Behavioral Health Data Review for the Alaska Tobacco Prevention and Control Program

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Introduction

Tobacco remains the leading cause of preventable morbidity and mortality in the United States. Although comprehensive public health strategies have resulted in decreased cigarette smoking in Alaska and across the nation, smokers with mental illness and other behavioral health disorders, such as substance abuse, have not benefited as much as other groups.

Mental illness

People living with mental illness can live successful, full lives, particularly if they receive proper treatment and support. However, the high smoking prevalence among this group imposes a heavy burden. Chronic diseases and premature deaths associated with smoking are more common among patients with mental illness. People living with mental illness are also more likely to develop these diseases earlier in life, leading to a greater degree of illness-related disability and impairment (Cerimele et al, 2014).

Studies indicate that smoking prevalence is 2 to 3 times higher among patients with mental illness seen in clinical or primary care settings than among those patients without such illnesses (Cerimele et al, 2014). In the population at large, there is still an elevated prevalence among person reporting mental illness -- in the 2009-2011 National Survey on Drug Use and Health, 36.1% of adults reporting any mental illness in the past year were smokers, compared to 21.4% of those without mental illness (MMWR 62(05), 2013).[1]

Nationally, smokers with any mental illness smoked more cigarettes per month than smokers without mental illness. Additionally, the quit ratio was lower among adults with mental illness than those without (34.7% vs. 53.4% respectively) (MMWR 62(05), 2013). However, other studies show that smokers with mental illness are as interested in quitting smoking as other smokers, and can benefit from evidence-based cessation treatments, although longer, more intensive treatment may be more fruitful (American Legacy Foundation, 2011).

Substance abuse

Behavioral health conditions include substance use (alcohol or drug overuse or addiction) as well as mental illness. Smoking is disproportionately prevalent among those who are dependent on alcohol or drugs, but studies also show that most individuals in addictions treatment are also interested in quitting smoking (Hall & Prochaska, 2009). Excessive alcohol use is one of the most prevalent substance use conditions, and is the fourth leading preventable cause of death in the United States. It is a risk factor for injury, chronic disease and mental health problems, and was responsible for 1 in 10 deaths among working adults aged 20-64 years (Stahre et al, 2014). In

[1] "Any mental illness" was assessed from a series of 14 questions that comprise two scales; the Kessler-6 measures psychological distress and the WHO Disability Assessment Schedule measures disability, including psychological difficulties that interfere with respondents remembering, concentrating, and/or participating in social activities or taking care of daily responsibilities. "Any mental illness" was defined as having a mental, behavioral or emotional disorder in the past 12 months, and did not include developmental and substance use disorders.

Alaska, an average of 264 adults age 20 and older die annually from chronic and acute causes of death attributable to excessive alcohol use (CDC, ARDI 2013).

Historically, tobacco use has also been disproportionately high among those who provide mental health and addictions treatment. A variety of factors, including a high rate of smoking among those who provide addictions treatment, have led to widespread belief that quitting smoking will increase other substance use, resulting in a longstanding and detrimental social normalizing of cigarette smoking in treatment environments (Hall & Prochaska, 2009). While findings may still be inconclusive regarding the optimal point at which to initiate tobacco cessation treatment, studies indicate that providing smoking cessation interventions does not impede abstinence from drugs or alcohol, and in fact may enhance sobriety (Prochaska & Prochaska, 2011).

This report presents findings from a review of existing state-level data sources about smoking in the Alaska behavioral health population. The report also includes a discussion of next steps in addressing tobacco prevention and cessation within this population, including those who receive treatment or are in recovery, as well as those who are experiencing poor mental health conditions but who may not be receiving treatment.

Methods

In order to identify smoking-related information for the Alaska adult "behavioral health population," we reviewed existing data sources for measures related to behavioral health. We focused on data about Alaska adults in the overall population, as well as those receiving smoking cessation services. State-level data sources included the Alaska Behavioral Risk Factor Surveillance System (BRFSS) and Alaska's Tobacco Quit Line dataset.

Several indicators related to behavioral health were available on the BRFSS. For general prevalence analyses, we focused on indicators that were included in one or more years since 2006. In order to compare demographics, tobacco use patterns and cessation measures by a single measure of mental health status, we chose the indicator, "mental health not good, 14+ days," derived from the healthy days question (see measures, below). For those analyses, we used the 2011-2013 Supplemental AK BRFSS data.

We used SPSS Complex Samples (v22) for the analysis to account for the complex sampling design. We conducted chi-square tests to compare the prevalence of mental health measures by current smoking status, and smoking prevalence by the presence or absence of mental health conditions. P-values less than 0.05 indicate that a difference seen between percentages was statistically significant at the 95% confidence level.

For analysis of the Quit Line data, we focused on Fiscal Year 2015 (July 2014 through June 2015), since the behavioral health-related question was added in July 2014. We conducted the analysis using SPSS (v22) on callers who reported being cigarette smokers and who had requested cessation services. We conducted chi-square tests to compare the presence or absence of mental health conditions among cigarette smokers who called the Quit Line by demographic factors and

by smoking and quit-related measures. P-values less than 0.05 indicate that a difference seen between percentages was statistically significant at the 95% confidence level.

BRFSS Behavioral Health Measures

The BRFSS is an anonymous telephone survey conducted by the Alaska Division of Public Health in cooperation with the Centers for Disease Control and Prevention (CDC). These data provide state-level estimates for the prevalence of behavioral risk factors in the general population that are known to be associated with the leading causes of morbidity and mortality in adults.

The BRFSS has operated continuously in Alaska since 1991. In 2004, Alaska added a second version of the BRFSS survey to accommodate more questions. The questionnaire with the complete set of CDC Core Modules is referred to as the Standard AKBRFSS. The second questionnaire includes most of the state-added tobacco-related questions, and is referred to as the Supplemental AKBRFSS. CDC also provides development and technical support for Optional Modules that are not covered in the Core funding. Individual states may add these modules to the questionnaire in a given year, depending on funding availability and other program factors.

Although there is not a comprehensive set of questions used to identify and measure the prevalence of behavioral health conditions, the survey does include behavioral health-related indicators. Below is a description of the key questions used to create the behavioral health-related measures used in this data review. Except where noted, if the respondent replied "don't know/not sure" or refused to answer, the record is set to missing for that item and is not included in the denominator.

