

# **HHS Public Access**

Author manuscript *Psychiatr Q.* Author manuscript; available in PMC 2018 December 01.

Published in final edited form as:

Psychiatr Q. 2017 December; 88(4): 701-710. doi:10.1007/s11126-016-9485-4.

# Preferences for Smoking Cessation Support from Family and Friends among Adults with Serious Mental Illness

Kelly A. Aschbrenner, PhD<sup>a,b</sup>, John A. Naslund, MPH<sup>a</sup>, Lydia Gill, BS<sup>d</sup>, Stephen J. Bartels, MD, MS<sup>a,b,c</sup>, and Mary Brunette, MD<sup>b</sup>

<sup>a</sup>The Dartmouth Institute for Health Policy and Clinical Practice, Dartmouth College, Lebanon, NH

<sup>b</sup>Department of Psychiatry, Geisel School of Medicine at Dartmouth, Lebanon, NH

<sup>c</sup>Department of Community and Family Medicine, Geisel School of Medicine at Dartmouth, Lebanon, NH

<sup>d</sup>Tufts University School of Medicine, Boston, MA

# Abstract

**Objective**—Engaging natural supports may be a promising strategy to promote the use of evidence-based smoking cessation treatment for individuals with serious mental illness (SMI) who smoke. This qualitative study explored preferences for support for quitting from family and friends among individuals with SMI who participated in cessation treatment.

**Methods**—Participants were 41 individuals with SMI enrolled in a Medicaid Demonstration Project of smoking cessation at community mental health centers. Open-ended questions asked during a social network interview explored participants' preferences for more support for quitting smoking from family and friends. The qualitative data was coded and common themes were identified across the data.

**Results**—Three primary preferences emerged for smoking cessation support from family members and friends: 1) more practical support for quitting (e.g., financial help with purchasing cessation medications); 2) more emotional support for quitting (e.g., encouraging progress toward quitting); and 3) changing their own smoking behaviors in the presence of participants (e.g., don't smoke around them or offer them cigarettes).

**Conclusions**—Individuals with SMI who participated in smoking cessation treatment at community mental health centers indicated several ways that family members and friends could support their efforts to quit smoking. Understanding how people with SMI want support from family and friends to quit smoking will inform strategies to leverage these natural resources to

Informed consent: Informed consent was obtained from all individual participants included in the study.

Corresponding Author: Kelly Aschbrenner, PhD, Centers for Health and Aging, 46 Centerra Parkway, Suite 200, Lebanon NH, 03766, Fax: 603.653.3494, Phone: 617-480-0277, Kelly.A.Aschbrenner@Dartmouth.edu.

**Conflict of Interest:** Author A declares that she has no conflicts of interest. Author B declares that he has no conflicts of interest. Author C declares that she has no conflicts of interest. Author D declares that he has no conflicts of interest. Author E declares that she has no conflicts of interest.

Ethical approval: All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

promote the use of evidence-based smoking cessation treatment and support smoking abstinence for this population.

#### Keywords

Serious mental illness; smoking cessation treatment; social networks; social support

#### Introduction

Cigarette smoking is a major, preventable public health problem that contributes to the 10-30 year reduced life expectancy of people with serious mental illness (SMI) (De Hert et al., 2009; Walker, McGee, & Druss, 2015). People with mental illness are more likely to smoke and less likely to quit than people without mental illness (Glasheen, Hedden, Forman-Hoffman, & Colpe, 2014). This disparity exists despite robust evidence demonstrating that cessation pharmacotherapies and behavioral treatments for quitting are safe and effective for this population (Anthenelli et al., 2016; Wu, Gilbody, Peckham, Brabyn, & Parrott, 2016). Many smokers with SMI report that they want to quit smoking (Aschbrenner, Brunette, et al., 2015; Ferron et al., 2011); however, the prevalence of quitting smoking among people with SMI is low. Identifying strategies to promote the use of evidence-based cessation treatment and to support abstinence from smoking is critical to addressing the high rates of smoking related morbidity and mortality among people with SMI.

