A TIME TO LEAD

The Case for Integrating Treatment of Tobacco Use Disorder in the Treatment of Other Substance Use and Mental Health Disorders

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NATIP

National Tobacco Integration Project

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- "A Time to Lead" is an appeal for action. Its purpose is to bring to light the urgent need to integrate evidence-based treatment of Tobacco Use Disorder (TUD)[1] into the protocols for treating substance use and mental health disorders in the United States.

- "A Time to Lead" exposes a huge gap in addiction and mental health services. It reveals that current practices accept the preventable diseases and death from tobacco of more than 200,000 Americans within these two vulnerable populations that account for nearly 40% of the 540,000 annual tobacco deaths in the US.

- Few people live in isolation, including tobacco users. Anecdotally, we assume that four people are directly involved with tobacco users. On this basis the annual collateral damage from this service gap affects more than 800,000 family members and acquaintances who suffer the loss of loved ones, many of whom successfully battled substance use and mental disorders only to die from tobacco related health problems.

- The 80% of SUD treatment patients who smoke are victims of discrimination as they are denied Tobacco Use Disorder (TUD) treatment services that are well within the capacity of the addictions treatment system to provide and that are, in fact, routinely offered to patients treated with other substance use disorders.

- While exposing this major flaw in service philosophy, "A Time to Lead" also offers realistic and achievable recommendations for closing the gap. These recommendations are endorsed by leading US experts on tobacco, mental health and addictions who comprise the NATIAC.

- Most importantly, "A Time to Lead' demonstrates beyond doubt that this service gap is not due to lack of expertise, resources or ability to effectively eliminate it. The problem has been a lack of willingness of key parties, particularly the addictions treatment providers.

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[1] The DSM-5 uses the term "Tobacco Use Disorder" which consists of a number of tobacco related health issues, including addiction to nicotine.

NATIAC

The National Tobacco Integration Advocacy Council

David Macmaster, CSAC, PTTS, Coordinator
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Founding NATIAC Members

Bruce Christiansen, PhD Senior Scientist, University of Wisconsin, School of Medicine and Public Health, Center for Tobacco Research & Intervention. He is Coordinator and Co-founder of Wisconsin Nicotine Treatment Integration Project (WINTIP). He developed the Wisconsin tobacco integration guidelines for implementing 100% tobacco free environment, providing evidence-based nicotine dependence treatment and assisting staff to be tobacco free in support of a tobacco free recovery environment

Eric Heiligenstein, MD Psychiatrist at Journey Mental Health Center, Madison, Wisconsin, Medical Director and Co-founder of Wisconsin Nicotine Treatment Integration Project (WINTIP) and a member of the Wisconsin Tobacco Advisory Board. He is involved at the state and national levels in integrating tobacco prevention and intervention into mental health and substance use treatment practices.

Norm Hoffman, PhD Founder and president of Evince Clinical Assessments. He develops clinical assessment instruments and provides consultation and training on a broad range of health issues in the behavioral health area. Dr. Hoffman was founder and President of CATOR (Comprehensive Assessment and Treatment Outcomes Research); developed the Cleveland Criteria, and was lead author of the initial ASAM Clinical placement Criteria for the treatment of Substance Use Disorders. He is an international authority on addiction assessment and research.

Tony Klein, MPA, CASAC, NCAC II Manager of Outpatient Chemical Dependency Services, Unity Hospital of Rochester/Unity Chemical Dependency. Well known as an advocate for addressing tobacco in addiction services, he assisted with the development, drafting, training and implementation of New York State Regulation 856-Tobacco-Free Services. He lectures nationally and provides consultation to community providers on recovery-oriented tobacco strategies.

David Macmaster, CSAC, PTTS He was the inspiration for "A Time to Lead". Managing Consultant and Co-founder of Wisconsin Nicotine Treatment Integration Project (WiNTiP). He developed the tobacco integration resolution that became state and national tobacco policy and was instrumental in creating the Wisconsin tobacco integration guidelines. He is experienced in the application of recovery-oriented systems of care (ROSC) for substance use and mental health disorder clinicians, managers, consumers and allies.

Michael Miller, M.D, FASAM, FAPA Past President of the American Society of Addiction Medicine (ASAM) and Medical Director of Rogers Memorial Hospital Herrington Recovery Center. He served as Managing Editor for the 2013 edition of the ASAM Criteria, the most widely accepted manual of utilization criteria for addiction care. He currently chairs the Action Group within ASAM that produces Standards of Care for the Addiction Specialist Physician.

Chad Morris, PhD Associate Professor, University of Colorado Department of Psychiatry and Director Behavioral Health & Wellness Program. He is a member of the Society for Research on Nicotine and Tobacco, a pioneer in tobacco integration in behavioral health professions and the design of tobacco integration manuals providing technical assistance, research and training.

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Karen Carpenter Palumbo Former Commissioner of the New York State Office of Alcoholism and Substance Abuse Services (OASAS). She was responsible for implementing NYS's 856 rule requiring all licensed addiction services to provide 100% tobacco free environments and to treat nicotine dependence concurrently with the treatment of other substance use disorders, a major public health achievement proving that tobacco integration is within the scope of practice for addiction professionals.

Steven A. Schroeder, MD Director, Smoking Cessation Leadership Center and Distinguished Professor of Health and Health Care, Department of Medicine, University of California, San Francisco. He has worked to engage the mental health community in tobacco issues and was President and CEO of the Robert Wood Johnson Foundation during which time the foundation granted $4 billion in its pursuit of improving health for Americans.

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Past Founding NATIAC Member

Steven Kipnis, MD, FACP, FASAM Past Medical Director of the New York State Office of Alcoholism and Substance Abuse Services. He is a Diplomat American Board of Addiction Medicine. Along with Health Commissioner Karen Carpenter Columbo, he drafted and implemented the NYS 856 tobacco integration regulation and provided medical credibility for tobacco integration.

A Time to Lead

The Case for Integrating Treatment of Tobacco Use In the Treatment of Other Substance Use And Mental Health Disorders

Introduction

The reduction in the rate of tobacco use in the USA has been dramatic. Having fallen from 42% of the adult population in 1964 to 18% by 2014[2] and down to 14% in 2017[3] it is one of the most significant public health achievements since population-wide vaccination programs. However, due to population growth, there are as many Americans dying from tobacco now as in 1964. Currently more than 540,000 US citizens die from tobacco related causes a year.[4] In 2010, when the tobacco mortality estimate was 435,000 it was estimated that roughly 200,000[5] suffered from other substance use and mental disorders[6], a conservative number today considering the increased number of annual deaths.

While efforts to reduce the absolute number of tobacco users in the general population should continue to be a primary public health objective, even more compelling is the need for a concerted effort to reduce tobacco use among those who are "most-at-risk", both for its use and its serious health consequences. A significant sub-group within this category are those currently being treated

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[2] "Message from Howard Koh" Assistant Secretary for Health, US DHHS, 2014. *Report of the USSG 2017*

[3] Center for Disease Control and prevention, "Current Cigarette Smoking Among Adults in the United States. AP *June 19, 2018*

"www.cdc.gov/tobacco/campaign/tips

[4] Carter, BD; Abnet, CC; Feskanich, D. (2015) "Smoking and mortality-beyond established causes", *New England Journal of Medicine,* 37, :631-40. Author's Note: The CDC bases its estimate of 480,000 deaths on 21 tobacco related illness whereas Abnet, et al, include 30 illnesses, thus the higher estimate.

[5] Center for Disease Control, Steven A. Schroeder, MD: "Tobacco Dependence: A Grand Rounds Presentation" March 3, 2010, Slide 14.

[6] Note: Public health language is evolving. As used in this document, the term "Behavioral Health" describes the merging of psychiatry/mental health, alcoholism and addiction/substance use disorders into a single category.

for other substance use disorders (SUD), with tobacco use estimates ranging upwards from 80%.[7] Many in this group have other co-morbid mental health issues[8] which are also exacerbated by continued tobacco use.

