DEPARTMENT OF HUMAN SERVICES

Providing Nicotine Treatment in SUD Residential Treatment Sites: Pilot Project Report

1/2020

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Background

In 2018 the Minnesota Department of Human Services, Alcohol and Drug Abuse Division (renamed the Behavioral Health Division and will be referred to as BHD throughout the rest of the document) Deputy Director Zirbes and Supervisor Frazier became aware that there appeared to be a lack of Minnesota DHS licensed Substance Use Disorder treatment programs offering nicotine treatment to their clients. This potential deficit was identified through a number of forums where this was discussed. The DHS Behavioral Health Division feels strongly that clients who are admitted to DHS licensed substance use disorder (SUD) treatment programs should have the opportunity to be treated for any addictive chemical, including nicotine.

Although the smoking rate has been declining in general population, it is still very high among SUD treatment population. According to the latest statewide adult survey, 2014/2015 Minnesota Survey on Adult Substance Use (MNSASU), 16% of Minnesota adults smoked in the past month. In comparison, among adult clients admitted to SUD treatment programs in Minnesota during the calendar year of 2015, the smoking rate was 75%, according to Drug and Alcohol Abuse Normative Evaluation System (DAANES). Offering nicotine treatment to clients in an SUD treatment program has been shown to enhance recovery and abstinence rates.[1] By providing SUD clients with nicotine treatment, treatment programs are able to promote the health and recovery from all addictions.

Pilot Study

DHS BHD decided to conduct a nicotine treatment pilot at three DHS licensed SUD treatment programs. The goal of the pilot was for the three programs to work towards parity in treating their client's nicotine dependence as they would any other chemical addiction.

In order to recruit three DHS licensed Substance Use Disorder treatment programs to participate in the nicotine treatment pilot Deputy Director Zirbes and Supervisor Frazier decided to bring the idea to the Minnesota Association of Resources for Recovery and Chemical Health (MARRCH) Board of Governors to recommend participants. Once potential pilot participants were identified Frazier met with administrators from each treatment program to explain the pilot and acquire each of the program's agreement to participate.

[1] Prochaska J., Delucchi, K. & Hall, S. (2004). A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. *Journal of Consulting and Clinical Psychology, 72(6),* 1144-1156.

DHS/ BHD funded staff from each of the three pilot sites, CentraCare/Recovery Plus, Park Avenue Center, and Wayside Recovery Center, to attend the Tobacco Treatment Specialist (TTS) training through Mayo and purchased a carbon monoxide (CO) monitor and accessories for each of the pilots to use during the pilot term. In addition DHS/ BHD created an annual plan (contract) for each of the pilot sites to earn up to $5,000 each State Fiscal Year (SFY). It was intentional that only minimal funding would be provided to ensure the pilot program's efforts could easily be replicated without the need for outside funding.

The pilot project ran from February 2018 through June 2019. Pilot sites were encouraged and supported to create programming and policies designed to offer treatment/cessation for nicotine dependent clients. BHD staff guided the pilot sites and provided technical assistance as requested. However, BHD staff did not dictate which programs, policies or treatment models would be implemented. BHD staff encouraged the pilot sites to include evidence based policies, practices and programming such as nicotine treatment curriculum, incorporating nicotine treatment into group and individual counseling sessions. Pilot sites were also encouraged to offer nicotine replacement therapy (NRTs), such as nicotine patches, gum, lozenges, nasal spray and/or inhaler, as well as medications such as Varenicline (Chantix) and Bupropion (Wellbutrin or Zyban) as appropriate. Other policy or programmatic changes the pilots were encouraged to consider included:

* Establishing a smoke free treatment program policy.
* Encouraging staff to avoid smoking with clients.
* Encouraging clients to avoid smoking during scheduled breaks.
* Including steps toward nicotine independence in the client's individual treatment plan.
* Using a CO monitor to support clients trying to quit.
* Helping clients create an individual quit plan.
* Assisting clients to initiate using a tobacco quit line prior to discharge.
* Helping the treatment program administrators and staff understand that nicotine is a drug and it should be treated like any other drug.

Study Design and Evaluation Plan

We decided not to pursue an experimental design due to logistical and ethical concern. Instead, the participating sites provided nicotine programs to all smoking clients who were interested in nicotine treatment.

A site survey was conducted at the beginning of the pilot study to gather some initial background information of the participating sites.

Each pilot site was asked to complete a client survey (Entry Survey) for each participating client as they initiated nicotine treatment as part of the pilot program and another survey (Exit Survey A) when the participating client completed the SUD treatment. As part of the exit survey, each client was invited to participate in a follow-up survey, which was conducted 30 days after the discharge by the pilot site staff. For the clients who were still with the treatment program at the end of the pilot period, we asked

the pilot sites to complete a slightly different version of exit survey (Exit Survey B). All client surveys were administered by program staff in paper form and submitted to DHS. Copies of all client survey questionnaires are included in Appendix A.

Two sets of staff surveys were conducted at the beginning (Pre-Pilot Staff Survey) and at the end of the pilot period (Post-Pilot Staff Survey). For both of the surveys, all program staff were invited to complete the surveys online. The web-based surveys were developed by DHS and the link was forwarded to each participating site for distribution to their staff.

The table below shows the project goals and research questions as well as the evaluation plan for each goal/research question.

