomeAnEX
Why digital cessation?
Maximizing Impact

Impact = Reach x Effectiveness
Want to Go Big? Go Digital.

<table>
<thead>
<tr>
<th>Topics</th>
<th>2002</th>
<th>2004</th>
<th>2006</th>
<th>2008</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific disease or medical problem</td>
<td>63%</td>
<td>66%</td>
<td>64%</td>
<td>66%</td>
<td>66%</td>
</tr>
<tr>
<td>Certain medical treatment or procedure</td>
<td>47%</td>
<td>51%</td>
<td>51%</td>
<td>55%</td>
<td>56%</td>
</tr>
<tr>
<td>Exercise or fitness</td>
<td>36%</td>
<td>42%</td>
<td>44%</td>
<td>52%</td>
<td>*</td>
</tr>
<tr>
<td>Diet, nutrition, vitamins, or nutritional supplements</td>
<td>44%</td>
<td>51%</td>
<td>49%</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Prescription or over-the-counter drugs</td>
<td>34%</td>
<td>40%</td>
<td>37%</td>
<td>45%</td>
<td>*</td>
</tr>
<tr>
<td>Doctors or other health professionals</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>47%</td>
<td>44%</td>
</tr>
<tr>
<td>Hospitals or other medical facilities</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>38%</td>
<td>36%</td>
</tr>
<tr>
<td>Alternative treatments or medicines</td>
<td>28%</td>
<td>30%</td>
<td>27%</td>
<td>35%</td>
<td>*</td>
</tr>
<tr>
<td>How to lose weight or how to control your weight</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>33%</td>
<td>*</td>
</tr>
<tr>
<td>How to quit smoking</td>
<td>6%</td>
<td>7%</td>
<td>9%</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Problems with drugs or alcohol</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>End-of-life decisions</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>7</td>
</tr>
<tr>
<td>Any other health topic</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>At least one item in that year’s survey</td>
<td>80%</td>
<td>79%</td>
<td>80%</td>
<td>83%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Source: Pew Research Center’s Internet & American Life Project, 2002-2010 Survey. Margin of error for all surveys is +/- 3 percentage points for the full sample of internet users. Margins of error for sub-populations are higher.
### Population Impact

<table>
<thead>
<tr>
<th>Method</th>
<th>EFFICACY (% abstinent)</th>
<th>REACH (# using method annually)</th>
<th>IMPACT (total # quitters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None (unaided)</td>
<td>3%</td>
<td>16,000,000</td>
<td>480,000</td>
</tr>
<tr>
<td>Rx NRT (1995)</td>
<td>14%</td>
<td>2,500,000</td>
<td>350,000</td>
</tr>
<tr>
<td>OTC NRT (1996)</td>
<td>14%</td>
<td>6,300,000</td>
<td>882,000</td>
</tr>
<tr>
<td>Internet</td>
<td>17%</td>
<td>10,000,000*</td>
<td>1,700,000</td>
</tr>
<tr>
<td>Internet + Telephone</td>
<td>20%</td>
<td>320,000**</td>
<td>64,000</td>
</tr>
<tr>
<td>Behavioral counseling</td>
<td>24%</td>
<td>395,000</td>
<td>94,800</td>
</tr>
<tr>
<td>Inpatient treatment</td>
<td>32%</td>
<td>500</td>
<td>160</td>
</tr>
</tbody>
</table>

* 9% of Internet users search for cessation assistance = 10,000,000 (Source: Pew Internet)

** US quitlines receive calls from 320,000 smokers annually (Source: NAQC, 2008)

Adapted from Shiffman et al. (1998), *Annual Review of Public Health*. 

\[
\text{EFFICACY} \times \text{REACH} = \text{IMPACT}
\]
State of the Science

- Mobile apps
- Online interventions
Online Interventions

• Tailored and interactive Internet programs yield higher quit rates than usual care or written self help at 6 months or longer.

• Future studies should carefully consider optimizing the interventions which promise most effect.

• Very little research on mechanisms of effectiveness.
Mobile Apps

Over 400 quit smoking apps on Android/iPhone market

Analysis by Abroms et al (2013) of the most popular apps found low adherence to clinical practice guidelines

Studies of effectiveness show early promising signals:

• <10 published studies (preliminary eval, pilot RCTs)
• Several ongoing trials
Pros and Cons

Web
- Broadest Reach
- Adherence Varies

App
- Multi-Modal
- Unknown Effectiveness
Practical Recommendations

Mobile Web VS Mobile App

Two Ways to Get “Mobile”

**Native/Hybrid Mobile App**
- How it works: Works with device’s built-in features
- How to find: App Stores
- Back-end: Android or iOS specific
- App Store role: Approved by app stores
- Accessibility: Can support off-line access

**Mobile-Optimized Website**
- How it works: Mobile browser
- How to find: Browser
- Back-end: One code base in total
- App Store role: No app store approval
- Accessibility: Can support desktop access
Build, Buy, Borrow, Buddy: Benefits

- More Ownership
- More expensive
- Less ownership
- Less expensive
**Build, Buy, Borrow, Buddy: Considerations**

**Benefits**
- It’s yours!
- Contract out development
- Outsource hosting costs

**More expensive**

**Benefits**
- Low- or no-cost
- “Proven” approaches
- Minimal upkeep

**Less Ownership**

**Benefits**
- Partnership benefits
- Cost-sharing
- Multiple brands = broader reach

**Less expensive**

**More Ownership**
Learning More
Thank you

mjacobs@truthinitiative.org