Mental Health Not Good, 14+ days

This item comes from question 3 in the CDC Healthy Days Module. The CDC Healthy Days measures were developed with expert input and have been a part of the core CDC BRFSS survey since 1993 and the National Health and Nutrition Examination Survey (NHANES) since 2000. This item is included in both the Standard and Supplemental versions of the AKBRFSS. The data from this mental health question have been used to calculate frequent mental distress (14 to 30 mentally unhealthy days in the past 30 days), which has been used as a proxy for poor mental health/frequent mental distress (Moriarty et al, 2009). Two cut-points were reviewed for this study: mental health not good >=7 days, and >=14 days. In this report, we include the estimates from the Supplemental AKBRFSS only, because the full set of tobacco-related measures used for this report are available only in the Supplemental AKBRFSS.

Question:

> "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" [Answer options include 0 days thru 30 days]

Ever told that you have/had a depressive disorder

This item is adapted from the 10th question in the CDC Optional Anxiety and Depression Module from 2006. It has been included in the CDC core Chronic Health Conditions module (in the Standard AKBRFSS) since 2011.

Question:

> "Has a doctor, nurse, or other health professional EVER told you that you have a depressive disorder (including depression, major depression, dysthymia, or minor depression)?" [Yes/No]

Current major depression

The Optional Anxiety and Depression Module assesses the prevalence of anxiety and depressive disorders in the general population at the state level. This module is composed of the Patient Health Questionnaire (PHQ-8), which has been validated against the 9 diagnostic criteria for a depressive disorder in the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV). This item was included in the 2006, 2008 and 2012 Standard AKBRFSS. Each item is scored on a 4-point scale indicating frequency of occurrence in the past 2 weeks:

- 0 = 0 to 1 days
- 1 = 2 to 6 days
- 2 = 7 to 11 days
- 3 = 12 to 14 days

The 8 items are summed (score range: 0—24 points), and respondents scoring 10 points or more were classified as having major (moderate to severe) depression. Those scoring between 5 to 9 points were classified as having mild depression.

Questions:

> "Over the last 2 weeks, how many days have you...
> 1. Had little interest or pleasure in doing things?
> 2. Felt down, depressed or hopeless?
> 3. Had trouble falling asleep or staying asleep or sleeping too much?
> 4. Felt tired or had little energy?
> 5. Had a poor appetite or eaten too much?
> 6. Felt bad about yourself or that you were a failure or had let yourself or your family down?
> 7. Had trouble concentrating on things, such as reading the newspaper or watching the TV?
> 8. Moved or spoken so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you were moving around a lot more than usual?"
>
> [Answer options include 0 days thru 14 days]

Emotional problem kept you from doing work, 1+ days in past 30 days

This item is question 7 from CDC's Optional Mental Illness and Stigma Module,[2] asked in the 2007 and 2010 Standard AKBRFSS, and in the 2011 Supplemental AKBRFSS.

Question:

> "During the past 30 days, for about how many days did a mental health condition or emotional problem keep you from doing your work or other usual activities?"
> [Answer options include 0 days thru 30 days]

Receiving Medicine or Treatment from Healthcare Provider for Emotional problem

This item is question 8 from CDC's Optional Mental Illness and Stigma Module, asked in the 2007 and 2010 Standard AKBRFSS, and in the 2011 Supplemental AKBRFSS.

Question:

> "Are you now taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem?" [Yes/No]

Serious Psychological Distress

This measure comes from CDC's Optional Mental Illness and Stigma Module asked in the Alaska 2007 and 2010 Standard BRFSS. The first 6 questions comprise the Kessler 6, used as a measure of non-specific psychological distress. The Kessler 6 asks respondents how often in the past 30 days they felt symptoms of mental illness (i.e., feeling nervous, depressed, hopeless, restless, like a failure, like everything was an effort). Each item is scored on a 5-point scale indicating frequency, ranging from 0 (none of the time) to 4 (all of the time), and summed (score range: 0—24 points). Respondents scoring 13 or more on this scale are classified as having serious psychological distress.

Questions (Kessler 6):

> "About how often (all of the time, most of the time, some of the time, a little of the time, or none of the time) during the past 30 days did you feel ...
> 1. Nervous?
> 2. Hopeless?
> 3. Restless or fidgety?
> 4. So depressed that nothing could cheer you up?
> 5. That everything was an effort?
> 6. Worthless?"
>
> [Answer options include all of the time, most of the time, some of the time, a little of the time, and none of the time]

[2] To measure attitudes about mental illness through BRFSS and other surveys, the Substance Abuse and Mental Health Services Administration (SAMHSA) and CDC collaborated in 2005 to develop brief questions suitable for the BRFSS. With SAMHSA and CDC support, 35 states, DC, and Puerto Rico questioned survey respondents on the 2007 BRFSS about mental illness. Questions included the Kessler-6 scale of serious psychological distress (6 questions), one question on whether mental distress limited daily activities, one question about current treatment for an emotional problem, and two questions related to stigma.

Adverse Childhood Experiences (ACES)

An increasing number of studies indicate that childhood maltreatment and household and/or family dysfunctions are associated with poor health outcomes later in life, including poor physical and mental health status and premature mortality (Felitti 2002, and Felitti et al, 1998). CDC developed the 11-question standardized Adverse Childhood Experiences (ACEs) Module for the BRFSS based on prior studies. ACEs are reported by adults about experiences of abuse and/or household dysfunction when they were children less than 18 years of age. Analyses of individual items from the ACEs Module are reported in Appendix A of this report.

For the purposes of scoring the 11 questions into 8 ACE categories, questions 2 and 3 about alcohol and drug use are combined as one ACE, and questions 9 through 11, about sexual abuse, are combined as one ACE. The ACE score was created by summing the total number of ACE categories that elicited positive responses (range: 0—8 points). Respondents who did not answer any of the 11 questions were not included in the denominator. For Table 2 of this report, we reported an ACE score of 4 or more. In Table 3 of this report, ACE scores were categorized into 3 groups: 0, 1 to 3, and 4 or more.

ACEs Module Questions:

"Now, looking back before you were 18 years of age…

1. Did you live with anyone who was depressed, mentally ill, or suicidal?
2. Did you live with anyone who was a problem drinker or alcoholic?
3. Did you live with anyone who used illegal street drugs or who abused prescription medications?
4. Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?
5. Were your parents separated or divorced?

[Answer options for Questions 1 through 5: Yes/No]

6. How often did your parents or adults in your home ever slap, hit, kick, punch, or beat each other up?
7. Before age 18, how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking.
8. How often did a parent or adult in your home ever swear at you, insult you, or put you down?
9. How often did anyone at least 5 years older than you or an adult, ever touch you sexually?
10. How often did anyone at least 5 years older than you or an adult try to make you touch them sexually?
11. How often did anyone at least 5 years older than you or an adult, force you to have sex?"