Goals/Research questions	Evaluation
• test feasibility of providing nicotine treatment as part of the SUD treatment • find out the challenges/issues for providing nicotine treatment within residential SUD treatment sites	**Site Report:** At the end of pilot period each pilot sites will report on the nicotine treatment services they provided and any policy changes as part of the pilot study, describe the implementation and summarize any barriers and challenges they encountered.
• how effective the nicotine treatment is on clients' smoking behaviors and attitudes	**Client survey** will be conducted at the beginning of pilot, at discharge and 30 days after discharge; For the clients who are still in the treatment at the end of pilot period, a second survey will be conducted at the end of pilot program.
• whether there is any change in attitude/behavior of staff during the pilot program	**Staff survey** will be conducted twice (at the beginning and at the end of pilot) to gather data on their tobacco use and their opinions/attitude about smoking in relation to SUD treatment.
• whether there is any impact on SUD treatment and on the clients' overall satisfaction with the SUD treatment	**DAANES data** will be used to compare outcomes of clients between pilot sites and other sites where nicotine treatment was not provided.

Results

Summary of programs and obstacles reported by pilot sites

All pilot sites provided nicotine treatment throughout the pilot program period. All pilot sites provided NRTs and individual counseling for those that chose to participate. All sites allowed smoking outside of their facilities. One part of a program, the Women's Family Program at Wayside, eventually went smoke free and nicotine treatment was mandatory for all smokers.

All pilot sites reported increased motivation for quitting among clients as they became more stable in treatment and were exposed to more information. Recovery Plus reported 14 clients being tobacco free for 12 weeks. None of the other sites provided detailed information about client tobacco abstinence in their final reports.

Recovery Plus and Wayside have plans as of the end of the pilot program to go smoke free, Recovery Plus in November 2019 and Wayside in January 2020. Park Avenue does not have any plans to go smoke free at this time. All three sites plan to continue offering nicotine treatment (including NRTs) as a part of their SUD treatment programming.

Obstacles reported by pilot sites include billing issues, client resistance at the beginning, lack of medical staff and leadership/staff turnover.

Billing issues- not being able to bill for group or individual nicotine treatment counseling services in residential settings. One pilot site reported there was "no way to recoup the costs incurred sending people to Tobacco Treatment Specialist training."

Client ambivalence/resistance early in treatment- some clients weren't willing to address nicotine use early in treatment and as they became more comfortable in the treatment setting became more interested and willing to consider nicotine treatment.

Providing NRTs or MAT- Recovery Plus had dedicated medical that was able to prescribe NRTs or MAT's for the duration of the pilot program. Wayside and Park Ave did not have a medical provider able to prescribe until recently. In Park Ave's case, less than a month before the pilot program ended.

Leadership and staff turnover/culture change- All three sites talked about staff and leadership changes affecting the emphasis on providing nicotine treatment as well as new leadership changes in culture. Recovery Plus closed a residential program and switched to providing only outpatient services. Post pilot surveys, however, do show an increase in staff receptivity to providing nicotine treatment.

Staff Survey Results

All program staff in pilot sites were invited to complete a staff survey at the beginning of the pilot period (pre-pilot staff survey) and again at the end of the pilot period (post-pilot staff survey). The pre-pilot survey was conducted in February of 2018 and the post-pilot survey in June of 2019. The table below shows participation rates across pilot sites.

Number of Staff and Participation Rates in Staff Surveys by Pilot Sites

	Pre-Pilot Staff Survey			Post-Pilot Staff Survey		
	Total number of staff	Number of surveys	Participation rate	Total number of staff	Number of surveys	Participation rate
Park Ave	144	91	63%	99	52	53%
Wayside	73	44	60%	99	34	34%
Recovery Plus	46	40	87%	45	32	71%
Total	263	175	67%	243	118	49%

The staff surveys were conducted to examine changes in staff behavior, attitude and opinions during the pilot period. Our focus is on the change in the overall culture/norms among staff. This change may result from the changes in individual staff's attitude as well as from the staff turnover when new staff with different attitudes and opinions join the work force. Among 118 staff who completed the post-pilot survey, about 31% joined the treatment sites after the pre-pilot staff survey was conducted. There was no significant change in gender and age distribution among staff between pre- and post-pilot surveys.

The major findings include:

- Compared to pre-pilot survey, the post-pilot survey shows that the prevalence of smokers among staff slightly decreased from 14% to 11% and the prevalence of never-smokers increased from 43% to 49%.
- Among the smoking staff, compared to those in pre-pilot survey, more staff expressed an interest in quitting in post-pilot survey (35% vs. 30%) and more staff reported a motivation level of 5 or higher in a scale of 0 to 10 (65% vs. 56%).
- Staff in the post-pilot survey tend to report more positive opinions towards tobacco-free policies and providing tobacco cessation as part of the client's treatment plan. For example, in the post-pilot survey fewer staff agreed or strongly agreed that tobacco-free policies infringe on client rights (13% vs. 19%) and that tobacco-free policies infringe on staff rights (15% vs. 20%). Also, more staff in the post-pilot survey agreed or strongly agreed that tobacco cessation should be a part of a client's treatment plan if they are addicted to nicotine (68% vs. 62%).

While we cannot conclude that these changes resulted from the pilot program, we believe that all the preparations and discussions that occurred at each participating site in relation to the pilot study and the actual implementation of smoke-free policies and integration of smoking cessation services into the treatment programs had some influence on the changes observed in the staff surveys. The detailed results from pre and post pilot staff surveys can be found in Appendix B.