We believe a systemic effort to reduce tobacco use in these particular populations can be a key factor in bringing down the overall tobacco death toll in the USA. At the same time, the recovery rates of those suffering from alcohol and other substance use disorders, mental/psychiatric disorders, and a number of other health concerns can be improved.

Transforming this hope into reality is entirely possible. However, it will require willingness on the part of today's SUD treatment providers to focus on and include treatment of Tobacco Use Disorders (TUD), much as was required by alcoholism treatment programs in the 1980s to address addiction to heroin, cocaine and a host of other drugs both licit and illicit. Such treatment is well within the current capabilities of SUD treatment providers generally. In order to do this the dimensions of the problem must be acknowledged, a number of myths need to be examined, successful models of treatment cited, and the critical roles of stakeholders outlined.

The Problem is Monumental

The dimensions of the tobacco use problem are staggering. It affects practically every meaningful area in the lives of all of us, not just those who smoke or use other tobacco products. It can be viewed from two perspectives: 1.) The effect on the general population, and 2.) The manner in which it exacerbates the problems of those suffering from other addictions. It is doubtful that a population with the ingenuity and drive of Americans would allow such a problem to persist if it was not an addiction fraught with denial and misconceptions. Consider these facts:

The General Population

- Tobacco related illnesses claim more American lives *each* year than were lost in World War II and all other American wars since then combined. In 2017 more than five times as many died from tobacco related illnesses as died from murder (17,250), suicide (44,965), traffic deaths (40,100), and AIDS (6,721), combined.[9]

- While the subject of further research, anecdotally for every afflicted person dying from tobacco related causes an estimated four family members and close associates are affected and bear the burden of these losses. This computes to more than 2 million victims a year.

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[7] Baca, C.T & Yahne, C.E., (2009). Smoking cessation during substance abuse treatment: What you need to know. *Journal of Substance Abuse Treatment,* 36, 205-219., and the New York State Office of Alcoholism and Substance Abuse Services, study of nicotine use prevalence among patients admitted for other substance use disorders.

[8] , Kessler, R.C., Chiu, W.T., Demier, O., & Walters, E.E., (2005). Prevalence, severity and comorbidity of 12 month DSM-IV disorders in the National Comorbidity Survey replication. Archives of General Psychiatry, 62. 617-627.

[9] "Message from Howard Koh" Assistant Secretary for Health, US DHHS, (2014). *Report of the USSG American Lung Association, Center for Disease Control and Prevention,* US Department of Health and Human Services, US Census Bureau; FBI Crime Statistics 2017 Report; CDC's National Center for Health Statistics (Suicide); National Safety Council, Traffic Deaths, 2017; www.hiv.gov

- Since the first Surgeon General's Report on Tobacco in 1964, more than 20 million Americans have died from tobacco related illnesses.[10]

- At current rates, 5.6 million of our children under age 18 will die prematurely from tobacco related illnesses.[11]

- More than 40 million Americans are currently tobacco dependent with 3,200 new smokers lighting up each day and 2 100 increasing their use from occasional to daily.[12]

- The costs of tobacco related illnesses and lost productivity are huge: The DHHS estimates the total at $289 billion annually with $133 billion in medical care and $156 billion in lost productivity[13], more than $5 billion of which is due to second hand smoke. Adjusted for inflation, this projects to more than $3 trillion over the next ten years.

The Substance Use Disorder Population

- Tobacco related illnesses claim more than 3 times as many lives as alcohol (88,000)[14], legal and illegal drug use (66,632) combined.[15]

- It is reported that those with substance use and mental health disorders account for 44% of the cigarettes smoked in the USA[16] resulting in more than 200,000 annual preventable deaths in these high risk populations.[17]

- The prevalence of tobacco use is more than 80%[18] among those admitted for addiction treatment services compared to approximately 14% in the adult general population.

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[10] Frieden, T. Director, Centers for Disease Control, (2014), Forward, *Report of the US Surgeon General*.
[11] "Message from Kathleen Sebelius, Secretary of the US Department of Health and Human Services, 2014 Report of the US Surgeon General.
[12] Message from Howard Koh, Assistant Secretary from Health,(2014), *Report of the USSG*, US DHHS
[13] US Department of Health and Human Services, Health consequences of smoking --50 years of progress: A report of the surgeon general, (2014) p. 679.
[14] National Institute on Alcohol Abuse and Alcoholism, Alcohol Facts and Statistics and CDC: Alcohol and Public Health
[15] Drugwarfacts.org/chapter/causes_of_death, and Carter, BD; Abnet, CC; Peskanish, D (2015) Smoking and mortality-beyond established causes, *New England Journal of Medicine,* 372, 631-640.(2.) American Lung Association, Center for Disease Control and prevention, US DHHS, US Census Bureau. Thomas Frieden, Director of the Center for Disease Control and Prevention, (2014) Forward Report of Surgeon General, p.1..
[16] Health Consequences of Smoking, (2004) Surgeon General's Report, Lasser, K., Boyd, J.W., Woolhandler, S., Himmelstein, D.U., McCormick, D., and Bor, D.H. (2000). Smoking and mental illness, A population based prevalence study, *Journal of Consulting and Clinical psychology* 66. (2), 323-326.
[17] Ibid, footnote 4.
[18] Bernstein, S.M. & Stoduto,G. (1999) Adding choice based program for tobacco smoking to an abstinence based addiction treatment program. *Journal of Substance Abuse Treatment*; 17. 167-173. Hser, Y.R. ,McCarthy, W.J., & Anglin, M.D. (1994), Tobacco use as predictor of mortality among long term narcotics addicts. *Prevention Magazine,* 23. 61-69. Walsh, R.A., Bowman, J.A., Tzelepis F., & Lecathelinais, C. (2005) Smoking cessation interventions in Australian drug treatment agencies: A national survey of attitudes and practices. *Drug and Alcohol Review,* 24. 235-244; Zullino, D. Besson, J. & Schnyder, C. (2000) Stage of change in alcohol dependent patients. *European Addiction Research*, 6 (2), 84-90.

- Research shows that the provision of smoking cessation interventions to patients during addictions treatment have been associated with a 25% increase in long term abstinence from alcohol and illicit drugs.[19]

- Those suffering from diseases resulting from Tobacco Use Disorders co-occurring with other substance use disorders who are discharged from SUD treatment programs die at 4 times the rate of those of non-smokers[20],[21] and consume huge amounts of medical care in the interim.[22]

- Research also shows that people with serious mental illness can lose as much as 25 years of life expectancy [23] and it is believed that their high prevalence of tobacco use is a large contributor to this premature death.

- Of the estimated 2,000,000 affected family members and friends mentioned above, more than 800,000 are closely related to those with alcohol and other drug disorders.

Evidence Based Treatment Solutions are Available to a Population Ready for Recovery at a Negligible Cost

One might logically expect that a problem wreaking such havoc could only persist if the resources to address it were unavailable, or if the will to resolve it were lacking, or if the solution was particularly difficult to implement. But as the following demonstrates none of these are true of nicotine addiction.

The studies show that very little of this information is new and that which is, such as the 2016 Surgeon General's report, largely updates and adds specificity to what was previously known. In view of this, the vexing question is: Why do those with the most knowledge of addictions largely avoid treating the one that is most devastating to our national health?

The answer is complex. Part of the problem is the way in which we, as a nation, view addiction in general. Compared to other addicting drugs, the consequences of nicotine addiction via smoking are mostly restricted to long term health consequences. Smoking does not have the same relatively short-term psycho-social-physical effects as other drugs in areas such as marital/family disintegration, loss of job, illegal actions to procure drugs, risk of over dose, etc. However, the high probability that smoking leads to years of lost life, the suffering while dying from diseases such as

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[19] Prochaska, J., Delucchi, K, Hall, S (2004) Meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. *Journal of Consulting and Clinical Psychology,* 72, 1144-`1156. See "Addendum C" attached.