[Answer options for Questions 6 through 11: Never/Once/More than Once]

Excessive Alcohol Use

The CDC core Alcohol Module has been part of the Standard AKBRFSS survey since its inception and includes questions used to calculate two types of excessive drinking: heavy drinking and binge drinking. Heavy drinking is defined as consuming a weekly average of 8 or more drinks (for women), or 15 or more drinks (for men). Binge drinking is defined as consuming 4 or more drinks (for women) or 5 or more drinks (for men) during a single occasion.

Questions:

1. "During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?" [days per week or in past 30 days]
2. "One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?" [Number of drinks]
3. "Considering all types of alcoholic beverages, how many times during the past 30 days did you have X [X = 5 for men, X = 4 for women] or more drinks on an occasion?" [Number of times]

Healthcare Provider (HCP) Talked about Alcohol Use in the past year

In June 2011, the CDC asked states to add an "emerging core" question about discussion of alcohol use with healthcare providers, to get a baseline measure for the use of screening and brief intervention (SBI) for alcohol use. As a result, there are only partial year data for this item, from August through December, in the 2011 Standard AKBRFSS.

Question:

"Has a doctor or other health professional ever talked with you about alcohol use?"
[Yes within the past 12 months, Yes within the past 3 years, Yes 3 or more years ago or No]

For the purposes of this data review, those who responded "Yes within the past 12 months" were compared against all others.

Alaska's Tobacco Quit Line Behavioral Health Measures

The Quit Line data represent callers who smoke cigarettes and who requested cessation services with Alaska's Tobacco Quit Line from July 2014 through June 2015. Therefore, unlike the BRFSS data, the Quit Line data do not represent all smokers (and non-smokers) in the general adult population in Alaska, but only those who requested help from Alaska's Quit Line. As noted, the behavioral health-related question was added in July 2014. In January 2015, an additional answer category ("Other") was added, along with a follow-up question to capture open-end information about mental health conditions not on the list.

Question:

"Do you currently have any mental health conditions, such as:

Attention-Deficit Hyperactivity Disorder (ADHD)
Bi-Polar Disorder
Depression
Drug or Alcohol Abuse (SUD)
Generalized Anxiety Disorder
Post-Traumatic Stress Disorder (PTSD)
Schizophrenia
None
Does Not Know
Refused
Not Collected

Callers could report multiple conditions. Callers who reported any of the named conditions were included as having a behavioral health condition; those records that were coded as "None" were categorized as not having a behavioral health condition. Records coded as "Does Not Know," "Refused" or "Not Collected" were not included in the denominator.

BRFSS and Alaska's Tobacco Quit Line Demographic Characteristics

In both the BRFSS and the Quit Line datasets, information is available by gender, age, race, education, and health insurance status. In both the BRFSS review and the Quit Line data review, race was recoded and reported as Alaska Native or non-Native. In the BRFSS, race is determined with 2 questions. Those who report more than one race group are then asked which race best describes them. Therefore, those who reported Alaska Native as their only or "best describes" race group were coded as Alaska Native. In the Quit Line registration interview, callers are only asked which race best describes them, so information about multiple race groups is not recorded.

For the BRFSS analysis, the income question was combined with information about number of people in the household to calculate percent of Alaska Poverty Guideline, which is considered to be a better indicator of eligibility for various state social services than income status alone.

For health insurance status, the BRFSS includes a general question: "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, government plans such as Medicare, Native Health Service or Indian Health Service?" The Quit Line includes more detailed information about the caller's insurance type, based on these questions: "We work in conjunction with a number of health plans and employers to coordinate benefits. Do you have any health insurance? If so, what is it?" Insurance type is collected in a single data field. The data were then recoded into 4 categories: private insurance, Medicare, Medicaid, and uninsured.

BRFSS and Alaska's Tobacco Quit Line Tobacco-related Measures

Current smoking

In the Standard and Supplemental AKBRFSS data, current smoking is defined as having smoked at least 100 cigarettes in one's lifetime, and currently smoking every day or some days. In this report,

we include the estimates from the Supplemental AKBRFSS only, because the full set of tobacco cessation-related measures used for this report are available only in the Supplemental AKBRFSS. In the Quit Line data, current smokers are identified from one registration question: "What types of tobacco have you used in the past 30 days?" Those who included "cigarettes" in their response to the question were classified as current smokers.

Age at Initiation

Both the Supplemental AKBRFSS and the Quit Line include questions about when the respondent or caller first started smoking. In the BRFSS, the question is: "How old were you when you first started smoking cigarettes regularly?" In the Quit Line data, the question is: "At what age did you start using tobacco regularly?"

Time of First Cigarette of the Day

Both the Supplemental AKBRFSS and the Quit Line include an addiction measure based on a question about how soon the respondent or caller has their first cigarette of the day. In the BRFSS, this question is: "How soon after you wake up do you usually smoke your first cigarette? Would you say within 30 minutes, within 31 to 60 minutes, or more than 60 minutes?" In the Quit Line data, the question is: "How soon after you wake up do you use tobacco for the first time in the day?"

Consumption Measures

Both the Supplemental AKBRFSS and the Quit Line include questions about daily or some days smoking, and the average number of packs per day. In the BRFSS, the consumption measure is defined by 2 questions: "Do you now smoke cigarettes every day, some days, or not at all?" and "On the average, about how many cigarettes do you smoke a day?" As noted earlier, those who reported "not at all" to the first question were not considered current smokers. Those who reported smoking every day were categorized by whether they smoke an average of less than a pack (20 cigarettes), 1 pack, or more than 1 pack per day. In the Quit Line data, the consumption measure was defined by four questions. The first two are similar to those in the BRFSS: "Do you now smoke cigarettes every day, some days, or not at all?" and "On the days when you [smoke/use tobacco], how many cigarettes do you smoke a day?" However, in the Quit Line data, those who are currently in a quit attempt (based on their answer to the questions "Have you already quit? For how long?") are categorized separately.

Additional Cessation-related measures in the BRFSS

In the Supplemental AKBRFSS, cessation-related measures include:

Received advice to quit from health care provider (HCP)

This measure is derived from two questions: "In the past 12 months, have you seen a doctor, nurse, or other health professional to get any kind of care for yourself?" and "In the past 12 months, has a doctor, nurse, or other health professional advised you to quit smoking?" The denominator includes only those who got care in the past 12 months. Those who refused to answer or responded "don't know" to either question are not included in the denominator.

Aware of the Quit Line

This measure uses the question: "Are you aware of the Alaska Tobacco Quit Line, which is a telephone service that can help people quit smoking or using smokeless tobacco?" Cigarette smokers who refused to answer or said they didn't know or were not sure are not included in the denominator.