Client Survey Results

A total of 306 entry surveys were submitted by three pilot sites (168 from Recovery Plus; 80 from Wayside; 58 from Park Ave), and 46 exit surveys and 10 follow-up surveys were completed. The analysis was conducted with the 46 cases for which we have both the entry and exit survey data. The table below shows the total number of completed surveys included in the final analysis with survey dates conducted by each pilot site.

Client Survey Dates by Pilot Sites

	Date of Entry Survey	Date of Exit Survey
Wayside (N=10)	Apr-10-2018 to May-07-2019	May-09-2018 to Jun-04-2019
Park Ave (N=19)	Feb-08-2018 to Oct-02-2018	Mar-02-2018 to Oct-25-2018
Recovery Plus (N=17)	Jun-16-2018 to Nov-01-2018	Aug-08-2018 to Dec-05-2018

Due to the concern of privacy raised by pilot sites, we did not ask about demographics in the client surveys. Based on the DAANES data of the matching PMI[2], the vast majority of participants (more than 80%) were females and about three quarters were white[3].

Length of tobacco use reported by clients ranged from 6 months to 40 years with more than 70% having used tobacco for more than 10 years. In the entry survey, all clients reported smoking cigarettes except one who reported using chewing tobacco only. Just under a quarter (24%) of clients reported using e-cigarettes and about one in five reported using chewing or smokeless tobacco. By the time they left the treatment, about 94% of the clients reported tobacco use, compared to 100% in entry survey. The prevalence of tobacco use at the end of treatment shows decrease across all four types of tobacco product.

Types of Tobacco Product Used by Clients before and after the Pilot

	Cigarettes	Pipe/Cigar	E-cig	Chewing/Smokeless Tobacco	Any Tobacco
Entry Survey	97.8%	6.5%	23.9%	19.6%	100%
Exit Survey	87.0%	0.0%	6.5%	10.9%	93.5%

Out of 45 clients who reported cigarette smoking in Entry Survey, five clients (11%) stopped smoking cigarettes by the time they were discharged from treatment: three clients quit from using any tobacco

[2] Person Master Index is a unique identification assigned to each client in the system.

[3] Due to the small N size detailed demographics information is not reported to protect anonymity of clients.

Out of 45 clients who reported cigarette smoking in Entry Survey, five clients (11%) stopped smoking cigarettes by the time they were discharged from treatment: three clients quit from using any tobacco product; one client reported using e-cigarette instead of cigarette; another client reported using chewing/smokeless tobacco only instead of using both cigarette and chewing/smokeless tobacco. In addition, one client who used chewing tobacco stopped using it.

At the beginning of the pilot, about 30% of clients reported using more than one tobacco product. By the time they completed the treatment, only 9% reported using more than one tobacco product and no one reported using all four tobacco products.

Number of Tobacco Products Used before and after the Pilot,

Number of Tobacco Product Used	Entry Survey	Exit Survey
0	0.0%	6.5%
1	69.6%	84.8%
2	15.2%	6.5%
3	13.0%	2.2%
4	2.2%	0.0%
Total	100.0%	100.0%

Among the tobacco users, 86% said that they were interested in quitting tobacco in the exit survey, compared to 70% at the beginning of the pilot program. The motivation level to quit tobacco didn't show much change across the two surveys: When asked in a scale from 0 (no motivation) to 10 (highest level of motivation), the mean value was 7 in both surveys and the median value was 8 in entry survey and 7 in exit survey while the minimum motivation level reported was 0 in entry survey and 2 in exit survey.

Interest in Quitting Expressed before and after the Pilot

Q: Are you interested in quitting tobacco now?	Entry Survey	Exit Survey
Yes	69.6%	86.0%
Maybe	23.9%	9.3%
No	6.5%	4.7%
Total	100.0%	100.0%

The table below shows summary measures for the number of days of smoking in the past 30 days and the number of cigarettes smoked per day reported by the smoking clients in each survey. Smokers in the exit survey reported slightly higher number of smoking days compared to entry survey (27 days vs.

25 days). In addition, 72% of smokers in the exit survey reported that they smoked every day in the past 30 days, increased from 68% in the entry survey. This might be due to the less frequent smokers quitting by the time of exit survey.

On the other hand, the mean number of cigarettes smoked a day decreased from 11 in entry survey to 9 in exit survey. In the exit survey, one client reported smoking 65 cigarettes a day, which was an outlier in the distribution.[4] Without the outlier value, the mean number of cigarettes smoked per day decreased further to 7.

Days of Smoking and Number of Cigarettes Reported before and after the Pilot

	Days of Smoking in Past 30 days		Number of Cigarettes Smoked Per Day	
	Entry Survey	Exit Survey	Entry Survey	Exit Survey
Mean	24.8	26.9	10.8	8.6
Median	30	30	10	5
Mode	30	30	10	3 & 5
Minimum	1	3	1	1
Maximum	30	30	40	65

Both the entry and exit surveys included five questions from the Fagerstrom test for nicotine dependence on cigarettes[5]. As the table below shows, the mean score of nicotine dependence decreased from 3.3 in entry survey to 2.7 in exit survey with additional summary measures of median and mode also showing the declining pattern.

Nicotine Dependence Score before and after the Pilot

Fagerstrom Score

	Entry Survey	Exit Survey
Mean	3.3	2.7
Median	3	2
Mode	4	1
Minimum	0	0
Maximum	8	7

[4] The next highest number of cigarettes smoke per day reported in exit survey was 25.

[5] Carrie F. Whitney (2010). Creating a tobacco=free residential substance abuse treatment facility: A toolkit for designing an effective intervention. Georgia State University, School of Public Health.