[20] Hser, Y.I., McCarthy,W.J., & Anglin, M.D., (1994) Tobacco use as a distal predictor of mortality among a 24 year study of smokers in treatment for narcotic use: Journal of Substance Abuse1994, Vol6 (1):1-20

[21] Hurt, R.D., Offord, K.P. Vroghamm, J.T., Gomez-Dahl, L., Kottke, T.E., Morse, R.M., & Melton, J. (1996). Mortality following inpatient addictions treatment. Journal of the American Medical Association, 274 (14), 1097-1103. This is a longitudinal study of 841 residents admitted to a Minnesota inpatient addiction treatment program treating alcohol and non-nicotine drug dependence, death certificates were obtained for 214 (96%) of 222 patients who died which documented that 50.9% died from tobacco-related deaths versus 33.1% from alcohol or other drug related causes.

[22] Bouchery, EE; Harwood, HJ; Sacks, JJ; et al (2011); "Economic costs of excessive alcohol consumption in US. *American Journal of Prevention Medicine* 41(5): 516-524.

[23] "Morbidity and Mortality for People with Serious Mental Illness" Parks, Svensen, Singer, Forti, (2006). Meeting of the National Association of State Mental Health Program Directors, October.

chronic pulmonary obstructive disease, and the associated family and societal costs of such diseases, all lead to a compelling need to aggressively address the tobacco issue.

Some addictions simply cast a more frightening image and evoke greater fear, especially if they involve illegal drugs. For example, the surge in opioid overdose deaths quickly became a national call to action by the media, elected officials and the general public and rightfully so. It is being referred to as an epidemic. Without minimizing its importance, the fact is that it would take several years before this recent increase in opioid deaths equaled the number of tobacco fatalities in a single year.

Fear fuels demand, and the general public simply does not fear tobacco use to the extent that it does illicit drugs. But beyond the general lack of acknowledgement of which addiction is truly the greatest threat to our well-being, there are myths and misconceptions often nurtured by the addictions treatment field itself that have inhibited effective responses to Tobacco Use Disorder. Let's look at some of the most common ones.

Myths and Misconceptions

Smokers either do not want to quit or cannot quit.

- Research indicates that the opposite is true on both counts. The Center for Disease Control reports that most Americans who have ever smoked have quit, and most (68.8%) who currently smoke want to quit.[24]

Smokers are opposed to treatment.

- Nearly all addicted people have an aversion to or ambivalence about quitting their drug of choice. A principal objective of treatment is to evoke motivation to change and to demonstrate that it is not only in the patient's enlightened self-interest to do so but it is entirely possible. With more than 2 out of 3 smokers indicating a desire to stop, it is unlikely that the aversion to treatment is greater among smokers than with those addicted to other substances.

The treatment success rate for smokers is low.

- This is the same argument that was launched in the 1970's against SUD treatment in general when insurance companies were mandated to cover alcoholism in Maryland, Minnesota, and Wisconsin. To prove their point, some critics went so far as to use data from programs such as the Manhattan Bowery Project, a detox program for homeless men with virtually no resources. Typical for such programs and populations, the recovery rates hovered around 10% but the population was hardly representative of the chemically dependent population in general..

- In 1971, Hazelden, which had been treating alcoholics since 1948 and had accumulated a small mountain of positive anecdotal testimonials, developed one of the first rigorous, comprehensive outcome evaluation studies which showed a 55% to 60% recovery rate after 12 months. Recovery was defined as total and continuous abstinence plus improvement in life style and life

[24] Center for Disease Control, *Mortality and Morbidity Weekly Report*, 60, No. 44, Nov 11, 2011

functioning. Its treatment population was largely middle class men and women. A blended recovery rate for all populations--from the bowery to the executive suite--and all levels and types of care at that time would likely have been in the mid-30% range.

- The original Hazelden outcome study and those that followed, as well as recent studies of those treated for nicotine addiction, all show that the preponderance of patients who ultimately return to drinking, using drugs or smoking will do so within 6 months.[25]

- Today there are many types of tobacco treatment interventions. Their success varies depending on numerous factors such as type of intervention, genetics, personal recovery capital, and environment. As with interventions with any addiction, most are successful with some people, and none are successful with everyone. However, a meta-analysis of research studies shows intervention can significantly improve the odds of long term recovery.

- At a lower level of treatment intensity -- pro-active tobacco cessation telephone counseling -- the odds ratio of success was 1.6 times greater than for those who tried to quit on their own with minimal intervention, self-help or no counseling.[26]

- A higher intensity level treatment that includes a combination of medication plus coaching and counseling yields a 33% first time quit rate[27] versus only 4% to 7% for those who tried to quit on their own without help.[28] In other words, the odds of success are at least four times greater with this type of formal intervention. This also means that cessation can occur earlier in the progression of the addiction when treatment success is greater and the co-morbid medical costs are lower.

- Treatment success rates for many illnesses, such as cancer, were even lower at the onset but as a society we continued to treat with the best methods at the time until more effective approaches were developed.

- Tobacco Use Disorder (TUD) is a chronic health disorder. As with other chronic disorders, the intervention may need to be repeated over time.

Evidence based "Best Practices" are sparse.

- Even a cursory inquiry of the issue demonstrates the fallacy of this myth. Not only have numerous types of interventions been identified, but their effectiveness, how they should be used, and how they should be implemented have all been documented in detail. [29]

- A brief listing of evidenced based practices include: Counseling and Psychosocial Evidence (including screening and assessment, treatment structure and intensity, type of clinician, formats, treatment elements, patient willingness); Medications Evidence (including first-line

[25] DHHS, *Clinical Practice Guidelines*, Treating Tobacco Use and Dependence, 2008 Update", Outcome Data, p.23
[26] Ibid, p.28, Table 1.3.
[27] DHHS, *"Clinical Practice Guidelines-Treating Tobacco Use and Dependence, 2008 Update",* Table 6.26, p. 109.
[28] Baillie, A.J., Matlick, R.P., Hall, W. (1995) "Quitting smoking: Estimation by meta-analysis of the rate of unaided smoking cessation*, Australian and New Zealand Journal of Public Health,* 19 119-121. "The estimated rate of stopping smoking without intervention over an average10 month period was 7.33%.
[29] Ibid 23, pp. 72-141

medications, nicotine replacement, gum, inhalers, lozenges, sprays and patches); Non-nicotine Treatments (such as Bupropion and Varenicline); Systems Evidence (including clinician training, and environment policy).

- A larger body of knowledge in the area of evidence-based practices exists today for treatment of Tobacco Use Disorder than existed at any time during the first 50 years of treatment for other Substance Use Disorders.

Most smokers quit on their own, so why spend money on intervention?

- It is true that the preponderance of those who have quit smoking did so on their own. But it does not necessarily follow that the most common method of quitting is the most effective or efficient, any more than the most common way of doing anything is necessarily the best. A case in point is personal transportation: In 1910, with fewer than 500,000 automobiles on the road (1 for every 18 Americans) the most common mode of transportation was the horse and buggy. Today, with 255 million automobiles (1 for every 1.2 Americans) the horse and buggy has all but disappeared.[30]

- The health care and social costs of Tobacco Use Disorder mount over the life of a smoker. Quitting sooner rather than later will save more money and more lives.

Tobacco Use Disorder treatment will adversely affect the efficacy of SUD services delivered to the overall treatment population.

- We have found no data to substantiate this fear. In fact, when considering potential outcomes the opposite is true. As cited above, relapse rates of untreated tobacco users discharged from chemical dependency treatment programs is 25% higher than those who do not use nicotine.[31]

- Since roughly 80% of the overall chemical dependency treatment population smoke, this means that a treatment program could reduce its overall relapse rate by as much as 20% simply by addressing Tobacco Use Disorder along with the panoply of other addictive substances it already treats.

A new public treatment infrastructure would be necessary

- This is not true: Almost all communities already have established alcohol and other drug programs licensed to provide prevention and treatment services[32] which can provide the platform to treat TUD.

- In addition to the existing treatment system, there are emerging recovery community organizations that offer "All Recovery" support meetings, which can easily include tobacco in the scope of services.

