USING APPS TO HELP SMOKERS QUIT
SOME RESEARCH, DATA, AND REAL-WORLD APPLICATIONS

NAQC Presentation
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Co-Founder 2Morrow, Inc.
Joella Pyatt, RDH, BS,
Tobacco Cessation Coordinator, WA DOH
THE NEED

- Nationally ~18% smoke
- Largest cause of death, disease & spending
- Over ½ want to quit
- Most don’t access programs
- Hard to reach groups
- Cost pressures
- Data
THE POTENTIAL

- Reach
- Easy Access
- Always with you
- Private - Personalized
- Cost effective
- Data and Learning
US Smartphone Ownership, by Demographic

based on surveys conducted in December 2014 among 2,002 US adults
April 2015

- Male: 66%
- Female: 63%
- 18-29: 85%
- 30-49: 79%
- 50-64: 54%
- 65+: 27%
- White, non-Hispanic: 61%
- Black, non-Hispanic: 70%
- Hispanic: 71%
- <$30k: 50%
- $30-50k: 71%
- $50-75k: 72%
- $75k or more: 84%

MarketingCharts.com | Data Source: Pew Research Center's Internet & American Life Project
63% of low income Smartphone users use their phones to find or access health info. (PEW)
MOBILE - ALREADY A HABIT

Over 50% of Smartphone users check their phones at least hourly.

Most will go home if they forget their phone.

Preferred format:

- Smoking Cessation
  - 83% - app
  - 17% - telephone coaching
THE CHALLENGES

- Over 600 apps
- Research & efficacy
- Data security
- Privacy / HIPAA
- Integration with current programs
- Reporting & Data
THE RESEARCH

Published studies:
- ACT-based smartphone app
- Text Messaging

Planned / In Progress smartphone studies
- Sensing Movement
- Apps for Youth & Games
- Mobile carbon monoxide monitors
- Mindfulness-based program
- ACT, SmartQuit (LSDF & large NIH study)
- SmartQuit plus NRT VS NRT alone
CUTTING EDGE RESEARCH

Dr. Jonathan Bricker – a leading behavioral scientist at Fred Hutch Cancer Research Center in Seattle

- $13 Million NIH Grants for ACT smoking cessation studies
- 6 Published Studies
- Over 50 research publications
- Over 300 interviews including: NYT, Washington Post, CNN & NPR
- TEDx Talk
US CESSATION TREATMENT: REACH & EFFICACY

US Reach
(# of million using modality annually)
From Fred Hutch Cancer Research Center, 2013
THE SMARTQUIT STUDY (1.0)

Can an ACT-based smoking cessation program help smokers when delivered over a smartphone?

Collaboration:
Randomized Control Trial testing an Acceptance and Commitment Therapy (ACT) based programs against the current approach (CBT).

- Randomized Control Trial
- 200 smokers
- 100 per arm (app)
- 70 day follow-up
- Intent to treat - 30 day PP
WANT TO QUIT?
TRY THIS APP.

Screened: 738
Eligible: 400
Consented: 340
Confirmed by phone: 205
Randomized: 196

Smart Quit: 98
70-Day Follow-up: 80

Control (Quit Guide): 98
70-Day Follow-up: 84
### USAGE & SATISFACTION

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>SmartQuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of times opened app</td>
<td>15.2</td>
<td>37.2</td>
</tr>
<tr>
<td>Satisfied overall</td>
<td>45%</td>
<td>59%</td>
</tr>
<tr>
<td>App was organized</td>
<td>67%</td>
<td>85%</td>
</tr>
<tr>
<td>App useful for quitting</td>
<td>38%</td>
<td>53%</td>
</tr>
</tbody>
</table>

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70-DAY FOLLOW UP - QUIT RATES (30D PP)

<table>
<thead>
<tr>
<th>None*</th>
<th>Control App</th>
<th>SmartQuit (ACT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quit Rate</td>
<td>4-7%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Notes:
- Intent to treat quit rates (not response)
- No NRT or meds provided
- Limited by study size and length, larger, longer study in progress