Want to Quit

This measure uses the question: "Would you like to quit smoking?" Cigarette smokers who responded "don't know" are included in the denominator, because this question asks about attitude of respondent. Those who refused are not included in the denominator.

Plan to Quit Smoking in the Next 30 Days

This measure uses 3 questions about Stages of Change. These questions were:

1) "Would you like to quit smoking?"
2) "Are you seriously considering stopping smoking within the next 6 months?" and
3) "Are you planning to stop smoking within the next 30 days?"

Cigarette smokers who responded "don't know" to any of these questions are included in the denominator. Those who refused are not included in the denominator.

Made 1+ Quit Attempts in the Past 12 Months

This measure uses the question: "During the past 12 months have you stopped smoking for one day or longer because you were trying to quit smoking?" Cigarette smokers who refused or said they didn't know or were not sure are not included in the denominator.

Additional Measures in the Quit Line Dataset

The additional measures chosen for review from the Quit Line data were different from those in the BRFSS data. Although we did look at attempts to quit as well as the Stages of Change questions in the Quit Line, 97% of cigarette smokers who called the Quit Line were either planning to quit smoking in the next 30 days, or were already in the process of a quit attempt. Therefore, we focused on measures that provide an indication of how the callers had decided to use the Quit Line.

Entry Method

This item indicates how the caller reached the Quit Line, and is not specifically a question asked of the caller. It was coded based on whether the caller phoned in, used the website to log in, or had a fax referral from a healthcare provider. The "Other" category includes calls related to re-enrollment offers.

How heard about the Quit Line

This item is based on the question: "How did you hear about us?" There were 24 coded responses for this second item, but most of these answers were chosen by fewer than 50 respondents. We decided not to try to combine any of these answer categories but rather reported on those for which there were 100 or more respondents.

Results

Smoking and Behavioral Health in the General Adult Population: BRFSS

We initially reviewed the healthy days item using two separate cut-points, 7+ days, and 14+ days in the past 30 days, for which mental health was not good. Both items showed similar patterns by demographics as well as by smoking and cessation factors. For this report, we present the 14+ days cut-point because it has been used as a proxy for frequent mental distress (Moriarty et al, 2009). The disparity in poor mental health by smoking status was most pronounced for those who report 14 or more days (see Table 1 below).

Table 1: Prevalence of Mentally Unhealthy Days, by Smoking Status, Alaska BRFSS

Mental health not good in past 30 days:	Smokers	Nonsmokers	All Adults	
30 days	9.3%	3.4%	4.7%	*
14 to 29 days	8.2%	4.2%	5.0%	*
7 to 13 days	5.1%	5.0%	5.0%	
3 to 6 days	9.1%	9.0%	9.0%	
1 to 2 days	8.2%	10.1%	9.7%	
0 days	60.1%	68.4%	66.6%	*
Total	100.0%	100.0%	100.0%	

Note: Data reported here come from the 2011-2013 Supplemental AKBRFSS.
Asterisk indicates difference is significant at the 0.05 level.

Prevalence of Behavioral Health Indicators by Smoking Status

As shown in Table 2a, smokers were significantly more likely to report poor mental health across most behavioral health measures.

Smokers were more than twice as likely as non-smokers to report 14+ days for which mental health was not good (17.5% vs. 7.5%), or to report an emotional problem that kept them from doing work for 1 or more days in the past 30 days (14.6% vs. 5.6%). Smokers were nearly twice as likely as non-smokers to report ever being told they had a depressive disorder (26.9% vs. 14.1%) and three times more likely to currently have major depression (20.0% vs. 6.5%) or serious psychological distress (5.9% vs. 1.8%).

Among those who answered any of the Adverse Childhood Experiences (ACEs) questions, smokers were twice as likely as non-smokers to report 4 or more experiences (31.0% vs. 15.7%), and nearly three times more likely to report 6 or more (13.5% vs. 4.6%, not shown in table). Results from the analyses of individual items from the ACEs Module are reported in Appendix A of this report.

There was no significant difference by smoking status for those who reported receiving medicine or treatment from a healthcare provider for an emotional problem (14.2% vs. 9.0%).

Table 2a: Prevalence of Behavioral Health Indicators by Smoking Status, Alaska BRFSS

Behavioral Health Indicator	% with condition	n	N	Year
Mental health not good 14+ days past month				2011-13 Suppl
Smokers	17.5%	313	2,062	*
Non-smokers	7.5%	640	8,830	
All Adults	9.7%	955	10,972	
Ever told that you have/had a depressive disorder				2013 Std
Smokers	26.9%	244	919	*
Non-smokers	14.1%	521	3,542	
All Adults	16.9%	778	4,561	
Current major depression (based on PHQ8 scale)				2012 Std
Smokers	20.0%	113	679	*
Non-smokers	6.5%	188	2,927	
All Adults	9.3%	302	3,632	
Serious psychological distress: Kessler index score is 13+				2007/ 2010 Std
Smokers	5.9%	45	826	*
Non-smokers	1.8%	65	3,028	
All Adults	2.7%	110	3,890	
Emotional problem kept you from doing work, 1+ days in past 30 days				2011 Suppl
Smokers	14.6%	59	501	*
Non-smokers	5.6%	119	1,996	
All Adults	7.7%	181	2,516	
Currently receiving medicine or TX from healthcare provider for emotional problem				2011 Suppl
Smokers	14.2%	59	513	
Non-smokers	9.0%	185	2,016	
All Adults	10.1%	246	2,549	
Adverse childhood experiences (ACEs), Reporting 4+ ACEs				2013 Std
Smokers	31.0%	232	797	*
Non-smokers	15.7%	492	3,232	
All Adults	19.1%	726	4,050	

Note: Data reported here come from the Standard AKBRFSS (Std) or from the Supplemental AKBRFSS (Suppl).
Asterisk indicates difference is significant at the 0.05 level.

Substance use-related indicators are reported in Table 2b, below. Smokers were about twice as likely as non-smokers to report excessive alcohol use, whether heavy drinking or binge drinking.

There was no significant difference regarding whether a healthcare provider had talked to the respondent about alcohol use, among those who reported having had a healthcare visit in the past 12 months. While there is some suggestion that smokers might have been less likely than non-smokers to have had this talk with a healthcare provider, the sample size is small and the difference is not statistically significant.