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[30] US Bureau of Transportation Statistics (2012), *RITA BTS table1-11. Retrieved 2015-02-19.*

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

[32] SAMSA Directory-Treatment Locator Accessed October 29, 2015 at www. findtreatment.samsa.gov

Current Providers of SUD treatment are not capable of treating Tobacco Use Disorder and cannot be adequately trained

- The history of addiction treatment itself is the strongest refutation of this contention. The additional staff training necessary to treat TUD would pose no greater challenge than when programs treating alcoholism adjusted to accommodate patients addicted to other types of drugs. TUD training can be covered in routine inservice training sessions, as has been the case with nearly all other drugs.

- Alcoholism treatment counselors of the past proved fully capable of transferring their skills and expanding their knowledge to treat patients addicted to other substances such as heroin, cocaine, marijuana, and a host of licit drugs.

- Today's addiction treatment providers already have the training and knowledge to treat five of the six substance use disorders coded in the DSM-5 by using evidence-based practices similar to those utilized in tobacco cessation services. Their skill base can readily be expanded to include nicotine/tobacco treatment.

- Addiction treatment programs in New York State, Wisconsin and elsewhere have demonstrated that nicotine dependence can be successfully treated concurrently with traditional addiction treatment of alcohol and other drugs.[33]

It is ethically neutral not to treat: "Not our job"

- Some providers and payers believe that if they are not crossing the line legally, they are not operating unethically. But what may be legal in practice isn't necessarily ethical.

- The insurance industry, using managed care strategies, has often found loopholes in the mandates that make it difficult for patients to access addiction treatment services including tobacco use disorder treatment. Business practices that circumvent a needed treatment service are not ethical.

- Standard of Care is the principle legal criteria by which negligence is determined in a court of law. The issues of competency and due care generally arise from the standard of care practiced. Nevertheless, state mental health statutes generally require treatment providers to practice competency and due care in the treatment of patients.

- Just as a Doctor of Medicine upon discovering one medical problem while treating another has a responsibility to either treat both problems or refer the patient to a competent practitioner who can, mental health practitioners including providers of addiction treatment also have such a responsibility.

- In these times of managed care, refusing to address one substance use disorder while treating another may squeak by legally when matched up against a standard of care largely influenced by the insurance industry, but it does not pass the ethical tests of due care. And while refusing to

[33] See Addenda A and B, testimonial letters, Weix and Fuchs; Laschober, T. and Eby, L. (2013)"Counselors and clinical supervisor perceptions of OASAS tobacco-free regulation implementation extensiveness,. *Journal of Psychoactive Drugs, 45(5): 416-424.*

treat may be appropriate if the practitioner does not consider him/herself to be competent, turning a blind eye to the problem is not an option ethically.

- With 80% of the SUD treatment population having a 25% higher relapse rate due to smoking, SUD treatment programs have a moral responsibility to address the issue. Moreover, if they continue to neglect this issue they may be inviting legal challenges.

- After having been provided with tobacco prevalence and mortality information, a survey of more than 200 Wisconsin SUD and mental health clinicians indicated that more than 90% agreed that they were clinically and ethically responsible for treating nicotine use when they treated patients for other substance use and mental disorders.[34]

Treating nicotine addiction would be cost prohibitive

- Whenever a new treatment is proposed cost is an issue. However, Tobacco Use Disorder is not new treatment, per se. It simply involves addressing one more drug among the plethora of other substances routinely addressed by SUD treatment programs. Since SUD treatment providers already treat virtually all other substance use disorders in the DSM-5, experience is showing that adding TUD would result in little additional administrative or clinical cost, and the incremental cost to existing SUD treatment programs is so modest that it is not an issue. [35]

- Staff training can be a cost issue when the treatment protocol is either unique or a significant departure from the norm. That is not the case here. As mentioned, staff training regarding the treatment of TUD could largely be incorporated into the inservice training programs typically required by state statute for licensed services at virtually no incremental cost. Moreover, professional associations could provide training and workshops with CEU's at their conferences.

- SUD treatment programs in Wisconsin[36] that integrated Tobacco Use Disorder treatment/ smoking cessation into their treatment protocols reported that no additional administrative or clinical staff were required and that only minor incremental expenses were incurred for medication, non-perishable equipment and literature. The medications are comparatively inexpensive[37] with some covered by Medicare, Medicaid or private health insurance plans.

- Treating Tobacco Use Disorder would not necessarily need to be limited to SUD treatment programs. Generally, Tobacco Use Disorder screening, assessment, treatment and referral should be integrated into all health care settings. Increased incremental costs of treating TUD in medical or mental health facilities or in private practice would also be small.

- Tobacco Use Disorder/smoking cessation treatment can be provided at all levels of care: inpatient or outpatient, in group settings or in individual one-to-one sessions. It would not require a new or expanded physical setting.

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[34] Wisconsin Nicotine Treatment Integration Project (WINTIP): "Clinician Survey" 2009. Contact U of W Center for Tobacco Research and Intervention www.ctri.wisc.edu

[35] See Addendum B.

[36] L.E. Phillips Libertas Treatment Center, Chippewa Falls, WI and St. Joseph's Hospital Alcohol and Drug recovery Services, Marshfield, WI (2004-2014)

[37] Information available at your local pharmacy.

There is Plenty of Money to Pay for TUD Treatment

The cost of social services and health programs benefiting the masses have always faced resistance at some level. Even a brief downturn in the economy can be used as an excuse, providing greater cover for those who would routinely object to the introducing Tobacco Use Disorder treatment as part of a general political/economic mindset. The fact is, with the lost productivity coupled with excessive health care costs associated with nicotine addiction, we are already paying for an effective solution many times over, but we are not getting it. Consider the following:

- In the 16-year period ending in 2013 government at all levels collected $529 billion in cigarette taxes, $44 billion in 2013 alone.[38] Today it is likely pushing up toward $700 billion.

- State and local governments collected more than $18.2 billion in tobacco excise tax revenue in 2015. Roughly the same amount was collected in 2013, plus more than $4 billion in state sales taxes [39] with little of this money being invested in nicotine addiction treatment.

- Wisconsin alone collected $641 million in tobacco taxes in 2015.[40] But only $5.3 million annually (less than 1%) has been invested in nicotine treatment since 2011[41] By and large, this is typical across the country, as policy makers generally do not consider Tobacco Use Disorder treatment to be a priority.

- Nationally the cost of treating all 42 million current smokers would be minuscule as a percent of total National Health Expenditures, very small as a percent of the estimated current costs of treating SUD generally and barely a fraction of the lost productivity cost to employers.[42] Of the $3.093 trillion estimated to have been spent on health care in the US in 2014[43], about $35 billion (1.1%) was spent on health problems related to substance use disorders, of which only 42%, or about $15 billion (4/10ths of 1% of National Health Expenditures) was spent for SUD treatment delivered by a specialist (SSAC)[44] trained in the treatment of the disorder.

- The tobacco tax revenue collected in a single year could easily cover the cost of treating all 42 million smokers in the US and the projected tobacco addiction burden of close to $3 trillion over the next 10 years would be significantly reduced each year going forward.

- The authors have been strong advocates of benefit to cost analyses in the fields of SUD treatment and Employee Assistance Programs. However, when considering the magnitude of current health and social costs of Tobacco Use Disorder and the very low cost of treatment for the disorder, a formal benefit to cost study may not seem necessary to demonstrate the value of

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[38] *Tax Burden on Tobacco, Historical Compilation, Vol 46,* (2013) Orzechowski and Walker, Arlington, VA, And Behavioral Risk Factor Surveillance System (BRFSS) Centers for Disease Control and Prevention

[39] Tobacco Tax Revenue, Tax Policy Center, The Urban Institute and Brookings Institute, 2013.

[40] Tobacco Tax Revenue, Tax Policy Center, The Urban Institute and Brookings Institute, Tax policy Center Statistics, Tobacco Tax Revenue 2015, published October 18, 2017.