Out of 10 clients who completed the follow-up survey, one client who used to smoke cigarettes reported not using any tobacco products 30 days after discharge. In the follow-up survey we asked "Do you find yourself smoking or using tobacco products more or less than when you were in treatment?" Of the nine clients who reported still smoking cigarettes at the time of the follow-up survey, one client reported smoking about the same and all the others reported that they smoked less than before.

DAANES data analysis

To examine whether providing nicotine treatment as part of SUD treatment had affected the SUD treatment outcome, we selected a group of comparison sites of residential SUD treatment programs. Based on the data from the Nicotine Treatment and Smoke-free Policy Survey that DHS conducted among residential SUD treatment providers, we identified three sites that, as of April 2019, had no specific therapeutic interventions written into clients' treatment plan to address nicotine addiction if clients were assessed to have a nicotine use disorder and didn't provide nicotine treatment other than NRT. These three sites are located in Anoka, Washington and Carlton counties.

DAANES data for clients who were admitted to these three sites after March 1, 2018 and have their discharge forms submitted by the end of July 2019 comprised of the comparison group (N=120). For this analysis, all pilot clients who submitted the client entry survey, regardless of whether the exit surveys were submitted or not, were included for PMI matching for DAANES records. The resulting 101 DAANES records for pilot clients with a matching PMI comprised of the pilot group for the final comparison analysis. The admission and discharge dates of the total 221 treatment episodes included in the final analysis ranged from March 1, 2018 to May 15, 2019 for admission and from April 4, 2018 to July 1, 2019 for discharge.

The following two tables compare the characteristics of clients across the groups. A vast majority of patients in both groups were female clients. There were more young adults (between the ages 18 and 24) in comparison group than in pilot group (27% vs. 6%). The pilot group had almost ten times more black clients than comparison group (16.8% vs. 1.7%) while the comparison group had more American Indians than pilot group (22% vs. 13%).

For clients in the pilot group, methamphetamine was the leading substance of abuse, followed by alcohol, respectively reported by 45% and 22% of clients as their primary substance of abuse. For comparison group, heroin and other opiates were the top primary substance of abuse reported by almost 60% of the clients in this group. Heroin was the primary substance of abuse for 50% of clients in comparison group, whereas only 9% of pilot clients reported heroin as their primary substance.

Clients in the pilot group tended to have more previous SUD treatment experience than clients in comparison group. Although not reported in the table, the length of treatment tended to be longer for clients in pilot group than their counterparts in comparison group: The average length was 62 days for pilot clients, compared to 42 days for the comparison group clients.

Demographics of Clients in Pilot and Comparison Groups

		Pilot (N=101)	Comparison (N=120)
Age	18-24	5.9%	26.7%
	25-44	82.2%	63.3%
	45-64	11.9%	10.0%
Gender	Male	3.0%	1.7%
	Female	97.0%	98.3%
Race/Ethnicity	White	60.4%	68.3%
	Black	16.8%	1.7%
	American Indian	12.9%	21.7%
	Hispanic	2.0%	5.0%
	Other	7.9%	3.3%

Characteristics of Clients in Pilot and Comparison Groups

		Pilot (N=101)	Comparison (N=120)
Primary Substance of Abuse	Alcohol	21.8%	9.2%
	Marijuana	10.9%	2.5%
	Methamphetamine	44.6%	24.2%
	Cocaine/Crack	7.9%	0.0%
	Heroin/other opiates	10.9%	59.2%
	Other	4.0%	5.0%
Previous Treatment	0	19.8%	27.5%
	1-2	19.8%	29.2%
	3 or more	60.4%	43.3%

To test whether the pilot program of nicotine treatment had any impact on the clients' SUD treatment outcomes, we examined the treatment completion rates. Treatment completion is the first step toward recovery for clients and often used as one of the measures to evaluate the SUD treatment outcomes. In addition, we also examined the severity score[6] of SUD. To control for the difference in

[6] The SUD severity score is measured by the sum of 6 dimensions (acute intoxication/withdrawal potential; biomedical conditions and complications; emotional/behavioral/cognitive conditions and complications; readiness for change; relapse/continued use/continued problem potential; recovery environment), with each dimension being scored with a scale

the severity level at the time of admission between the two groups, we focused on the change in severity scores between admission and discharge.

Treatment Completion and SUD Severity Score at Discharge

Discharge Status

	Pilot (N=101)	Comparison (N=120)
Completer	64.4%	50.0%
Non-completer (client leaving without staff approval or due to conduct issues)	28.7%	40.0%
Other[7]	6.9%	10.0%

SUD Severity Score (Change from Admission)

	Pilot (N=101)	Comparison (N=120)
Increased	14.9%	31.7%
Same	16.8%	19.2%
Decreased	68.3%	49.2%

Clients in pilot group were more likely to complete the treatment than the clients in comparison group (64% vs. 50%). Almost seven in ten clients in pilot group (68%) showed their SUD severity score decreased at the time of discharge, compared to 49% of clients in comparison group. On the other hand, about 15% of pilot clients showed an increased severity score at the time of discharge and about twice as much (32%) among those in comparison group showed an increased severity score at discharge. The average decrease in severity scores was 1.9 among the pilot clients, compared to 0.9 among their counterparts in comparison group.

of 0 (no problem) to 4 (extreme problem). The severity scores ranged 0 to 18 with a mean of 12.1 in admission and 1 to 19 with a mean of 10.7 in discharge.