Table 2b: Prevalence of Substance Use-Related Indicators by Smoking Status, Alaska BRFSS

Behavioral Health Indicator:	**% with condition**	**n**	**N**	**Year**
Heavy drinking				2013 Std
Smokers	13.6%	125	887	*
Non-smokers	6.0%	217	3,486	
All Adults	7.7%	343	4,395	
Binge drinking				2013 Std
Smokers	29.7%	256	886	*
Non-smokers	15.4%	474	3,482	
All Adults	18.5%	731	4,390	
Either binge or heavy drinking				2013 Std
Smokers	31.3%	261	875	*
Non-smokers	16.7%	538	3,468	
All Adults	19.9%	800	4,365	
HCP talked about alcohol use in past year				2011 Std~
Smokers (who had HC visit)	6.2%	17	184	
Non-smokers (who had HC visit)	10.1%	58	717	
All Adults (who had HC visit)	9.3%	76	907	

Note: Data reported here come from the Standard AKBRFSS (Std) or from the Supplemental AKBRFSS (Suppl).
Asterisk indicates difference is significant at the 0.05 level.
~ The question about talking to a health care provider (HCP) about alcohol use in the past year was only asked from August to December in 2011.

Smoking Prevalence by Behavioral Health Indicators

Table 3 (next page) uses the same behavioral health indicators that were shown in Tables 2a and 2b, but this analysis answers the question, "What is the percentage of smokers among persons with behavioral health conditions, compared to those without?"

Table 3: Smoking Prevalence by Behavioral Health Indicators, Alaska BRFSS

	% smoker	n	N	Year
All Adults	**22.4%**	2,118	11,101	2011-13 Suppl
Mental health not good 14+ days past month				2011-13 Suppl
Mental health not good 14+ days	40.2%	313	953	*
<14 days	20.4%	1,749	9,939	
Current depression (based on PHQ8 scale)				2012 Std
Major depression -- 10 to 24 points	45.5%	113	301	*
Mild depression -- 5 to 9 points	28.0%	144	579	*
No depression --0 to 4 points	16.6%	422	2,726	
Ever told that you have/had a depressive disorder				2013 Std
Yes	36.1%	244	765	*
No	20.1%	675	3,696	
Serious psychological distress: Kessler index score is 13+				2007/ 2010 Std
Yes	49.1%	45	110	*
No	22.1%	781	3,744	
Emotional problem kept you from doing work, 1+ days in past 30 days				2011 Std
7+ days in the past 30 days	45.8%	26	73	*
1-6 days	41.9%	33	105	*
0 days	21.1%	442	2,319	
Currently receiving medicine or TX from healthcare provider for emotional problem				2011 Suppl
Yes	32.1%	59	244	
No	22.0%	454	2,285	
Adverse childhood experiences (ACEs)				2013 Std
6 or more	45.3%	93	261	*
4 to 5	31.0%	139	463	*
1 to 3	21.6%	362	1,855	*
None	15.2%	203	1,450	
Excessive alcohol use				2013 Std
Heavy drinking	39.8%	125	342	*
Binge drinking	35.7%	256	730	*
Either binge or heavy drinking	35.0%	261	799	*
Neither	19.1%	614	3,544	
HCP talked about alcohol use in past year (among those who had HC visit in past year)				2011 Std~
Yes	14.4%	17	75	
No	22.1%	167	826	

Data reported here come from the Standard AKBRFSS (Std) or from the Supplemental AKBRFSS (Suppl).
Asterisk indicates difference is significant at 0.05 the level.
~ Talking to a health care provider (HCP) about alcohol use was in the survey from August to December in 2011.

As indicated in Table 3, those reporting poor mental health conditions were more likely than those without poor mental health to report current smoking. Those who reported 14+ days of poor mental health were twice as likely as those reporting fewer days to be smokers (40.2% vs. 20.4%), and a similar result was found for those reporting serious mental illness or ever having been told that they had a depressive disorder. Regarding the measure of current depression, those who reported current major depression were three times as likely to smoke as those who reported no depression(45.5% vs. 16.6%), and those with mild depression were twice as likely to smoke as those with no depression (28.0% vs. 16.6%). Those reporting excessive alcohol use were also nearly twice as likely to smoke as those who did not report either heavy drinking or binge drinking (35.0% vs. 19.1%).

There was a dose-response effect for the reporting of ACEs; those reporting a higher number were increasingly more likely to report current smoking. Alaska adults who reported 6 or more ACEs were three times more likely to be smokers than those who reported no ACEs (45.3% vs. 15.2%). Similarly, smoking prevalence was also increasingly higher among those who reported more days in which an emotional problem kept them from doing work in the past 30 days.

Smoking was not significantly higher among Alaska adults currently receiving medicine or treatment for a mental or emotional health problem than among those who did not report treatment. Among Alaska adults who had a healthcare visit in the past year, there was no significant difference in smoking prevalence between those who reported that their healthcare provider had talked to them about alcohol use, compared to those who did not.

Demographic Characteristics of Smokers by Mental Health Status

In order to examine other characteristics of smokers reporting poor mental health, we chose the dichotomous healthy days indicator, 14+ days (vs. <14 days) in the past 30 days for which mental health was not good. We used three years of Supplemental AKBRFSS data in order to increase the sample size for this measure.

Table 4 provides demographic information about Alaska adult smokers by mental health status. The patterns were similar to those in the overall population: smokers who reported 14+ days of poor mental health were more likely than smokers with fewer poor mental health days to be female (58.3% vs. 38.0%), have less than a high school education (33.3% vs. 16.0%), and live below 185% of the Alaska Poverty Guideline (74.5% vs. 47.6%).

Smokers with 14+ days of poor mental health were not significantly more likely than smokers with fewer days to be younger, Alaska Native, or uninsured.

Table 4: Demographics among Smokers by Report of Mental Health Status, Alaska BRFSS

	Mental Health Not Good 14+ days			
Among Alaska Adult Smokers:	**Yes (N=313)**	**No (N=1,749)**	**n**	
Male	41.7%	62.0%	1,054	*
Female	58.3%	38.0%	1,008	
Total			2,062	
Alaska Native	21.5%	26.8%	654	
Non-Native	78.5%	73.2%	1,372	
Total			2,026	
Age 18-29	31.4%	31.7%	382	
Age 30-54	56.2%	48.6%	1,042	
Age 55+	12.4%	19.7%	612	
Total			2,036	
<HS education	33.3%	16.0%	294	*
HS diploma/GED	24.1%	41.8%	875	*
Some college or higher degree	42.6%	42.2%	887	
Total			2,056	
<100% AK Poverty Guideline	37.6%	20.2%	383	*
100-184% of PGL	36.9%	27.4%	545	
185% of PGL or higher	25.5%	52.4%	897	*
Total			1,825	
Have any health insurance	67.7%	70.4%	1,515	
Do not have health insurance	32.3%	29.6%	525	
Total			2,040	

Note: Data reported here come from the 2011-2013 Supplemental AKBRFSS.
Asterisk indicates difference is significant at the 0.05 level.