To date evidence-based smoking cessation treatment for people with SMI has typically focused on the individual smoker with little attention paid to the social environment in which smoking and quitting smoking take place. However, as in the general population, barriers to quitting smoking among people with SMI include social norms and attitudes that endorse smoking and a lack of social support for quitting (Lucksted, McGuire, Postrado, Kreyenbuhl, & Dixon, 2004; Morris, Waxmonsky, May, & Giese, 2009; Twyman, Bonevski, Paul, & Bryant, 2014). Attempts to quit smoking can be undermined during everyday social situations where smoking with family members and friends is accepted and even normative (Paul et al., 2010; van den Putte, Yzer, & Brunsting, 2005). In contrast, social support and nonsmoking social norms are associated with smoking cessation among people with mental illness (Aschbrenner, Ferron, Mueser, Bartels, & Brunette, 2015; Lucksted, Dixon, & Sembly, 2000). Social network members, including family and friends, can play an important role in supporting the cessation process by providing a smoker with tangible resources (e.g. medication reminders), informational support (e.g., how to cope with withdrawal), and emotional support (e.g., encouragement to persist in the cessation process) for quitting smoking (Westmaas, Bontemps-Jones, & Bauer, 2010).

Strategies to mobilize social support to promote the use of evidence-based cessation treatment have been evaluated in interventions designed for smokers in the general population. For example, Patten and colleagues developed a telephone-based skills training intervention to train non-smoking family members and friends to use supportive behaviors to promote smoker utilization of a state Quitline services (Patten et al., 2008). The proportion of calls to the state tobacco helpline was greater for smokers linked to support people in the telephone coaching intervention than in the control group who were provided with basic

written materials covering quitting strategies and support tips (Patten et al., 2011). Pilot studies that have enrolled family members and friends of smokers as cessation support partners who provide emotional support and problem solving have demonstrated feasibility, acceptability, and preliminary effectiveness in several patient populations at high cardiovascular risk (McDonnell, Hollen, Heath, & Andrews, 2016; Shoham, Rohrbaugh, Trost, & Muramoto, 2006; Stewart et al., 2010).

Many people with SMI have regular contact with family members and friends who could potentially be a source of support for their smoking cessation goals (Aschbrenner, Mueser, Bartels, & Pratt, 2013). A recent survey of 754 smokers with mental illness indicated that the majority of participants (82%) believed that family members would be supportive of their efforts to quit smoking (Metse et al., 2016). However, little is known about the type of cessation support individuals with SMI prefer to receive from family and friends. Understanding preferences for cessation support is a first step in designing interventions to facilitate social support from family and friends for quitting smoking in daily living environments where temptation to smoke abounds. We conducted a social network study with adults with SMI who participated in smoking cessation treatment at a community mental health center. During the interview, participants were asked to share how they could use more support from family members and friends for quitting smoking. The present report summarizes the results of our exploration of the preferences for social support for quitting smoking among individuals with SMI enrolled in cessation treatment.

#### Methods

#### Participants

Participants were 41 individuals with serious mental illness participating in a New Hampshire Medicaid Demonstration Project of supported smoking cessation at community mental health centers. The program included access to a web-based system designed to provide education and enhance motivation to engage in smoking cessation treatment, the Electronic Decision Support System (EDSS)(Brunette et al., 2011), as well as three smoking cessation treatment options for people who decided after completing the EDSS to initiate cessation treatment: (1) Referral to psychiatrist to discuss smoking cessation treatments; (2) Referral to psychiatrist to discuss cessation treatments plus facilitated use of the NH Tobacco Help Line; and (3) Referral to psychiatrist to discuss cessation treatments plus 12 sessions of Telephone Cognitive Behavior Therapy. Half of the participants who elected to participate in smoking cessation treatment were randomly assigned to receive monetary rewards for abstinence from smoking. A convenience sampling strategy was used to recruit 41 participants for a social network interview once they completed one of the three smoking cessation treatments. Participants were eligible for the social network interview study if they were age 18 or older and had a chart diagnosis of schizophrenia, schizoaffective disorder, major depressive disorder, or bipolar disorder. The Institutional Review Board of the State of New Hampshire Bureau of Behavioral Health and Dartmouth College approved this research. All subjects provided verbal consent to participate in the study.