[7] "Other" in discharge status includes expiration of civil commitment/hold order, transfer to other program, lost financial support, incarcerated and death.

Client Satisfaction with the Treatment Received

Q: How much were you helped by the counseling or treatment you got?

	Pilot (N=61)	comparison (N=75)
Not at all	0.0%	0.0%
A little	4.9%	4.0%
Somewhat	13.1%	8.0%
A lot	82.0%	88.0%
Total	100.0%	100.0%

Clients' satisfaction level with the treatment was also examined. At the time of discharge, treatment clients were asked "How much were you helped by the counseling or treatment you got?" Slightly more clients in comparison group than in pilot group said that the treatment helped them a lot (88% vs. 82%), with almost all clients in both groups reporting that the treatment helped them a lot or somewhat (95% for pilot group; 96% for comparison group).

Overall, these results from DAANES data analysis provided information against common myths and concerns surrounding concurrent tobacco cessation and SUD treatment. The results showed that providing nicotine treatment as part of SUD treatment did not interfere with clients' recovery but seemed to enhance the treatment outcomes.

Conclusion/Discussion

The pilot study showed that providing nicotine treatment as part of SUD treatment helped clients with their tobacco use and enhanced the SUD treatment outcomes. By the end of treatment, 11% of cigarette smoking clients stopped smoking and 7% of clients quit using all tobacco products. Among clients who were still smoking/using a tobacco product at the end of treatment, the number of cigarettes they smoked decreased and the prevalence of clients using multiple tobacco products also decreased at discharge. In addition, the pilot clients, compared to the comparison group, were more likely to complete the treatment and their SUD severity scores were more likely to decrease by the time of discharge.

We believe that the implementation of smoke-free policies in the treatment settings and integration of nicotine treatment into SUD treatment had some positive impact on staff attitude and opinions, creating a more supportive environment for clients who want to quit smoking while they were receiving SUD treatment.

We also learned that there was significant interest in quitting tobacco use among pilot clients at the beginning of treatment (70%) and it further increased by the time of discharge (86%). The motivation

levels stayed fairly consistent throughout treatment while the low end motivation somewhat increased at the end of treatment.

While these findings are encouraging, there were a few challenges pilot sites faced in providing nicotine treatment as part of their SUD treatment. One major obstacle reported by the pilot sites was billing for nicotine treatment. There does not appear to be a way to bill for nicotine treatment separately in a SUD residential setting.

Inaccurate information and myths held by staff can also be a barrier to providing nicotine treatment. There should be some additional efforts to increase awareness of tobacco treatment disparities among people with SUD and to encourage LADCs to use their skills for addressing tobacco use in SUD treatment settings. By providing education and awareness aimed at counselors in training prior to their joining the field we can create a “bottom up” approach of addressing these issues. As staff and leadership at SUD treatment facilities become more aware of the high percentage of SUD clients who want to quit commercial tobacco use, and the need for nicotine treatment and its positive impact on SUD treatment outcomes, the integration of nicotine treatment will occur more widely across various SUD treatment settings.

Finally, some limitations of the current study should be mentioned. First, the findings reported here are from a limited number of clients who participated in the pilot program. The small number of clients in the final data set didn’t allow a more advanced data analysis. While the findings are mostly positive, the readers should be cautioned in generalizing them to outside of the study. More robust findings require additional data from various socio-demographic subgroups and from a wide range of SUD providers.

We strongly support additional studies to learn more about the impact of providing nicotine treatment to clients in SUD treatment programs, the challenges the providers face in implementing it and the roles research can play in supporting the process of integration. Future study should consider including mental health treatment programs.

Data collection required for the pilot study became an additional burden to the participating providers who were already running a busy daily routine. This affected both the quantity and quality of the data collected in the study. Future studies should consider hiring a vendor to be in charge of data collection so that the providers can focus on treatment programming or increase funding to the providers for data collection to incentivize better quality and quantity of the data.

Appendix A

Client Survey Questionnaires

Client Survey I (Entry)

*(To be administered to all participating clients **at the start of the pilot program**)*

(Staff should fill the following information before conducting the survey)

Today's Date: _____

Client PMI: _____

How long has this client been in the treatment?_____months_____days

Introduction: *We're conducting this survey as part of a pilot program of providing smoking cessation services in the residential treatment setting. This is supported by Department of Human Services (DHS). The survey will be very short, asking questions related to your smoking. To measure your progress in smoking cessation, there will be another survey at the end of the program. This survey is confidential and your participation is voluntary. You do not have to complete this survey in order to receive services.*
However, your participation will be very important for the success of this study. The data collected in the survey will be shared with DHS in order to assist their effort in improving smoking cessation services throughout the state.

(Ask the following questions to the client and enter the answers)

Q1. How long have you used tobacco?_____years_____months

Q2. What form(s) of tobacco have you used? (*mark all that apply*)

1. Cigarettes
2. Pipe/Cigar
3. E-cig
4. Chewing/Smokeless Tobacco
5. Other:_____

Q3. Are you interested in quitting tobacco now?

1. Yes
2. Maybe
3. No

Q4. On a scale of 0-10, where 0 means no motivation and 10 means highest level of motivation, how motivated are you to quit tobacco?

0 1 2 3 4 5 6 7 8 9 10

Q5. During the past 30 days, on how many days did you smoke cigarettes?_____days

Q6. How many cigarettes a day do you smoke? _____

Q7. How soon after you wake up do you smoke your first cigarette?