Smoking Patterns and Cessation Characteristics of Smokers by Mental Health Status

Alaska adult smokers who reported 14+ days of poor mental health were more likely than those reporting fewer days to smoke their first cigarette within 30 minutes of waking (50.5% vs. 36.0%) and to report having first started smoking before age 18 (64.3% vs. 53.2%). However, there was no significant difference by mental health status for consumption. In both groups, nearly 30% were some days smokers, 50% smoked everyday but less than a pack, and about 20% were everyday smokers who smoked 1 or more packs of cigarettes per day. See Table 5a.

Table 5a: Smoking-Related Indicators among Alaska Smokers by Report of Mental Health Status, Alaska BRFSS

	Mental Health Not Good 14+ days			
Among Alaska Adult Smokers:	**Yes (N=313)**	**No (N=1,749)**	**n**	
Time of First Cigarette of the Day				
Smoke 1st cig within 30 min after waking	50.5%	36.0%	802	*
Age at Initiation				
Began smoking regularly before age 18	64.3%	53.2%	1,047	*
Consumption				
Smoke some days	29.4%	28.4%	557	
Smoke every day, < 1 pack on average	51.6%	51.4%	1002	
Smoke 1 pack every day on average	14.4%	15.9%	342	
Smoke >1 packs every day, on average	4.6%	4.3%	98	
Total	**100%**	**100%**	**2,019**	

Note: Data reported here come from the 2011-2013 Supplemental AKBRFSS.
Asterisk indicates difference is significant at the 0.05 level.

As shown in Table 5b, there was no significant difference among Alaska adult smokers by mental health status for any of the cessation-related indicators we reviewed. Smokers who reported 14+ poor mental health days were as likely as those who reported fewer days to have received advice to quit from their healthcare provider, and they were as likely to want to quit or plan to quit, and to have made quit attempts in the past year. Smokers with poor mental health were less likely than those with fewer poor mental health days to be aware of Alaska's Tobacco Quit Line, although the difference was at the border of statistical significance (p=0.065).

Table 5b: Cessation-Related Indicators among Alaska Smokers by Report of Mental Health Status, Alaska BRFSS

	Mental Health Not Good 14+ days		
Among Alaska Adult Smokers:	**Yes (N=313)**	**No (N=1,749)**	**n**
Received advice to quit from HCP	68.2%	66.9%	831
Aware of the Quitline	69.0%	78.2%	1,607
Want to quit	62.2%	66.9%	1,351
Plan to quit smoking in the next 30 days	24.4%	25.9%	499
Made 1+ quit attempts in past 12 months	50.2%	53.3%	1,030

Note: Data reported here come from the 2011-2013 Supplemental AKBRFSS.
Asterisk indicates difference is significant at the 0.05 level.

Smoking and Behavioral Health among Quit Line Callers

Among cigarette smokers who called Alaska's Tobacco Quit Line between July 2014 and June 2015 and requested an intervention, 39.9% reported having one or more of the behavioral health conditions listed in Table 6 below. The most common conditions reported were depression or anxiety disorders. Many respondents reported multiple conditions. Among the 212 people who reported having an alcohol or drug abuse condition, 69.8% report having one or more of the other conditions listed. Half of those reporting an alcohol or drug abuse condition also reported having depression.

Table 6: Behavioral Health Conditions among Quit Line Callers, Alaska Quit Line Data

Do you currently have any mental health conditions, such as:	%	n	N
Depression	22.0%	502	2,283
Anxiety Disorder	18.7%	427	2,283
PTSD	12.7%	289	2,283
Bipolar	9.6%	220	2,283
Alcohol/Drug abuse condition	9.3%	212	2,283
ADHD	6.9%	157	2,283
Schizophrenia	3.5%	81	2,283
Other (answer category available in Q3-4 only)	0.9%	11	1,214
Any condition	39.9%	912	2,283

Note: Missings are not included; 70 out of 2,353 total callers did not provide information for this question. Information is from the July 2014 through June 2015 Alaska Quit Line data.

Demographic Characteristics Quit Line Callers by Behavioral Health Status

Table 7 shows that among cigarette smokers who called Alaska's Tobacco Quit Line for cessation services, those who reported having a current behavioral health condition were more likely than those without a condition to be female (67.2% vs 53.1%) and be covered by Medicaid (34.6% vs 16.4%), but less likely to be uninsured (36.4% vs 46.5%). Educational attainment was similar among callers who reported a behavioral health condition and those who did not. Quit Line data showed no significant differences for age or race, between those with behavioral health conditions and those without behavioral health conditions.

Table 7: Demographics among Quit Line Callers by Behavioral Health Status, Alaska Quit Line Data

Among Smokers who called QL:	Current behavioral health condition: Yes (N=912)	No (N=1,371)	N by demog group	
Male	32.8%	46.9%	942	*
Female	67.2%	53.1%	1,341	
Total			**2,283**	
Alaska Native	21.7%	22.9%	498	
non-Native	78.3%	77.1%	1,719	
Total			**2,217**	
Age 18-29	24.3%	21.8%	521	
Age 30-54	53.8%	54.7%	1,241	
Age 55+	21.8%	23.5%	521	
Total			**2,283**	
<HS education	15.0%	11.8%	288	
HS diploma/GED	36.2%	39.7%	841	
Some college or higher degree	48.8%	48.5%	1,068	
Total			**2,197**	
Private Insurance	21.5%	31.5%	599	*
Medicare	7.5%	5.5%	138	
Medicaid	34.6%	16.4%	517	*
Uninsured	36.4%	46.5%	925	*
Total			**2,179**	

Note: Asterisk indicates significant difference at the 0.05 level, between "yes" and "no" groups in the row.
Information is from the July 2014 through June 2015 Alaska Quit Line data.

Other Characteristics of Cigarette-smoking Callers by Behavioral Health Status

Quit Line callers who reported having a current behavioral health condition were more likely than those without a condition to smoke their first cigarette of the day within the first 30 minutes of waking (78.9% vs 73.3%). There was no significant difference in consumption by behavioral health status. In both groups, most callers reported smoking every day. About half of respondents were daily smokers who smoked less than a pack per day, and 2 in 5 were daily smokers who smoked one or more packs of cigarettes per day (see Table 8).