*per cancer.org
## 70-Day FU Quit (30D PP): Key Subgroups

<table>
<thead>
<tr>
<th>Baseline Subgroup</th>
<th>Control</th>
<th>SmartQuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pack-A-Day or More</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>Avoidance of Cravings</td>
<td>8%</td>
<td>15%</td>
</tr>
</tbody>
</table>
WHAT WE LEARNED

- The app appears to help smokers quit
- Most helpful included: ACT exercises, Quit Plan…
- Least helpful: Some things users liked, did not help
- Usage dropped off
- Usability (UI) matters

Next Steps:
- Second study
- Distribution to smokers (2Morrow)
- UI - Usability improvements
- Expand what helped
- Re-think what did not
SMARTQUIT 2.0

Version 2.0 funded by a Life Sciences Discovery Fund.

- Research-based improvements
- Improved User Interface
- Distribution model
- Dashboard
- Security/HIPAA
- Launch
- 2nd Study

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STILL THE WILD WEST — THE EARLY DAYS

- Smokers are already downloading apps
- Research is needed and underway
- We don’t know what we don’t know without testing and trial
- Risk vs Reward
LESSONS FROM THE WEST

Q & A: with Joella Pyatt
Washington State Department of Health

- Why was WA interested in an app?
- What were the goals?
- What were the concerns?
HOW IT WORKS IN WA STATE

- Promotion
- Online Sign-up Survey
- Authorization
- Download / Login
WA STATE COLLECTED DATA
First 5 months
WA LAUNCH, THE FIRST 5 MONTHS

- 1314 Sign-up form
- 1251 Qualified (WA)
- 501 Activated Apps

Want to quit tobacco? There’s an app for that!

Do you live in Washington State? Are you looking for a new way to quit?
Learn how to accept your urges instead of ignore them. To become the master of your Urge Monster visit doh.wa.gov/SmartQuit to get free access to the app.
Sponsored by the Washington State Department of Health

The SmartQuit™ program is personal, easy to use and 3 times more effective than trying to quit on your own.
REACH BY LOCATION

Expanded reach in Eastern WA.

1. Spokane
2. Yakima
3. King
EDUCATION

Frequency table

<table>
<thead>
<tr>
<th>Choices</th>
<th>Absolute frequency</th>
<th>Relative frequency</th>
<th>Adjusted relative frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>66</td>
<td>5%</td>
<td>6.21%</td>
</tr>
<tr>
<td>High school graduation or G.E.D.</td>
<td>238</td>
<td>18.04%</td>
<td>22.41%</td>
</tr>
<tr>
<td>Some college</td>
<td>406</td>
<td>30.78%</td>
<td>38.23%</td>
</tr>
<tr>
<td>College graduate</td>
<td>352</td>
<td>26.69%</td>
<td>33.15%</td>
</tr>
<tr>
<td>Sum:</td>
<td>1062</td>
<td>80.52%</td>
<td>100%</td>
</tr>
<tr>
<td>Not answered:</td>
<td>257</td>
<td>19.48%</td>
<td>-</td>
</tr>
<tr>
<td>Total answered:</td>
<td>1062</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**HOUSEHOLD INCOME**

What is your household income?

![Bar chart showing the distribution of household income categories.](chart.png)

**Frequency table**

<table>
<thead>
<tr>
<th>Choices</th>
<th>Absolute frequency</th>
<th>Relative frequency</th>
<th>Adjusted relative frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>181</td>
<td>13.72%</td>
<td>17.19%</td>
</tr>
<tr>
<td>$15,000 - $24,999</td>
<td>168</td>
<td>12.74%</td>
<td>15.95%</td>
</tr>
<tr>
<td>$25,000 - $34,999</td>
<td>171</td>
<td>12.96%</td>
<td>16.24%</td>
</tr>
<tr>
<td>$35,000 - $49,999</td>
<td>168</td>
<td>12.74%</td>
<td>15.95%</td>
</tr>
<tr>
<td>$50,000 - $74,999</td>
<td>184</td>
<td>13.95%</td>
<td>17.47%</td>
</tr>
<tr>
<td>$75,000 or higher</td>
<td>181</td>
<td>13.72%</td>
<td>17.19%</td>
</tr>
<tr>
<td>Sum:</td>
<td>1053</td>
<td>79.83%</td>
<td>100%</td>
</tr>
<tr>
<td>Not answered:</td>
<td>266</td>
<td>20.17%</td>
<td>-</td>
</tr>
<tr>
<td>Total answered:</td>
<td>1053</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### RACE & ETHNICITY