1. Within 5 minutes
2. 6-30 minutes
3. 31 to 60 minutes
4. After 60 minutes

Q8. Do you find it difficult not to smoke in places where smoking is not allowed (ex. Hospital, library, movies)?

1. Yes 2. No

Q9. Which cigarette would be the hardest to give up?

1. The first one in the morning
2. All others in the day

Q.10. Do you smoke if you are so ill that you are in bed most of the day?

1. Yes 2. No

Q.11. What do you think would be the most helpful in assisting you to quit smoking?

Client Survey II-A (Exit A)

*(To be administered to all participating clients **at the time of discharge from CD treatment**)*

(Staff should fill the following information before conducting the survey)

Today's Date: _____

Client PMI: _____

How long has this client been in the treatment?_____months_____days

(Ask the following questions to the client and enter the answers)

Q1. Do you smoke cigarette or use any other tobacco products?

Yes ⟹ *circle or write down the products the client uses*

Cigarettes Pipe/Cigar E-cig Chewing/Smokeless Tobacco

Other:_____

No ⟹ ***ask Q1a below then skip to Q11)***:

Q1a. When was the last time that you smoked?_____days ago **(*Go to Q11*)**

Q2. During the past 30 days, on how many days did you smoke cigarettes?_____days

Q3. How many cigarettes a day do you smoke? _____

Q4. During the past 30 days, on how many days did you use other tobacco products?

_____ days

Q5. Are you interested in quitting tobacco now?

1. Yes
2. Maybe
3. No

Q6. On a scale of 0-10, where 0 means no motivation and 10 means highest level of motivation, how motivated are you to quit tobacco?

0 1 2 3 4 5 6 7 8 9 10

Q7. How soon after you wake up do you smoke your first cigarette?

1. Within 5 minutes
2. 6-30 minutes
3. 31 to 60 minutes
4. After 60 minutes

Q8. Do you find it difficult not to smoke in places where smoking is not allowed?

1. Yes 2. No

Q9. Which cigarette would be the hardest to give up?

1. The first one in the morning
2. All others in the day

Q10. Do you smoke if you are so ill that you are in bed most of the day?

1. Yes 2. No

Q11. We'd like to contact you in 30 days for a short follow-up survey. Can we get a phone number or email address where we can reach you for the survey?

Agreed to participate (phone # or email address): _____

Refused

Client Survey II-B (Exit B)

(To be administered to all participating clients **at the end of the pilot program period if the clients are still in the treatment)**

(Staff should fill the following information before conducting the survey)

Today's Date: _____

Client PMI: _____

How long has this client been in the treatment?_____months_____days

(Ask the following questions to the client and enter the answers)

Q1. Do you smoke cigarette or use any other tobacco products?

Yes ⟹ *circle or write down the products the client uses*

Cigarettes Pipe/Cigar E-cig Chewing/Smokeless Tobacco

Other:_____

No ⟹ *ask Q1a below and end the survey*:

Q1a. When was the last time that you smoked?_____days ago

Q2. During the past 30 days, on how many days did you smoke cigarettes?_____days

Q3. How many cigarettes a day do you smoke? _____

Q4. During the past 30 days, on how many days did you use other tobacco products?

_____ days

Q5. Are you interested in quitting tobacco now?

1. Yes
2. Maybe
3. No

Q6. On a scale of 0-10, where 0 means no motivation and 10 means highest level of motivation, how motivated are you to quit tobacco?

0 1 2 3 4 5 6 7 8 9 10

Q7. How soon after you wake up do you smoke your first cigarette?

1. Within 5 minutes
2. 6-30 minutes
3. 31 to 60 minutes
4. After 60 minutes

Q8. Do you find it difficult not to smoke in places where smoking is not allowed?

1. Yes 2. No

Q9. Which cigarette would be the hardest to give up?

1. The first one in the morning
2. All others in the day

Q10. Do you smoke if you are so ill that you are in bed most of the day?

1. Yes 2. No

Client Survey III (Follow-Up)

(For all clients who agreed to participate in a follow-up survey, administer this survey 30 days after discharge)

(Staff should fill the following information before conducting the survey)

Today's Date: _____

Client PMI: _____

Interviewer: Introduce yourself by your name, position and the treatment center you're employed, then briefly remind the client of the pilot program and his/her agreement to participate in this follow up survey.

Q.1 **What type of smoking cessation services you had received while you were at [*NAME OF THE TREATMENT CENTER]*? (*MARK ALL THAT APPLY)***

1. Nicotine Replacement Therapy (nicotine patches, gum, lozenges, inhaler or nasal spray)
2. Nicotine Medications including Bupropion (Zyban or Welbutrian) and Varenicline (Chantix) prescribed specifically for treating nicotine dependence.
3. Nicotine/ Smoking treatment in therapeutic group counseling sessions
4. Nicotine/ Smoking treatment in therapeutic individual counseling sessions
5. Self-Help Groups that addressed Nicotine/ Smoking
6. Curriculum/ workbooks to help address Nicotine/ Smoking
7. Peer support to quit the use of nicotine/ smoking
8. Use of telephone quit line counseling
9. Use of a CO monitor to help monitor the carbon monoxide in your body
10. Use of massage, acupuncture or hypnosis to help you quit smoking/ using nicotine.
11. Other

Q2. How helpful were the smoking cessation services that you received during the treatment at [*NAME OF THE TREATMENT CENTER]*?

1. Very helpful
2. Somewhat helpful
3. Only a little helpful
4. Not helpful at all

Q3. Do you have any additional comments on the smoking cessation services you received? What was helpful and what suggestions do you have for improvements?