[41] Report: "The Burden of Tobacco" U of W, Milwaukee and the Carbone Cancer Center, Madison, WI. Accessed October 25, 2015 at https://www4.uwm.edu/

[42] See Addendum A, Benefit to Cost Analysis.

[43] "National Health Expenditure Projections", National Health Statistics Group, Office of the Actuary, Centers for Medicare and Medicaid Services. .Accessed on July, 16, 2015 at www.cms.gov …nhe.

[44] SAMSA (2014) *Projections of national expenditure for mental health services and substance abuse treatment 2004-2014*", SAMHSA, DHHS Publication Number SMA 08-4326.

specific Tobacco Use Disorder treatment. Nevertheless, the principal author has developed a BCR for the individual smoker and the typical employer.[45]

The Response of the Insurance Industry and Addictions Field is Discouraging

The Health Insurance Industry

The health insurance industry is a treasure trove of data on the incidence, prevalence and cost of health disorders. Since most large health insurance companies have ready access to data demonstrating the adverse consequences of tobacco use they are in a position to strongly encourage employers to include TUD treatment in their health plans. Those which also offer life insurance products usually have a special "no-smoking" premium because they already know that non-smokers have more favorable mortality histories. Yet, many of these companies have not intentionally stepped up to the plate on the treatment Tobacco Use Disorders.

- Health insurance companies have known that tobacco use adversely affects every organ in the body starting before birth[46], and that tobacco related diseases are the cause of premature death of 50% of those being treated for substance use and mental health disorders.[47] Yet, traditionally they have neither reimbursed nor offered employers the option of requiring treatment for Tobacco Use Disorder along with the treatment of other Substance Use Disorders. The Affordable Care Act requires health insurance companies to offer some level of cessation coverage, but the level of actual compliance with that provision is an open question at present.

- Under the Affordable Care Act, health insurance companies can charge a premium differential for smokers. But, while adding to the expense of smoking may discourage some from starting, that alone will not resolve the problem for those already addicted.

- While the success of the health insurance industry requires a significant percentage of the population to be sick, it needs to rise above what some may cynically view as financial self-interest and do its part to reduce the leading cause of illness and death in the United States.

Addiction Treatment and Recovery Programs

Given the large body of knowledge of the costs, health problems and effective treatment responses, it is reasonable to expect that those suffering from Tobacco Use Disorder and their families would be provided with the most effective treatment services to address their condition, especially when such services are typically available to others with comparable medical needs. Yet, this is not the case.

- At the SUD provider level, relapse prevention should be one of the major objectives of any treatment organization. But while smokers suffer significantly higher relapse rates than non-smokers who receive treatment for other SUD's, nicotine addiction is largely ignored.

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[45] Ibid footnote 42.
[46] US department of Health and Human Services, 2004, 2006, 2012. See illustration pages 4 and 5, Chapter 1, "The Health Consequences of Smoking – 50 Years of Progress: A report of the Surgeon General, 2014."
[47] Ibid, footnote 15

- Despite the need, a 2014 study indicates that far less than half of the addictions treatment programs in the US had incorporated smoking cessation services in their programs.[48]

- State legislatures and alcohol and drug authorities who fund a significant amount of SUD treatment have been virtually unresponsive to the prevalence and effects of Tobacco Use Disorder. In Wisconsin, for example, while spending only 7% of its alcohol tax revenue on SUD treatment, it spends even less -- under 1% -- of its tobacco tax revenue on Tobacco Use Disorder countermeasures. [49]

- At the Federal level, what little funding is available for the treatment of Tobacco Use Disorder comes mainly from the Tobacco Prevention and Control Programs. There are no provisions for dedicated tobacco funding in federal block grants for treatment of substance use disorders.

Addiction Recovery Advocacy Groups

A primary purpose of any advocacy group is to speak for victims and causes in order to serve the common good. Recovery is certainly a noble cause and the victims of Tobacco Use Disorder are practically everywhere. That the common good is at stake is beyond question. There are several significant advocacy organizations in the SUD field that could be helpful. Unfortunately, those one would expect to be in the vanguard have been largely absent in the battle against Tobacco Use Disorder.

- The National Association of Addiction Treatment Providers (NAATP) is a major professional association whose members include nearly all of the major SUD treatment providers. It has not seen fit to pass a resolution or to show any other form of serious interest in this issue. There has been virtually no indication that it is a priority in their literature, at their conferences or on their web site.

- The oldest and one of the most influential national SUD advocacy organizations, the National Council on Alcohol and Drug Dependence, has also been virtually silent on the issue of Tobacco Use Disorder. Priority attention to Tobacco Use Disorder and tobacco deaths has not been a focus of their advocacy for SUD recovery.

- Exceptions to this pattern have been the American Society of Addiction Medicine (ASAM) the National Association of Addiction Professionals (NAADAC), and Faces & Voices of Recovery which have identified tobacco and nicotine as issues of concern and for which they have provided leadership.

[48] SAMHSA, "The N-SSAT Report" June 17, 2014.
[49] Ibid, footnote 28

Mutual Support Groups

The debt of gratitude owed to mutual support groups such as AA and NA, and their many offshoot fellowships is beyond calculation. Millions of alcoholics, drug addicts, those with other addictions as well as their families, employers and friends have directly benefited from these programs in ways too numerous to list. Not only the "steps" of recovery they espouse but the "traditions" they have maintained have been at the heart of their success. Yet, the steps are but "suggestive" and interpretation of the traditions in large measure has always been left to group conscience. As the decades have passed and new challenges have emerged, these programs have proven to be both resilient and adaptable.

Above all, mutual support programs have had the interest of their members' recovery as the primary purpose of their existence. However, as can occur in any organization, the misinterpretation of a principle can undermine its purpose. We believe that is happening with AA and NA on the TUD issue.

AA and NA have traditions, which have effectively fulfilled their purpose in preserving the organizations. Experience showed that prior to AA when efforts to address alcoholism lost focus and became caught up in political or religious controversies it was a death knell. Thus, AA and NA "… have no opinion on outside issues …" and decline to be engaged in any controversy neither endorsing nor opposing any causes.[50]

However, addictions of other descriptions or any other threat to one's recovery from alcohol or drugs have never been considered "outside issues" by the members who struggle to live alcohol and drug free. While the General Services Organization (GSO) of AA and the Narcotics Anonymous World Services (NAWS) may not wish to be drawn into public controversy, that principle does not justify looking away as members die from an addiction that could be readily addressed as a threat to recovery in their literature.

Recovery spawns more recovery, relapse more relapse. It is in the members' interests for mutual support groups to address ANY issue that undermines recovery and increases relapse, as they have done in the past. "People, places and things" that can threaten recovery has been a common topic at mutual help meetings since the founding of AA and NA. Tobacco Use Disorder, along with any other drug addiction is one of those "things". Indeed, most mutual help meetings, while formed to address a specific addiction (AA, NA, OA, GA, SA) *do* allow members to discuss other addictions when they have a bearing on their ability to recover from the specific addiction for which the meeting was established. Moreover, it is telling that a significant number of these groups are now "non-smoking".

It is estimated that 750,000 current members of AA and NA will die from tobacco caused and related diseases even though there are successful models of recovery from Tobacco Use Disorder.[51]

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[50] Alcoholics Anonymous (1989) *Twelve Steps and Twelve Traditions* p. 179, Tradition Ten, Alcoholics Anonymous World Services Inc. New York, N; Narcotics Anonymous (2008) *It works: how and why, 6th Edition*, p. 61, Narcotics Anonymous World Services, Chatsworth, CA

[51] Macmaster, D. (2012) An insidious threat to AA, NA, *Addiction Professional Magazine,* January/February, 2013. Accessed on November 9, 2015. www.addictionpro.com/article/isidious-aa-na

It is as ironic as it is sad that some of the most prominent leaders in addiction treatment and recovery have died from tobacco. Both founders of AA, two of NA's founders and the founder of the National Council on Alcoholism and Drug Dependence, all died from tobacco related diseases. In addition US Senator Harold Hughes, who will go down as the nation's leading elected alcohol treatment advocate and whose effort led to today's Federal funding of addiction services, died from a tobacco related disease..[52]

In spite of all of this, our experience with these organizations on the issue of Tobacco Use Disorder has been less than encouraging.