Participants had a mean age of 47.0 years (SD= 13.0). The sample was 59% female, and 88% were Caucasian, 5% were African American, 2% were American Indian or Alaskan

#### Aschbrenner et al.

Native, and 5% identified with more than one race. Eighty-three percent had completed a high school education or GED. Forty-nine percent were separated or divorced, 46% were never married, and 5% were currently married. The majority of participants (59%) were living independently and 41% were residing in supervised or supported housing. Participants' psychiatric diagnoses were as follows: 32% major depression, 42% bipolar disorder, and 26% schizophrenia spectrum disorders. Seven participants (17%) interviewed in this study quit smoking during the course of the cessation program based on self-report.

#### Measures

The qualitative data analyzed in the present study was collected using a modified social network instrument adapted from methods utilized in a prior study of social network structure and health (O'Malley, Arbesman, Steiger, Fowler, & Christakis, 2012). The survey asked participants to name (up to) five adults with whom they spent the most free time with during a typical week in the past 12 months and (up to) five adults who had said or done anything to influence their smoking in the past 12 months. Participants were instructed to list only non-professionals in their social networks (e.g., family members, friends, significant others, neighbors, work/school colleagues, etc.). Each participant named up to ten distinct network members. In addition to quantitative survey items exploring relational ties with network members, a series of open-ended questions explored participants' preferences for how they could use more support for quitting smoking from family members, friends, and peers. Specifically, participants were asked: (1) What are some things that your family members could do that would help you quit smoking? and (2) What are some things that your friends, including boyfriends and girlfriends, could do that would help you quit smoking? The present qualitative study focuses on responses to these open-ended questions from the interview.

#### Procedure

The social network interviews lasted 45–60 minutes for which participants were compensated \$20. A trained research interviewer conducted the interviews on site at the mental health center where the participant received supported smoking cessation services. All interviews were audio-recorded and transcribed verbatim.

#### Data analysis

Our team-based approach to analyzing the qualitative data included generating an initial descriptive code list and identifying themes representing patterns across the data (Braun & Clarke, 2006). The first author (KA) generated a preliminary code list based on a segment of coded transcripts. Then, all three members of the analytic team (KA, JN and LG) independently coded the same initial set of four transcripts using the preliminary code list, while remaining open to adding new codes. The team members discussed these codes and made additions and revisions to the code list. This process was repeated by coding another set of five transcripts. After coding a set of nine interviews, the team found the coding decisions to be reliable. The team members independently coded the remaining transcripts, meeting regularly to review and discuss the code list for coder agreement. Any disagreements were resolved through clarification and discussion. Once the data was coded,

the team members identified themes across all transcripts that represented meaningful patterns in the data related to the research question (Miles & Huberman, 1994).

### Results

We identified three themes in our analyses of preferences for support from family and friends for quitting smoking among individuals with SMI who participated in smoking cessation treatment, presented in Table 1 and described below. These themes tended to be consistent whether or not participants quit smoking during the treatment study.

# Theme 1: People with serious mental illness wanted more practical support for quitting smoking from family and friends

Participants described wanting more practical help for quitting smoking, including help accessing cessation resources that would otherwise be difficult to access. The most commonly mentioned preference for practical support was help from family members with purchasing cessation medications. On the topic of getting more support for quitting smoking, one person said: "They [family members] could buy me the patch. They could pay for my prescription for Chantix. That's about it...they could pay for that stuff." Expressing the need for practical support from friends and family members to remain abstinent from smoking, another participant felt he could have used help removing cigarette odor from his apartment so he would be less likely to smoke in it. He stated: "I guess they could have asked if there's anything they could have done —could do. And could have offered to help me to freshen my apartment so I would be less likely to smoke in there, because that's where I've smoked most of the time."