Q4. Do you currently smoke cigarettes or use any other tobacco products?

Yes ⟹ [*CIRCLE OR WRITE DOWN THE PRODUCTS*]

Cigarettes Pipe/Cigar E-cig Chewing/Smokeless

Tobacco Other:_____

No⟹ [*THANK THE CLIENT AND END THE SURVEY]*

Q5. Do you find yourself smoking or using tobacco products more or less than when you were in treatment?

1. More
2. About the same
3. Less

Q6. During the past 30 days, on how many days did you smoke cigarettes?_____days

Q7. How many cigarettes a day do you smoke? _____

Q8. During the past 30 days, on how many days did you use other tobacco products?

_____ days

Thank the client and end the phone call.

Appendix B
Staff Survey Results

Pre-Pilot Staff Survey

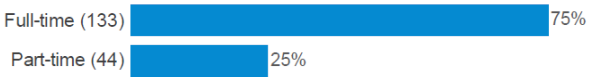
What is the name of the treatment center where you work?

Are you male or female? (Respondent gender)

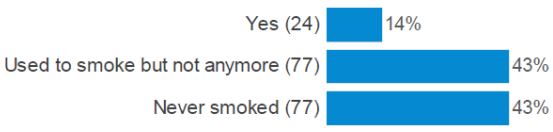
Your age?

Count	Mean	Sample Standard Deviation	Minimum	Maximum
175	38.44	13.08	21	74

Are you a full-time or part-time employee?

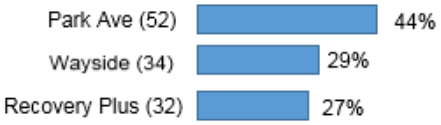


Do you smoke cigarettes?



Post-Pilot Staff Survey

What is the name of the treatment center where you work?

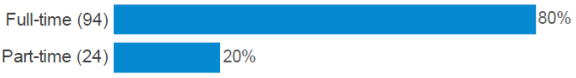


Are you male or female? (Respondent gender)

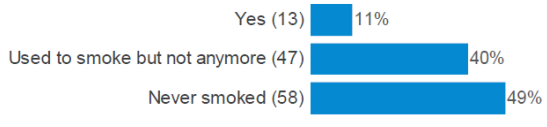
Your age?

Count	Mean	Sample Standard Deviation	Minimum	Maximum
114	40.92	14.39	19	71

Are you a full-time or part-time employee?



Do you smoke cigarettes?



During the past 30 days, on how many days did you smoke?

Count	Mean	Sample Standard Deviation	Minimum	Maximum
22	28.41	4.19	15	30

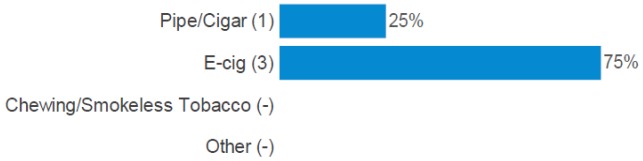
Do you smoke at work?

How many cigarettes do you smoke per day?

Count	Mean	Sample Standard Deviation	Minimum	Maximum
24	6.96	3.39	2	15

Do you use any other tobacco product?

Which of the following tobacco products do you use? (Mark all that apply)



Are you interested in quitting tobacco now?

During the past 30 days, on how many days did you smoke?

Count	Mean	Sample Standard Deviation	Minimum	Maximum
13	26.69	8.10	7	30

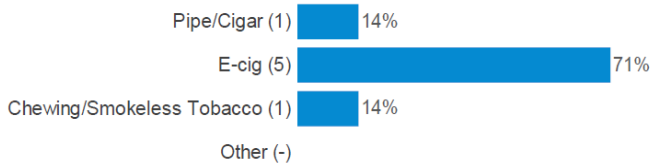
Do you smoke at work?

How many cigarettes do you smoke per day?

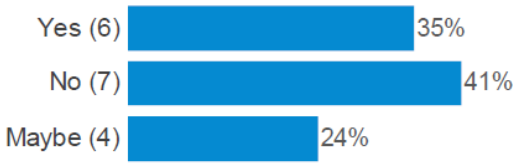
Count	Mean	Sample Standard Deviation	Minimum	Maximum
13	7.23	4.48	1	15

Do you use any other tobacco product?

Which of the following tobacco products do you use? (Mark all that apply)



Are you interested in quitting tobacco now?

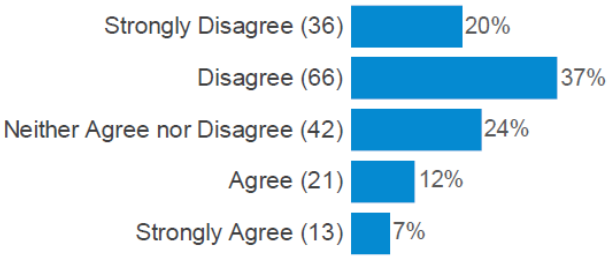


On a scale of 0-10, where 0 means no motivation and 10 means highest level of motivation, how motivated are you to quit tobacco? (Motivational level)

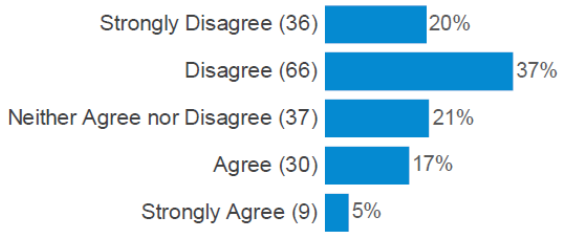
Count	Mean	Sample Standard Deviation	Minimum	Maximum
21	4.71	2.76	0	8