- Sadly, the GSO of Alcoholics Anonymous as well as NAWS of Narcotics Anonymous continues to resist the need to address death from tobacco that affects roughly one-third to one-half of their members who smoke or use other tobacco products.

- To date, both the GSO and NAWS have declined to even respond to a written request to address tobacco as a legitimate issue in their societies. They ignored pleas from prominent leaders in the smoking cessation movement to address tobacco within their traditions.[53] At this point they need not express an opinion on tobacco use per se. They need only to cite the risks to that demographic group most vulnerable to its dangers: the membership of its own organizations.

- Other mutual support groups including Smart Recovery and Life Ring are providing new paths to recovery. Recovery Community Organizations are expanding the original continuum of Substance Use Disorders from prevention and treatment to include harm reduction -- recovery as a separate but equal component of the mission of reducing the harm and costs of Substance Use Disorders/addiction. Wisconsin Recovery Community Organization (WIRCO) has created a "Big Tent Recovery" model that specifically welcomes tobacco free and problem gambling recovery support to its recovery mission and program concept.

Conclusions

The time has come to lead. No more excuses. No more ignoring the facts. No more castaway casualties. No more profiting at the expense of those addicted to nicotine, their families, employers and the common good. No more pretending that it is acceptable to ignore the mandates of competency and due care in health care delivery as if they do not apply to those addicted to nicotine.

- It has been more than 50 years since the Surgeon General of the United States issued the first comprehensive report on the dangers of tobacco and Tobacco Use Disorders. Since then, the evidence of this danger has mounted and effective treatment has been developed. Yet, as many people may well be dying of tobacco related diseases today as in 1964.

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[52] William White, "Smoking and addiction recovery: For people in recovery" Accessed October 28, 2015, www.willianwhitepapers.org.
[53] Source: David Macmaster. dmac1956@charter.net

- The spirit of the competency and due care provisions of statutes pertaining to the treatment of health issues is being violated by health insurance companies, SUD treatment organizations, and other behavioral health treatment programs when they neglect the treatment of Tobacco Use Disorder. This needs to come to a halt.

- The Diagnostic & Statistical Manual of Mental Disorders (DSM IV and DSM-5) includes nicotine dependence/tobacco use disorders as substance use disorders eligible for treatment. Excluding the disorder that accounts for the most fatalities of all SUDs from routine treatment protocols is not only sub-standard practice but discriminatory against a majority of patients admitted for treatment services.

- There are no more excuses for preventing the integration of tobacco and nicotine into our intervention, treatment and recovery services. With relatively minor adaptations, providers of these services already have the core knowledge and clinical expertise to do the job. Their boards and administrators need only the willingness. Every year we delay hundreds of thousands more of our citizens die, many of who are successfully recovering from other addictive disorders.

- It is well past time that the leadership in the fields of addiction and behavioral health along with the insurance industry step up to the plate. It is unacceptable to "look the other way." We cannot ignore the "castaway casualties" of Tobacco Use Disorders any longer.

- Finally, it is time that the administrative arms of mutual help groups live up to the aspirations of their founders and the true spirit of their traditions and purpose.

Recommendations going forward

The following industries and organizations will adopt policies and practices utilizing the evidence based experiences in counteracting the dangers of nicotine and Tobacco Use Disorders. The recommendations will include the following.

Insurance Companies

- Aggressively comply with the provisions of the Affordable Care Act and any applicable state mandates.

- Require that all substance use treatment programs in their provider networks include formal protocols for the treatment of Tobacco Use Disorder and actively encourage employers to include Tobacco Use Disorder treatment in their employee health plans.

- Provide appropriate and adequate reimbursement to such programs for treatment of Tobacco Use Disorder.

Treatment Programs

- Adopt policies and procedures that lead to a 100% alcohol free, drug free, and tobacco free treatment environment for employees and patients.

- Comply with the spirit of standards and statutes requiring competency and due care in the treatment of SUD and other behavioral health disorders.

- Provide treatment for Tobacco Use Disorder using evidence-based medication and counselling practices as an integral part of its patient care protocols on the same basis as used in its treatment of other substance use disorders.

- Provide support for staff members who are dependent on nicotine so they can comply with program policies.

Professional Organizations

- Provide leadership on this issue by recommending integration of treatment for Tobacco Use Disorder among their member organizations.

- Adopt a resolution that specifically supports integration of Tobacco Use Disorder treatment in the mental health and addiction treatment operations of their member organizations.

- Provide workshops on Tobacco Use Disorder and its treatment at their conferences.

Mutual Help Organizations

- Produce appropriate literature that cites the risks of tobacco use to recovering people, acknowledging nicotine as a dangerous drug and one that has contributed to the deaths of some of the recovery movement's most revered leaders as well as hundreds of thousands of beloved members over the years.

- At conferences and on websites highlight the prevalence data confirming that among those with substance use disorders the rate of Tobacco Use Disorder is 4 times greater than the rate in the general population, and that those with substance use disorders who smoke are at greater risk for relapse as well as a large number of other serious health problems that can lead to premature death. Finally, highlight resources to help smokers quit, such as *Quitlines.*

A Final Thought

We do not purport to have all the answers. But thanks to the humility, fortitude and faith of the founders of the many mutual help groups and their members, today we are blessed with knowledge of recovery that could only have been provided through years of struggle by millions of people both afflicted with and affected by addiction.

In addition, the federal government's efforts for more than forty years, state and local government programs, faith based organizations, employers and unions, private addictions treatment programs, countless medical and behavioral health professionals, researchers and scientists, clergy and educators, private benefactors and many, many others, have all contributed to the development of recovery paths that have benefited millions of addicted people and their families.

So, while we do not have all the answers, and indeed may know only a little in comparison to what is yet to come, we do know enough to urge others, who also know enough and have the power and responsibility to take action, to address Tobacco Use Disorder.

It is a time to lead

About the authors.

David Macmaster, the inspiration for this document, and Jim Wrich the principal author have both been blessed with long-term recovery from alcohol and drugs – more than 60 years for Mac and over 50 for Jim. Each has also been nicotine free for several decades. As a result, they have escaped the ravages of addiction – the lung cancer, the emphysema, the liver damage and all of the other horrible illnesses that waste the body, erode the soul and undermine the spirit. Along with millions of other recovering people they have been productive members of society. They have reached an advanced age and have not been forced by tobacco related illnesses to spend their twilight years as a burden to others. In short, they have had lives they never imagined possible. Along with the distinguished members of the NATIAC and based on what is known through extensive research, they simply desire to share their experience, strength and hope so that others may also gain a full measure of recovery from addiction – especially Tobacco Use Disorder.

Addendum A

Tobacco Integration in Wisconsin Addiction Treatment Services

A Decade of 100% Tobacco Free Services That Treated Nicotine Use Disorders Concurrently With Other Substance Use Disorders

Alcohol and Drug recovery Services
St. Joseph Hospital, Marshfield, Wisconsin

Submitted by Sheila Weix, MSN, RN, CARN, and LNC – Director ADRS

Q. Did you lose business and referrals at the beginning and later from this tobacco free programming?

A. While there were concerns that we would lose business as a result of going tobacco free, that did not occur. We made the change in 2002 and business grew each year to the point that we expanded our beds in 2011. We actually used the change as a marketing tool in that we identified that our service actively treated nicotine dependence.

Q. Were the expenses incurred from your 100% tobacco free program and facilities extensive and a problem? What were they?

A. Expenses were minimal in that the larger facility was already smoke free with appropriate signage. Program materials were free and downloaded from the CTRI website. Meeting and education time was used to prepare the staff and help change the culture. The entire change was planned and executed in five months. We actually saved money because we no longer had to provide staff to take patients out for smoke breaks and to collect cigarettes and lighters on return.