Regarding entry method into the Quit Line, callers with a current behavioral health condition were more likely than those without a condition to have phoned in rather than entering through the Web, but there was no difference in the proportion that entered through a fax referral from a healthcare provider. Compared to those without a current behavioral health condition, callers who reported a current behavioral health condition were more likely to have heard about the Quit Line from a healthcare professional, and somewhat less likely to have heard about it from a friend or family member.

Table 8: Smoking-related characteristics among Quit Line callers by Behavioral Health Status, Alaska Quit Line Data

Among Smokers who called QL:	Current behavioral health condition Yes (N=912)	No (N=1,371)	N	
Time of First Cigarette of the Day				
Smoke 1st cig within 30 min of waking up	78.9%	73.3%	1,655	*
Age at Initiation				
Started smoking before age 18	69.0%	66.2%	1,516	
Consumption				
Currently in quit attempt (1+ day)	5.3%	4.4%	105	
Smoke some days	4.1%	2.3%	66	
Smoke every day, < 1 pack on average	50.6%	51.0%	1,127	
Smoke 1 pack every day on average	27.2%	30.3%	644	
Smoke >1 packs every day, on average	12.8%	12.2%	275	
Total	**100%**	**100%**	**2,217**	
Entry Method to Quit Line				
Respondent phoned in to QL	82.0%	70.8%	1,719	*
Respondent entered QL through Web	9.9%	19.8%	362	*
Fax referral	6.7%	7.9%	169	
Other	1.4%	1.5%	33	
Total	**100%**	**100%**	**2,283**	
How Heard about Quit Line				
Healthcare Professional	28.3%	21.4%	538	*
TV Commercial	15.6%	17.4%	372	
Family member or friend	12.7%	18.2%	357	*
Other	43.0%	43.4%	962	
Total	**100%**	**100%**	**2,229**	

Note: Asterisk indicates significant difference at the 0.05 level, between "yes" and "no" groups in the row. Information is from the July 2014 through June 2015 Alaska Quit Line data.

The Quit Line data also captured additional information about the type of healthcare professional, in the "how heard about the Quit Line" question. Among the 252 cigarette-smoking callers who reported having a behavioral health condition and hearing about the Quit Line from a healthcare professional, 22 specifically mentioned a mental health provider, substance abuse treatment provider, or a social worker (data not shown in table).

Discussion

This review summarizes what we know about the relationship between cigarette smoking and some behavioral health variables from two Alaska data sources: The BRFSS and the Alaska Quit Line.

BRFSS Data Review

As expected, Alaska BRFSS data showed that smoking prevalence is disproportionately high among people with poor mental health and those who report excessive alcohol use. Measures that focused on current mental health showed a greater disparity. There was a gradient in smoking prevalence for items that showed increasing severity, such as level of depression, the number of days an emotional problem kept someone from doing their work, and the number of adverse childhood experiences (ACEs) reported.

There were two behavioral health-related measures for which there was no significant difference for smoking (receiving medication or treatment for behavioral health disorder, and health care provider discussed alcohol use). These indicators may not be reliable markers of poor mental health or addiction per se. Adults who reported that they were currently receiving medicine or treatment from a healthcare provider for an emotional problem may no longer be symptomatic at the time of the survey, and the question about whether a healthcare provider had discussed alcohol use in the past year does not indicate whether the respondent had an alcohol problem or addiction. Although the findings were not significant, results suggest that smokers may be less likely than non-smokers to be asked about alcohol use at healthcare visits.

In the combined year data analyses, smokers reporting 14 or more days of poor mental health were more likely than those who reported fewer days to be female, have less education, and live below the Alaska Poverty Guideline; these findings were also true of the general adult population by mental health status.

The findings on smoking patterns were mixed. Smokers who reported 14 or more days of poor mental health were more likely than those with fewer days to report smoking their first cigarette within 30 minutes after waking, an indication of higher addiction level. They were also more likely to have become regular smokers before age 18. However, there was no difference in cigarette consumption patterns between smokers who reported 14 or more days of poor mental health compared to those with fewer days.

This data review is consistent with findings in other studies that cigarette smokers with poor mental health are as interested in quitting smoking as those who do not report poor mental health. Alaska adult smokers who reported 14 or more days of poor mental health were as likely as those with fewer days to want to quit, be in preparation to quit or to have made one or more quit attempts in the past 12 months. They were equally likely to have received advice to quit from a healthcare provider. However, even though the disparity was not statistically significant, findings suggest that there was less awareness of the Quit Line as a resource for quitting smoking among

Alaska adult smokers with 14+ days of poor mental health than among those who reported fewer poor mental health days.

Quit Line Data Review

Among the cigarette smokers who called the Quit Line to get quitting assistance, 39.9% reported a current mental health condition. Over half (56%) of those with a mental health condition reported more than one condition. It is not clear, however, whether these conditions were being managed through medication or treatment, and this measure may not accurately indicate what proportion of the group might be experiencing active or current mental distress.

Cigarette-smoking Quit Line callers with current behavioral health conditions were more likely than those reporting no conditions to be female, but did not differ by Alaska Native status or age. In both groups, nearly half had at least some college education or a higher degree. Quit Line callers with behavioral health conditions were less likely than those reporting no conditions to be without health insurance, but more likely to be covered by Medicaid.

In regards to patterns of smoking and markers of addiction level, Quit Line callers who reported current behavioral health conditions were more likely than those with no conditions to smoke their first cigarette within 30 minutes of waking, but equally likely to smoke 1 or more packs of cigarettes every day. In both groups, about two thirds of respondents reported starting smoking before age 18.

Callers with behavioral health conditions were more likely than those with no conditions to have reached the Quit Line by phone, but were equally likely to have received a fax referral to the Quit Line (from a healthcare provider). Callers with behavioral health conditions were more likely than those with no conditions to have heard about the Quit Line from a healthcare professional. More than one in four callers with a behavioral health condition reported having heard about the Quit Line from a healthcare professional. Among those who reported their source of information was health care professional, 8.7% specifically mentioned specialist providers for behavioral health treatment, indicating that working with the behavioral health treatment community may help to reach more smokers with behavioral health issues who are motivated to quit, and to connect them with appropriate smoking cessation services.

National data show that there is a high co-occurrence of mental health disorders and substance abuse (NIDA, 2010), and the Quit Line data showed a similar pattern; seven out of ten callers who reported having a substance abuse disorder also reported at least one additional mental health condition. Numerous studies indicate that for treatment to be effective, these co-occurring disorders must be treated at the same time using an integrated approach (NIDA, 2010). In addition, studies indicate that integrated approaches for addressing the co-occurrence of behavioral health conditions and smoking are beneficial to patients (Prochaska & Prochaska, 2011).