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>83%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>3%</td>
</tr>
<tr>
<td>Asian</td>
<td>3%</td>
</tr>
<tr>
<td>Native American</td>
<td>2%</td>
</tr>
</tbody>
</table>
SEXUAL ORIENTATION

Heterosexual                                      90%
Gay or Lesbian                                    4%
Bisexual                                               3%
Transgender                                       <1%
Other/Don’t Know                                 3%

Frequency table

<table>
<thead>
<tr>
<th>Choices</th>
<th>Absolute frequency</th>
<th>Relative frequency</th>
<th>Adjusted relative frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual or straight</td>
<td>953</td>
<td>72.25%</td>
<td>89.91%</td>
</tr>
<tr>
<td>Gay or Lesbian</td>
<td>41</td>
<td>3.11%</td>
<td>3.87%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>33</td>
<td>2.5%</td>
<td>3.11%</td>
</tr>
<tr>
<td>Transgender</td>
<td>3</td>
<td>0.23%</td>
<td>0.28%</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>1.14%</td>
<td>1.42%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>15</td>
<td>1.14%</td>
<td>1.42%</td>
</tr>
<tr>
<td>Sum:</td>
<td>1060</td>
<td>80.36%</td>
<td>100%</td>
</tr>
<tr>
<td>Not answered:</td>
<td>259</td>
<td>19.64%</td>
<td>-</td>
</tr>
<tr>
<td>Total answered: 1060</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PREGNANCY

# Pregnant 24

# Who plan to become pregnant in next 3 months 27

# Who are breastfeeding 10
TYPE: CIGARETTES (THEN E-CIGS)

1. Cigarettes
2. Vaping / e-cigs
3. Smokeless
WA STATE APP COLLECTED DATA
First 5 months
PARTICIPANT GENDER
PARTICIPANT AGE

- <18
- 18 to 34
- 35 to 54
- 55 +

18-34
35-54
55+
CONCERNS ABOUT QUITTING

- Mood
- Physical Withdrawals
- Social Loss
- Weight
- Willpower
- Stress
WHAT MATTERS - MOTIVATION

- Health
- Relationships
- Family
- Career
- Pets
- Spirituality
- Helping Others
- Joy/Fun
TRIGGERS

- Places
- People
- Activities
- My Body
- My Mind
- Other

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QUIT MEDICATIONS

- Nicotine Patch
- Nicotine Gum
- Chantix
- Zyban
- None
- Other
NUMBER OF CIGARETTES PER DAY

- <5
- 6 to 10
- 11 to 15
- 16 to 20
- 21 to 25
- 26 to 30
- 31 to 35
- 36 to 40
- 41 to 45
- 46 to 50
- 51 to 55
- 56 to 60
- 61 to 65
- 65<
PARTICIPANT STRESS LEVELS

Number of Users

10
9
8
7
6
5
4
3
2
1

LOW 
Stress Level 
HIGH

1 2 3 4 5 6 7 8 9 10

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COMMITMENT LEVEL QUESTIONS

Questions:

- Should we restrict services to those are committed to quitting in 30 days?

- Is there value in teaching these skills before they are ready to quit?
PROGRAM PROGRESS (AS OF 7/31/15)
THINKING APPS?
TOP 10 THINGS TO CONSIDER

1. Credibility
2. Approach
3. Privacy
4. Security
5. Support
6. Platforms
7. User Satisfaction
8. Reporting / Data
9. Costs
10. Customization

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RECAP — THE ROAD FORWARD

- The Realities
- The Pitfalls
- The Potential
- The Challenge
QUESTIONS?

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Joella Pyatt: Washington State DOH
Joella.Pyatt@doh.Wa.Gov
360 236-3518
www.doh.wa.gov/SmartQuit
THANKS!
Program Elements

- Quit Plan
- 40+ Exercises & Tips
- Tracking
- Reminders
- Customized Messages
- Rewards
- Support
- Cert. of Completion