## Theme 2: People with serious mental illness wanted more emotional support for quitting smoking from family and friends

Participants expressed a preference for more emotional help with quitting smoking, including more praise and encouragement from family members and friends to quit and to stay quit. One participant responded: "I would like more encouragement from my friends... just "Way to go," just "Keep the motivation going." Another participant responded: "I need people to be encouraging me. They could call me everyday or send me a message and just give me personal words, something to keep me motivated, keep my head level, help keep me focused because I don't get that anywhere right now. Especially if I want to quit, I don't feel like I would have proper support at this time to quit." Similarly, another participant wanted more support from her boyfriend: "If I decide to give it another try with nicotine products and therapy, instead of enabling me to smoke he [significant other] could support me more when I'm not smoking." Another participant felt the most supportive thing a family member or friend could do to help her manage smoking relapses was to keep encouraging her to stay quit.

# Theme 3: People with serious mental illness wanted family members and friends to support them by changing their own smoking behaviors in their presence

Participants wished that other smokers in their social networks would refrain from smoking around them and stop offering them cigarettes when they are trying to quit. One participant

Page 6

whose mother and daughter were both regular smokers commented: "My daughter might tell me all these things [about quitting smoking] but at the same time, I don't want to really listen to her, because she smokes. It doesn't matter that she doesn't smoke as much as me she still smokes. My mother smokes. Sometimes in the moment they offer me cigarettes. You don't think you just smoke it. But sometimes one cigarette can turn into two and I'll keep smoking." Another participant who shared this preference for support from family members and friends said: "When I try to quit don't smoke in front of me or bring it up at all, like saying I'm going out to have a cigarette." One participant who lived with a significant other who was a smoker shared that her partner could help her quit smoking by keeping their home tobacco free: "I was saying this to him last night…if this really is the last day and he doesn't smoke, doesn't bring home a pack…" Many participants reported that family members and friends enabled them to smoke by offering them cigarettes, and that stopping this practice would help them to quit and stay quit.

# Discussion

Among individuals with SMI who participated in smoking cessation treatment at community mental health centers, we identified three primary preferences for smoking cessation support from family and friends. Participants wanted more practical and emotional support for quitting smoking and staying quit, and they wished that friends and family members would refrain from smoking around them and stop offering them cigarettes when they are trying to quit. To our knowledge, this exploratory study is the first to describe the specific preferences for social support among people with SMI who entered cessation treatment with the goal of quitting smoking. Identifying preferences for cessation support from family and friends is a first step in designing intervention strategies to leverage these natural supports of individuals with SMI who could potentially promote engagement in evidence-based cessation treatment and support abstinence from smoking.

Many participants in the present study preferred more praise and encouragement from family members and friends to quit smoking and to stay quit. Prior research shows that individuals with and without mental illness who feel supported by others are more likely to make positive lifestyle changes, including dietary change and exercise (Aschbrenner, Carpenter-Song, et al., 2013; Yarborough, Stumbo, Yarborough, Young, & Green, 2016) and quitting smoking (Aschbrenner, Ferron, et al., 2015; Koshy, Mackenzie, Tappin, & Bauld, 2010). In a recent survey of lifestyle behaviors, smokers whose family members or friends had recently encouraged them to quit were more likely to report that they had tried to quit compared to than those who had not received encouragement to quit (Sharma & Szatkowski, 2014). Supporting a friend or loved one who is trying to quit smoking can be frustrating given the often difficult and complex process of smoking cessation. For many smokers it may take 30 or more quit attempts before they successfully quit (Chaiton et al., 2016). It is unclear how much is known by the general public about the process of quitting smoking, in particular among non-smokers. Intervention strategies aimed at increasing awareness that many smokers with or without mental illness need to make multiple attempts to quit before they succeed at quitting smoking may help facilitate positive emotional and practical support from family and friends for staying engaged in the process of quitting and abstaining from smoking.

Aschbrenner et al.

Quitting smoking has been shown to spread through social ties (i.e., spouses, siblings, and close friends), with smokers and non-smokers separately clustered within social networks (Christakis & Fowler, 2008). Socioeconomically disadvantaged groups have higher rates of smoking in their social networks than the general population (Hiscock, Judge, & Bauld, 2011). Thus, many smokers with SMI may make quit attempts within social networks where smoking is socially normative. Participants in the present study wished that friends and family members would refrain from smoking around them and stop offering them cigarettes when they are trying to quit. When smoking is a social norm, it is viewed as an accepted behavior that individuals are expected to conform to within a group (Reid, Cialdini, & Aiken, 2010), and pro-smoking social norms have been identified as a barrier to smoking cessation in vulnerable groups, including people with mental illness (Twyman et al., 2014). Smoke free polices in the workplace and in the home may help break social norms for smoking at the environmental level. The potential for mobilizing positive peer influences to change smoking norms among people with SMI is an area ripe for further study.