Limitations

There are several limitations to this report. First, information on smoking in populations with behavioral health disorders is limited. Although the BRFSS is a valuable source of population data, persons who are in residential treatment or are homeless may be less likely to be reached for the survey, although those with cell phones would be in the sampling frame. Also, potential BRFSS respondents with untreated behavioral health disorders may be less likely to agree to be interviewed. Data on behavioral health from callers to Alaska's Tobacco Quit Line are useful, but these callers do not represent all smokers with behavioral health conditions. Clearly, there is a need to reach out into clinical settings to gather data on behavioral health in smokers. The Alaska Automated Information Management System (AKAIMS) is a web-based application and database that is intended to serve the dual purpose of a management information system (MIS) and electronic medical record (EMR) for behavioral health treatment facilities. Partnering with the Division of Behavioral Health to review and track information in the AKAIMS data system could be very useful in this regard.

Another limitation of this review is related to the difficulty of measuring mental health in a telephone-based survey rather than a clinical setting. First, there are a variety of conditions related to poor mental health, ranging from mild to severe. Second, these conditions must be assessed using self-report by the respondent. The BRFSS approaches this problem by asking about general mental health, assessing functional status, and using modules that have been developed to measure more severe mental distress. These approaches are less exact than relying on a clinical assessment, but do serve to roughly capture some of the variation in type and severity of these disorders. A separate issue, however, is that the stigma attached to mental health disorders may cause respondents to under-report these conditions.

Next Steps and Recommendations

Improvement in data sources

Adding Questions to the Alaska BRFSS

In addition to the data review, we identified behavioral-health-related questions previously used in telephone-based surveys like the BRFSS. This step was taken to add items to the Supplemental AKBRFSS, so that they could be analyzed in conjunction with smoking and cessation-related indicators like the ones included in this data review. Behavioral-health-related items added to the 2015 Supplemental AKBRFSS included 2 questions about activity limitations and treatment related to poor mental health, as well as 13 questions about substance use behavior and treatment. Substance abuse questions include the CDC Alcohol Module, as well as questions about use of marijuana and illegal drugs. The full list of questions is included in Appendix B of this report.

As a result of this review, we also recommend further review of modules that could identify respondents with current mental health conditions, in preparation for adding mental health-related questions to the future versions of the Alaska BRFSS. Although several surveys have used the Kessler 6 or the PHQ8, two scales that have been used on at least one occasion in the AKBRFSS and provide the ability to distinguish levels of mental illness or depression, it is also important to keep the annual AKBRFSS questionnaire length at a minimum to reduce the burden on survey respondents.

Based on the findings in this report, 5 other questions were added to the 2016 Supplemental AKBRFSS. The first 4 questions are the PHQ4, which has been validated (Löwe et al, 2010) as an ultra-brief measure of depression and anxiety in the general population. Depression is one of the more common mental health conditions and the stigma around this condition might be less than for other mental illness, which might mean that respondents would be more likely to report their condition. Depression and anxiety were the two most frequently noted behavioral health conditions mentioned by callers to the Alaska Quit Line. The PHQ4 includes the first 2 questions from the Patient Health Questionnaire (PHQ8, earlier included in AKBRFSS in the Optional Anxiety and Depression Module), and two other questions about anxiety from the Generalized Anxiety Disorder Screener (GAD-2). The fifth question added in 2016 asks about whether the respondent is currently receiving treatment, counseling or medication from a health professional for any type of mental health condition or emotional problem.

A strategic literature review of studies that have used these or similar modules, as well as discussions with CDC epidemiologists who have been involved in the identification of modules for national population-based surveys such as BRFSS, the National Health Interview Survey (NHIS), and the National Survey on Drug Use and Health (NSDUH), would be a useful step in determining what mental health-related questions would be most useful for the Alaska Tobacco Prevention and Control Program to add to the 2016 Alaska BRFSS.

Adding Questions to Alaska's Tobacco Quit Line

As noted, the Quit Line data about mental health come from callers who requested cessation services with Alaska's Tobacco Quit Line. However, the current intake interview includes only one question about current behavioral health conditions. In January 2015, this question was improved by adding an "Other" answer category, along with a follow-up question to capture open-end information about behavioral health conditions not on the list of options in the first question.

A next step to improve the quality of these data would be to add one or two questions regarding whether the caller is currently receiving treatment for their behavioral health condition, and how long they have been in treatment. Ideally, it would also be useful to know if those who report multiple behavioral health conditions are receiving treatment that addresses all conditions, or only some conditions. Information about treatment would help differentiate callers and could eventually provide useful information regarding integration of treatment for mental health or substance abuse and treatment for tobacco addiction.

Information in AKAIMS data

The Alaska Automated Information Management System (AKAIMS) is a web-based application and database that is intended to serve the dual purpose of a management information system (MIS) and electronic medical record (EMR) for behavioral health treatment facilities. The Alaska Division of Behavioral Health (DBH) uses the system to meet state and federal reporting requirements. However, use of the system is primarily voluntary. The primary contributors of data to AKAIMS are DBH grantee providers of substance abuse and mental health services. In addition, Alcohol Safety Action Program (ASAP) providers (e.g., court-mandated treatment) are supposed to use this system for reporting.

Some tobacco-related information is included in AKAIMS minimal data set. The Client Admission Form (see Appendix C) is completed at the first admission into a program at the beginning of a treatment episode. It includes the question, "Does Client currently use tobacco?" The interviewer/data recorder can only check one of the answer categories, which are: 1) cigarettes, 2) cigars/pipes, 3) combo, 4) smokeless tobacco, 5) No response, 6) Not collected, or 7) NA. However, there are no additional questions or follow-up about tobacco use during the treatment episode.

Although we did not have access to AKAIMS data for the purposes of this review, continued communication between the TPC Program and key staff in DBH may lead to information sharing or the development of an aggregated report that could be useful for TPC in monitoring tobacco use among those in treatment for behavioral health issues.

Programmatic directions

The high smoking prevalence among the population of persons with mental health and substance use disorders represents a concern for tobacco control programs. In addition to the data-related recommendations above, listed below are programmatic directions that could be explored in order to begin to reach this population with tobacco control interventions.

1. Promote the implementation of tobacco-free campus policies in mental health and substance abuse treatment facilities.
2. Work with health care systems to:
    a. Integrate tobacco dependence assessment/referral into care delivered in mental health and substance abuse treatment settings; and
    b. Promote integration of assessment for mental health, substance use, and dependence in primary care settings.
3. Designate persons with behavioral health disorders a “priority population” for the program and conduct routine surveillance and dissemination of tobacco-related indicators
4. Tailor Quit Line services to persons with behavioral health conditions.

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