Q. Did your staff, patients, supervisors, hospital administration and the recovering community oppose and challenge your tobacco free program? How did you achieve the acceptance and success of your program in the face of resistance you met?

A. Staff presented some of the greatest challenge in that they anticipated increased issues with patients because they would be unable to smoke. This did not occur because patients were informed that we did treat nicotine dependence and nicotine replacement was provided on an aggressive basis. Patients were provided with education and explanation of the change. Administration was supportive of the change because of our role as health care providers. The recovering community provided a few challenges, but we connected with some who either did not smoke or who had quit. They supported the move. Within a few years after our change, the local ALANO club went smoke free.

Addendum B

Case Study

A Wisconsin Comprehensive Addiction Treatment Program Successfully Implements Tobacco Free Services

Submitted by Tom Fuchs, MEd

"So, first of all, let me assert my firm belief that the only thing we have to fear is fear itself—nameless, unreasoning, unjustified terror which paralyzes needed efforts to convert retreat into advance." –Franklin Delano Roosevelt

The research is clear—treating tobacco addiction improves recovery outcomes for all addictions. It is a fact that tobacco kills far more people each year than the drugs of addictions we treat.

It is glaringly obvious that our current methods of treating addiction and measurements of recovery rates tend to be haphazard, and incomplete. We often don't even agree on what defines recovery.

Most treatment centers operate under a code of silence; their methodologies are steeped in tradition, beliefs and unwritten codes. Among them is still the belief that tobacco addiction is not as serious nor connected to other addictions.

Yet **92% of our patients are also addicted to tobacco.** In talking with them they often acknowledge that it was their first drug of choice, yet we (treatment centers) have chosen to ignore not only their primary addiction, but one which will most likely affect their health.

Why? My supposition is that our failure to address tobacco addiction is based on fear.

Fear that if the treatment of tobacco is addressed, clients will choose another treatment center.
This is likely the biggest myth that keeps treatment centers from addressing nicotine dependence. Consider this, it is only through this innovative change that you can, and will, differentiate your treatment center from all the rest. Are you interested in a bigger market share? Are you interested in recovering clients becoming your biggest marketing tool? You can only do this through innovation. Our clients are aware and know the dangers of using tobacco. They most likely have tried before to quit smoking, and would appreciate any help we can give them to finally do so. ***As a result of this implementation, our treatment center saw no loss of business, nor experienced a census reduction. It has, in fact,***

added to our reputation and increased our recovery rates. It makes us more successful than other treatment centers*.*

Fear of the how to do implementation
Choosing to treat tobacco simply means treating it like all other drugs. This includes devoting real treatment time to issues surrounding tobacco, by testing and treating relapse seriously, as you would any other drug. This means you must also have medication-assisted therapies and testing equipment readily available. It's not enough to say you treat tobacco, if the actions of your staff do not reflect the commitment to being tobacco free. This includes involving staff in all aspects of planning, training and education to gain support of the implementation plan. *The Wisconsin Nicotine Treatment Integration Project (WiNTiP) provided us the roadmap through support, resources and grants to implement this important aspect of treatment.*

Staff were not allowed to smell like smoke or smoke on the workplace grounds, nor were they allowed to walk off the property to engage in smoking during breaks.

Fear of failure and struggles
There are treatment centers that have tried and failed in their implementation attempt of becoming a tobacco free facility. Most treatment centers passively accept and condone nicotine use. Some, including our treatment center prior to becoming tobacco free, provided places and times for smokers to utilize tobacco. Tobacco was used as a form of behavioral control over clients. Schedules were determined by smoke breaks. Some staff who are smokers resisted the implementation.

We faced all these barriers initially, but as our plan became a reality and we set a date to go tobacco free, our staff became champions of the plan. Through education and training they became convinced of the merits. Once we began, the implementation team continued to support and encourage the staff to support the goal. There were ups and downs and our staff had to learn how to trust the testing equipment, address patient relapse, and reconcile their own beliefs with the prevailing struggles. Patients who were unwilling to address their nicotine addiction, were referred to other facilities.

We had our own fears to contend with and some staff and others predicted failure. But upon our one-year anniversary of becoming a tobacco-free facility, no staff members advocated for allowing the return of tobacco.

Fear that our leadership is not strong enough to implement this needed change
By engaging your treatment center's staff through training and education provided by WiNTiP you can build a new tradition of addressing tobacco addiction. By building an implementation team that included reluctant staff, the plan to go tobacco free became a shared goal, not a directive of the leadership.

As the director, I was not part of the team, but served as a resource to ensure that the needed supplies, training and support were in place in order to achieve the goal. I became the uncritical enthusiast, able to support the organizational change needed to ensure success.

Your leadership, together with strong planning and utilization of WiNTiP resources can produce the results you are searching for in increasing recovery rates.

Fear of our traditions
While most treatment center's operations and philosophies are rooted in a 12-step AA model, the big book is silent on the issue of tobacco. Once known for smoke-filled meetings in church basements, but once changes were implemented, there are now few, if any meetings where smoking is allowed.

Fear of the cost of implementation
The actual costs of implementation were slight but did include the cost of the monitoring equipment, and time to train staff. As stated earlier, a loss of business was not seen from our move to treat tobacco addiction. **Our clients report feeling better, and our recovery rates have risen to more than 10%.** As our clients report better outcomes, they speak to others interested in recovery and recommend our treatment center over others.

Building on Success to overcome the Fears
There are many reasons that some treatment centers have failed to implement tobacco addiction into their treatment programs, most often cost is listed as a major issue. This is not a factor that should be in the equation.

This is what you should consider in your planning process.

1. **Plan it out** Our transition from dream to goal to implementation lasted five years. Take time for each phase, with the help of WiNTiP your implementation time can be reduced significantly.
2. **Expect Resistance** There will be resistance; initially even our doctors (among others) were not in favor of us moving in this direction.
3. **Utilize WiNTiP** Our planning process became real as WiNTiP made training and resources available. It moved from goal to reality and without their support, I am not sure we would have ever achieved success.
4. **Bring everyone along by providing training to all.** Require training for all staff having any contact with patients, regardless of title including support staff, custodians and technicians.
5. **Assign an Implementation Team** By developing an implementation team, organizational success of the goal to become tobacco free will be supported by a broader group rather than relying only on your leadership to ensure the success of implementation.
6. *Finally, "…let me assert my firm belief that the only thing we have to fear is fear itself—nameless, unreasoning, unjustified terror which paralyzes needed efforts to convert retreat into advance." –Franklin Delano Roosevelt*

Addendum C

A BENEFIT TO COST ANALYSIS OF TOBACCO CESSATION TREATMENT

Developed by

Jim Wrich

For

NTIP

National Tobacco Integration Project

March 1, 2018

A BENEFIT TO COST ANALYSIS
OF TOBACCO CESSATION TREATMENT

SUMMARY

SCOPE. When a person quits smoking there are significant health and cost benefits. The principal beneficiaries are the smoker and his/her employer. Of course those exposed to second-hand smoke and the general public also benefit but assessing those gains, particularly the full range of health advantages, is beyond the scope of this analysis. However, just the act of quitting smoking itself yields almost immediate financial benefits to the smoker and the employer and they are the focus of this examination. Reviewed here are:

- The immediate cost to the smoker and the cost of lost productivity to the employer.
- The various solutions including the number of treatment attempts to get a successful quit ("Treatment to Quit Ratio") before a given solution works.
- The total "quit cost" to the smoker and employer by treatment approach.
- The estimated benefit to cost ratio (BCR) by "quit cost" for the individual.
- The estimated benefit to cost ratio (BCR) by "quit cost" for the employer.

ESTIMATED BENEFIT TO COST RATIO (BCR). At an average cost of $4050 per year, cigarette smoking is an expensive addiction, especially for middle and lower income people. After quitting, the Benefit to Cost Ratio (BCR) increases with the passage of time.