It is unclear whether participants in the present study shared their smoking cessation treatment goals with friends and family members, and if they made any specific requests for them to refrain from smoking in their presence. Prior qualitative research showed that people with SMI enrolled in a lifestyle intervention rarely shared their specific health goals with family members and friends (Aschbrenner, Carpenter-Song, et al., 2013), even though they believed they would benefit from more support from people in their social networks (Aschbrenner, Bartels, Mueser, Carpenter-Song, & Kinney, 2012). A pilot study of an intervention to facilitate partner support for weight-related behavior changes among people with SMI enrolled in a fitness intervention showed the feasibility of a model designed to activate participants to share their health goals and preferences for support with family members and friends (Aschbrenner et al., 2016). A similar approach could be used to activate and train individuals with SMI participating in smoking cessation treatment to share their cessation goals and preferences for support with family and friends who could potentially be a resource to support their efforts to quit smoking.

# Limitations

There are several limitations of this study that warrant consideration. First, we purposely chose to examine preferences for cessation support from family members and friends among people with SMI enrolled in a smoking cessation intervention, so results may not represent those with SMI who are not motivated to stop smoking or individuals who are not engaged in a program designed to support smoking cessation. Second, the present study explored participants' perspectives on how they could use more support to quit smoking from social network members. This did not include an analysis of the social support they may have received during cessation treatment. A future qualitative report of the social network data collected during this study will describe the social barriers and facilitators to quitting among individuals with SMI enrolled in a Medicaid Demonstration Project of smoking cessation at community mental health centers. Finally, our sample was representative of the local population but was geographically and racially homogeneous. Prior research by our team found that inner-city African Americans and Latinos with SMI tended to seek advice about smoking from a broad network of friends and family, whereas whites mostly sought

information and support from their clinicians (Nawaz et al., 2012). Future research should explore in more depth how preferences for support for quitting may differ among individuals with SMI by culture, race, and ethnicity.

## Conclusions

To date evidence-based smoking cessation treatment for people with mental illness has typically focused on the individual smoker with little attention paid to the social environment in which smoking and quitting smoking take place. Individuals with SMI who participated in smoking cessation treatment at community mental health centers indicated several ways that family members and friends could support their efforts to quit smoking. Participants wanted more practical and emotional support for quitting smoking and staying quit, and they wished that friends and family members would refrain from smoking around them and stop offering them cigarettes when they are trying to quit. Understanding how people with SMI want support from family and friends to quit smoking will inform strategies to leverage these powerful natural resources to promote the use of evidence-based smoking cessation treatment and smoking abstinence for this population.

#### Acknowledgments

**Funding:** This study was funded by The Dartmouth Clinical and Translational Science Institute, under award number UL1TR001086 from the National Center for Advancing Translational Sciences (NCATS) of the National Institutes of Health (NIH). Partial support was received from the Health Promotion Research Center at Dartmouth funded by a grant from the United States Centers for Disease Control and Prevention (Cooperative Agreement Number U48 DP005018). The content is solely the responsibility of the author(s) and does not necessarily represent the official views of the funders.