For each of the following statements, please indicate whether you agree or disagree with it:

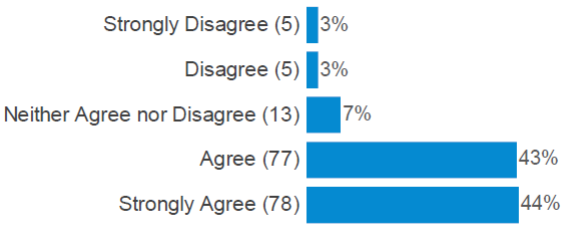
Tobacco-free policies infringe on client rights



Eliminating the use of tobacco will interfere with client's recovery



Providing smoking cessation program will enhance client's overall treatment

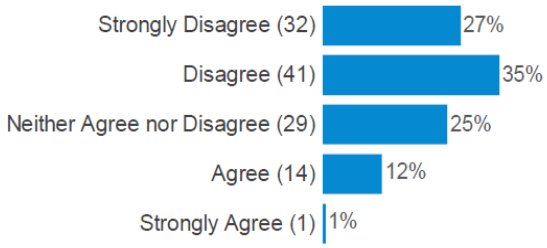


On a scale of 0-10, where 0 means no motivation and 10 means highest level of motivation, how motivated are you to quit tobacco? (Motivational level)

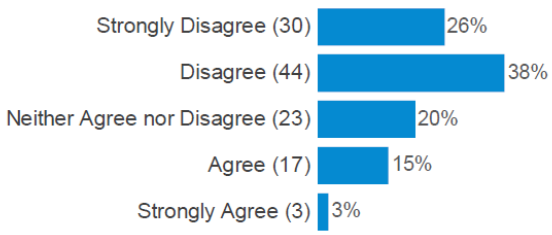
Count	Mean	Sample Standard Deviation	Minimum	Maximum
17	5.41	3.34	0	10

For each of the following statements, please indicate whether you agree or disagree with it:

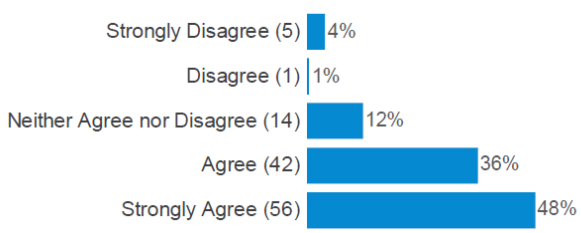
Tobacco-free policies infringe on client rights



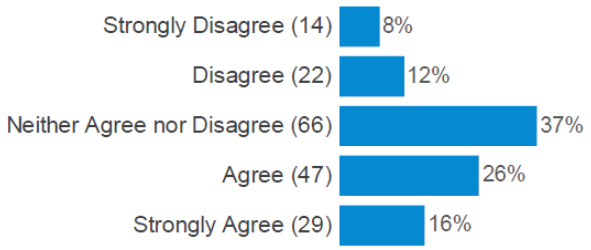
Eliminating the use of tobacco will interfere with client's recovery



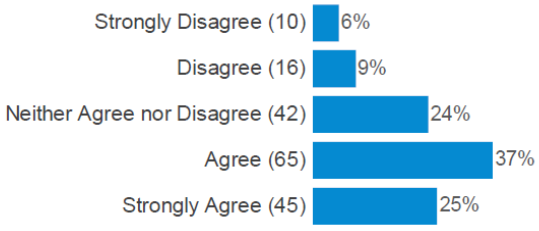
Providing smoking cessation program will enhance client's overall treatment



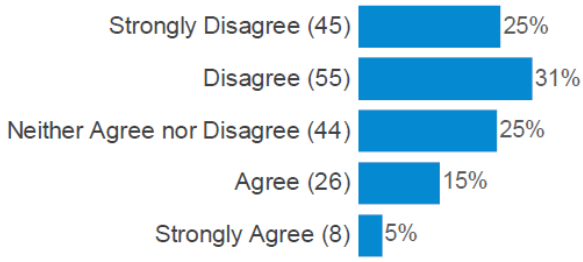
Continued tobacco use makes relapse more likely



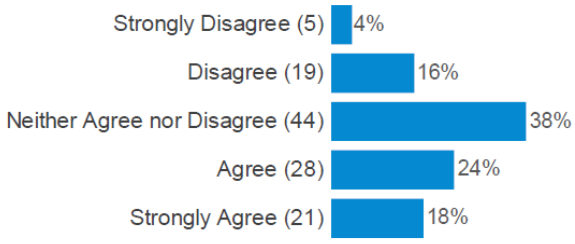
Tobacco cessation should be a part of a client's treatment plan if they are addicted to nicotine



Tobacco-free policies infringe on staff rights



Continued tobacco use makes relapse more likely



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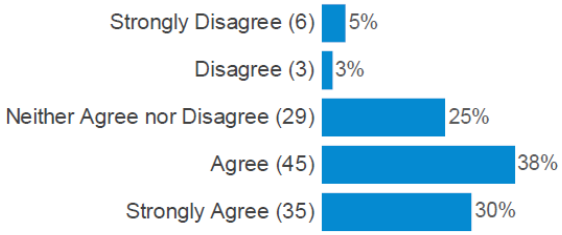

Tobacco-free policies infringe on staff rights