#### References

- Anthenelli RM, Benowitz NL, West R, St Aubin L, McRae T, Lawrence D, Evins AE. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. The Lancet. 2016; doi: 10.1016/S0140-6736(16)30272-0
- Aschbrenner K, Bartels S, Mueser K, Carpenter-Song E, Kinney A. Consumer perspectives on involving family and significant others in a healthy lifestyle intervention. Health Soc Work. 2012; 37(4):207–215. [PubMed: 23301434]
- Aschbrenner KA, Brunette MF, McElvery R, Naslund JA, Scherer EA, Pratt SI, Bartels SJ. Cigarette smoking and interest in quitting among overweight and obese adults with serious mental illness enrolled in a fitness intervention. J Nerv Ment Dis. 2015; 203(6):473–476. DOI: 10.1097/nmd. 0000000000000309 [PubMed: 26034872]
- Aschbrenner KA, Carpenter-Song E, Mueser K, Kinney A, Pratt S, Bartels S. A qualitative study of social facilitators and barriers to health behavior change among persons with serious mental illness. Community Ment Health J. 2013; 49(2):207–212. DOI: 10.1007/s10597-012-9552-8 [PubMed: 23054155]
- Aschbrenner KA, Ferron JC, Mueser KT, Bartels SJ, Brunette MF. Social predictors of cessation treatment use among smokers with serious mental illness. Addict Behav. 2015; 41:169–174. DOI: 10.1016/j.addbeh.2014.10.020 [PubMed: 25452062]
- Aschbrenner KA, Mueser KT, Bartels SJ, Pratt SI. Perceived social support for diet and exercise among persons with serious mental illness enrolled in a healthy lifestyle intervention. Psychiatr Rehabil J. 2013; 36(2):65–71. DOI: 10.1037/h0094973 [PubMed: 23647144]
- Aschbrenner KA, Mueser KT, Naslund JA, Gorin AA, Kinney A, Daniels L, Bartels SJ. Feasibility Study of Increasing Social Support to Enhance a Healthy Lifestyle Intervention for Individuals with

Serious Mental Illness. Journal of the Society for Social Work and Research. 2016; 7(2):289–313. DOI: 10.1086/686486 [PubMed: 28168015]

- Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006; 3(2):77–101. DOI: 10.1191/1478088706qp063oa
- Brunette MF, Ferron JC, McHugo GJ, Davis KE, Devitt TS, Wilkness SM, Drake RE. An electronic decision support system to motivate people with severe mental illnesses to quit smoking. Psychiatr Serv. 2011; 62(4):360–366. DOI: 10.1176/appi.ps.62.4.360 [PubMed: 21459986]
- Chaiton M, Diemert L, Cohen JE, Bondy SJ, Selby P, Philipneri A, Schwartz R. Estimating the number of quit attempts it takes to quit smoking successfully in a longitudinal cohort of smokers. BMJ Open. 2016; 6(6):e011045.doi: 10.1136/bmjopen-2016-011045
- Christakis NA, Fowler JH. The collective dynamics of smoking in a large social network. N Engl J Med. 2008; 358(21):2249–2258. DOI: 10.1056/NEJMsa0706154 [PubMed: 18499567]
- De Hert M, Dekker JM, Wood D, Kahl KG, Holt RI, Moller HJ. Cardiovascular disease and diabetes in people with severe mental illness position statement from the European Psychiatric Association (EPA), supported by the European Association for the Study of Diabetes (EASD) and the European Society of Cardiology (ESC). Eur Psychiatry. 2009; 24(6):412–424. DOI: 10.1016/ j.eurpsy.2009.01.005 [PubMed: 19682863]
- Ferron JC, Brunette MF, He X, Xie H, McHugo GJ, Drake RE. Course of smoking and quit attempts among clients with co-occurring severe mental illness and substance use disorders. Psychiatr Serv. 2011; 62(4):353–359. DOI: 10.1176/appi.ps.62.4.35310.1176/ps.62.4.pss6204\_0353 [PubMed: 21459985]
- Glasheen C, Hedden SL, Forman-Hoffman VL, Colpe LJ. Cigarette smoking behaviors among adults with serious mental illness in a nationally representative sample. Ann Epidemiol. 2014; 24(10): 776–780. DOI: 10.1016/j.annepidem.2014.07.009 [PubMed: 25169683]
- Hiscock R, Judge K, Bauld L. Social inequalities in quitting smoking: what factors mediate the relationship between socioeconomic position and smoking cessation? J Public Health (Oxf). 2011; 33(1):39–47. DOI: 10.1093/pubmed/fdq097 [PubMed: 21178184]
- Koshy P, Mackenzie M, Tappin D, Bauld L. Smoking cessation during pregnancy: the influence of partners, family and friends on quitters and non-quitters. Health Soc Care Community. 2010; 18(5):500–510. DOI: 10.1111/j.1365-2524.2010.00926.x [PubMed: 20561076]
- Lucksted A, Dixon LB, Sembly JB. A focus group pilot study of tobacco smoking among psychosocial rehabilitation clients. Psychiatr Serv. 2000; 51(12):1544–1548. [PubMed: 11097651]
- Lucksted A, McGuire C, Postrado L, Kreyenbuhl J, Dixon LB. Specifying cigarette smoking and quitting among people with serious mental illness. Am J Addict. 2004; 13(2):128–138. DOI: 10.1080/10550490490436000 [PubMed: 15204664]
- McDonnell KK, Hollen PJ, Heath J, Andrews JO. Recruiting family dyads facing thoracic cancer surgery: Challenges and lessons learned from a smoking cessation intervention. Eur J Oncol Nurs. 2016; 20:199–206. DOI: 10.1016/j.ejon.2015.08.006 [PubMed: 26358940]
- Metse AP, Wiggers J, Wye P, Moore L, Clancy R, Wolfenden L, et al. Bowman JA. Smoking and environmental characteristics of smokers with a mental illness, and associations with quitting behaviour and motivation; a cross sectional study. BMC Public Health. 2016; 16(1):332.doi: 10.1186/s12889-016-2969-1 [PubMed: 27080019]
- Miles, MB., Huberman, A. Qualitative Data Analysis: An Expanded Sourcebook. SAGE Publications; 1994.
- Morris CD, Waxmonsky JA, May MG, Giese AA. What do persons with mental illnesses need to quit smoking? Mental health consumer and provider perspectives. Psychiatr Rehabil J. 2009; 32(4): 276–284. DOI: 10.2975/32.4.2009.276.284 [PubMed: 19346206]
- Nawaz S, Frounfelker R, Ferron JC, Carpenter-Song EA, Davis K, Brunette MF. Smoking and quitting beliefs, attitudes, and behaviors among smokers with severe mental illness from three race/ ethnicity groups. J Dual Diagn. 2012; 8(3):180–187. DOI: 10.1080/15504263.2012.697449
- O'Malley AJ, Arbesman S, Steiger DM, Fowler JH, Christakis NA. Egocentric social network structure, health, and pro-social behaviors in a national panel study of Americans. PLoS One. 2012; 7(5):e36250.doi: 10.1371/journal.pone.0036250 [PubMed: 22615760]

- Patten CA, Petersen LR, Brockman TA, Gerber T, Offord KP, Ebbert JO, et al. Boness J. Development of a telephone-based intervention for support persons to help smokers quit. Psychol Health Med. 2008; 13(1):17–28. DOI: 10.1080/13548500701203458 [PubMed: 17886115]
- Patten CA, Smith CM, Brockman TA, Decker PA, Hughes CA, Nadeau AM, et al. Zhu SH. Supportperson promotion of a smoking quitline: a randomized controlled trial. Am J Prev Med. 2011; 41(1):17–23. DOI: 10.1016/j.amepre.2011.03.012 [PubMed: 21665059]
- Paul CL, Ross S, Bryant J, Hill W, Bonevski B, Keevy N. The social context of smoking: A qualitative study comparing smokers of high versus low socioeconomic position. BMC Public Health. 2010; 10(1):1–7. DOI: 10.1186/1471-2458-10-211 [PubMed: 20043862]
- Reid, AE., Cialdini, RB., Aiken, LS. Social Norms and Health Behavior. In: Steptoe, A., editor. Handbook of Behavioral Medicine: Methods and Applications. New York, NY: Springer New York; 2010. p. 263-274.
- Sharma A, Szatkowski L. Characteristics of smokers who have never tried to quit: evidence from the British Opinions and Lifestyle Survey. BMC Public Health. 2014; 14(1):1–7. DOI: 10.1186/1471-2458-14-346 [PubMed: 24383435]
- Shoham V, Rohrbaugh MJ, Trost SE, Muramoto M. A family consultation intervention for healthcompromised smokers. J Subst Abuse Treat. 2006; 31(4):395–402. DOI: 10.1016/j.jsat. 2006.05.012 [PubMed: 17084793]
- Stewart MJ, Kushner KE, Greaves L, Letourneau N, Spitzer D, Boscoe M. Impacts of a support intervention for low-income women who smoke. Soc Sci Med. 2010; 71(11):1901–1909. DOI: 10.1016/j.socscimed.2010.08.023 [PubMed: 20970232]
- Twyman L, Bonevski B, Paul C, Bryant J. Perceived barriers to smoking cessation in selected vulnerable groups: a systematic review of the qualitative and quantitative literature. BMJ Open. 2014; 4(12):e006414.doi: 10.1136/bmjopen-2014-006414
- van den Putte B, Yzer MC, Brunsting S. Social influences on smoking cessation: a comparison of the effect of six social influence variables. Prev Med. 2005; 41(1):186–193. DOI: 10.1016/j.ypmed. 2004.09.040 [PubMed: 15917010]
- Walker ER, McGee RE, Druss BG. Mortality in mental disorders and global disease burden implications: a systematic review and meta-analysis. JAMA Psychiatry. 2015; 72(4):334–341. DOI: 10.1001/jamapsychiatry.2014.2502 [PubMed: 25671328]
- Westmaas JL, Bontemps-Jones J, Bauer JE. Social support in smoking cessation: reconciling theory and evidence. Nicotine Tob Res. 2010; 12(7):695–707. DOI: 10.1093/ntr/ntq077 [PubMed: 20513695]
- Wu Q, Gilbody S, Peckham E, Brabyn S, Parrott S. Varenicline for smoking cessation and reduction in people with severe mental illnesses: systematic review and meta-analysis. Addiction. 2016; doi: 10.1111/add.13415
- Yarborough BJ, Stumbo SP, Yarborough MT, Young TJ, Green CA. Improving lifestyle interventions for people with serious mental illnesses: Qualitative results from the STRIDE study. Psychiatr Rehabil J. 2016; 39(1):33–41. DOI: 10.1037/prj0000151 [PubMed: 26214184]

# Biographies

Kelly Aschbrenner, PhD, is an assistant professor of Psychiatry at the Geisel School of Medicine at Dartmouth. Her research focuses on designing and evaluating interventions that leverage family and peer support to promote health behavior change in people with serious mental illness.

John Naslund, MPH, is a doctoral candidate at The Dartmouth Institute for Health Policy and Clinical Practice. His research focuses on social media and mobile health technologies to augment behavioral interventions for high risk populations.

Lydia Gill, BA, is a medical student at Tufts University School of Medicine in Boston, MA.

Stephen J. Bartels, MD, MS, is a Professor of Psychiatry, of Community & Family Medicine and of The Dartmouth Institute at Dartmouth College. He is director of the Health Promotion Research Center at Dartmouth and the Dartmouth Centers for Health and Aging. His research focuses on the development and implementation of health promotion interventions in behavioral health care settings for adults with SMI.

Mary Brunette, MD, is Associate Professor of Psychiatry at Dartmouth Medical School and the Medical Director of the Bureau of Behavioral Health within the New Hampshire Department of Health and Human Services. As a board-certified addiction psychiatrist, she has been involved with research and clinical care of patients with SMI and co-occurring substance use disorders for over 15 years.

# Table 1 Preferences for cessation support by family and friend among participants with serious mental illness enrolled in supported smoking cessation treatment programs

Themes	Descriptive Codes
Practical support	Buy and help pay for cessation medication
	Buy and help pay for electronic cigarettes
	Help participant clean home environment
	• Offer to do other things they enjoy "going for a walk" together
Emotional support	Provide more encouragement for the participant to quit smoking
	Provide frequent (daily) motivational messages
	Help stay focused and motivated
	Ask how quitting is going
	Help deal with emotional stress
	• Be more accepting of smoker's struggles and efforts to quit smoking
Change smoking behaviors	Don't smoke around participant
	Stop offering participant cigarettes
	Quit smoking themselves
	• Would be helpful to quit with a network member