For every dollar a smoker spends on non-residential treatment – even though it may take multiple attempts – within 12 months of quitting they will save at least as much as they spent on treatment (BCR 1.0 to 1.0 -- Counseling Alone). After five years they could save up as much as $19.50 for every dollar spent on treatment (BCR 19.5 to 1.0 for Momo-Meds). For employers the BCR is greater yet, even when paying out of pocket for treatment, ranging from $1.40 per dollar spent on treatment after 12 months to as much as $27.90 after 5 years. While not included here, when nicotine addiction is addressed concurrently with treatment for other addictions the BCR would likely be even more favorable because of the lower relapse rate for non-smokers discharged from treatment for a substance use disorder and other synergies.

We also calculated payback periods. For the smoker the payback periods range from as little as 1.6 months for a two-pack a day smoker receiving the least expensive treatment (Gum) to 47 months for a pack a day smoker receiving the most expensive care (residential treatment). For the employer the payback period ranges from as little as 2.1 months to 19 months. A special comment regarding residential care: As stated above, the benefits in this analysis are limited to what the smoker would save in cigarette costs and the employer's reduced productivity loss. The value of reduced health problems is not addressed. Thus, the full comparative value of residential care cannot be demonstrated. While the cash outlay for residential care is greater, the treatment-to-quit ratio is 42% to 69% lower than non-residential protocols meaning that the smoker will typically get on the road to recovery much sooner which can reduce overall health morbidity and its associated costs.

The following charts summarize data from six medical protocols (patches, gums, lozenges, sprays, Buproprion and Chantix), five approaches using a combination of medications, five counseling approaches with and without medications, and two residential treatment regimens. The BCR is shown at the 1, 3 and 5-year marks by type of treatment. (Details on Worksheets A, B, C, and D)
The bottom line: all treatment approaches reviewed result in a favorable BCR.

CONCUSIONS.

1. **To the smoker:** If you quit smoking you will save money and the money you save will offset the cost of treatment.

2. **To the employer:** If you provide nicotine addiction treatment, either out of pocket or in your employee health plan, you will recover your cost in reduced productivity loss, typically within seven months.

3. **To the health care provider, *particularly those providing treatment for Substance Use Disorders:*** Myths and misconceptions aside, in order to competently provide due care for the primary disease, you must provide at least one of the evidence-based Tobacco Use Disorder modalities of care to every patient who smoke.

4. **To health insurers:** the greatest cost reduction step you can take in serving your clients is to cover the cost of treatment for Tobacco Use Disorder.

TOBACCO CESSATION TREATMENT:
Benefit to Cost Ratio

THE PROBLEM

> ***"Smoking harms nearly every organ in the human body, causing many diseases and reducing health in general." 2014 Surgeon General's Report***

❖ Nationally:

- Smokers: 36.5 million.[54]
- Annual Health and Productivity costs: $326 billion total -- $8931 per smoker.[55,2a]
- Deaths: At least 480,000 and as many as 540,000 annually, more than died all US wars from WWII through OEF combined.[56]
- Comparative dimension of the problem: nearly four times as many die from tobacco related illnesses as from all other drugs and alcohol combined.

❖ Wisconsin:

- Tobacco Users (age 18 and above): 821,000[57]
- Annual Health and Productivity costs: $4.6 to $8.8 billion total -- $4,600 to $8,810 per smoker[58]
- Deaths: 7,356 to 9936 annually[59]

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[54] Centers for Disease Control and Prevention. Cigarette Smoking Among Adults—United States, 2005–2015. Morbidity and Mortality Weekly Report 2016;65(44):1205–11

[55] U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014

[2a]Xu X, Bishop EE, Kennedy SM, Simpson SA, Pechacek TF. Annual Healthcare Spending Attributable to Cigarette Smoking: An Update. American Journal of Preventive Medicine 2014;48(3):326–33

[56]The U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014 Estimates. 480,000 deaths. The New England Journal of Medicine 2015; 372:631-640 February 12, 2015DOI Smoking and Mortality –Beyond Established Causes, Carter, BD, Abnet, CC, Feshcanich, D, et al., estimates 540,000 deaths.

[57] Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, State Specific Prevalence of Current Cigarette Smoking and Smokeless Tobacco Use among Adults – United States, 2014, and US Census Bureau, 2014.

[58] The low end of the range for Wisconsin is based on the study "The Burden of Tobacco in Wisconsin, 2015 Edition" and high end of the range is based on the 2014 US Surgeon General's Report on tobacco.

[59] Ibd.

[7] https://www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/index.htm. Centers for Disease Control and Prevention. Quitting Smoking Among Adults—United States, 2000–2015. Morbidity and Mortality Weekly Report 2017;65(52):1457-64

THE SOLUTION

❖ Spontaneous remission—doing it alone.

- To date, more people have quit smoking than the number who currently smoke and they did it largely without formal treatment.[60]
- 68.8% of current smokers have stated that they would like to quit.[61]
- Average number of quit attempts before succeeding: 7-9 [62]
- Average number of years before successfully quitting: 5 to 7[63]
- The cost of smoking from first quit attempt to successful quit without formal treatment:
  - The smoker: $13,505 to $20,258 est. (Cigarettes only).[64]
  - The employer: $29,080.[65]
  - The nation: $44,655. [66]
- The cost of the quit attempt: $00.00

[61] Centers for Disease Control and Prevention. Quitting Smoking Among Adults—United States, 2000–2015. Morbidity and Mortality Weekly Report 2017;65(52):1457-64
[62] Bruce Christiansen, PhD., Center for Tobacco Research and Intervention, University of Wisconsin, Madison: "While the actual number of quit attempts that precede a successful quit is not known, there is consensus among tobacco control experts that it takes multiple attempts. An estimate of 7 such tries is probably conservative." January, 5, 2018. Research has indicated that quit attempts can vary from 6.1 to more than 30 depending on assumptions, methodology and group variables. The CDC suggests 8 to 11 attempts.
[63] Based on smokers who have successfully quit for one year or more. Again, estimates vary widely.
[64] Based on 1 and 1.5 packs per day at $7.40 per pack multiplied by 365 days, multiplied by 5 years..
[65] Based on Ohio State University, College of Public Health Study, Micah Berman, August 2015: $5,816 productivity loss to employer per smoker per year.
[66] This is a conservative estimate as it assumes 5 years elapsed between first quit attempt and successful quit at an annual cost of $8931.

THE SOLUTION, continued …

❖ Treatment

The costs of a single evidence based nicotine treatment episode can vary from $192 for a 12 week supply of NRT gum[67] to $5500 for eight days of residential treatment at a world renowned medical center[68] (See Worksheet A). Alone these numbers have little meaning.

Therefore, for purposes of this analysis we reviewed 20 different evidence based protocols and were able to estimate the cost, estimated effectiveness, and overall cost-worthiness of 18 of them.
Our criteria for a "cost-worthy" nicotine treatment protocol includes the following:

- Evidence based as set forth in the US Department of Health and Human Services Clinical Practice Guidelines, updated 2008.
- Reasonably accessible
- Reasonably priced
- Capable of helping the patient within a reasonable number of "quit attempts" resulting in total abstinence for 6 months after treatment.

[67] Walgreens Drugs, over the counter prices July, 2016
[68] Data from Mayo Clinic Nicotine Dependence Center, July 2017

THE COST TO GET ONE "QUIT" USING VARIOUS STAND-ALONE* TREATMENT MODALITIES[69]

PROTOCOL	TREATMENT TO QUIT RATIO (MEDIAN)[70]	TOTAL QUIT COST (MEDIAN)
Mono-med TXs**	3.8	$1041
Combination med TXs	3.7	$3017
Counseling alone	6.8	$4110
Counseling and med TXs	3.6	$3748-$4110
Median Non-residential TXs	**3.8**	**$3017--$3748**
Median Non-Res excluding Counseling alone	**3.7**	**$3017**
Average Residential TX	**2.1**	**$9224**
Median: All TXs	**3.7**	**$3748-$4110**

*** When nicotine treatment is offered in conjunction with a co-occurring or co-morbid mental or substance use disorder (MH/SUD), the costs may be lower and outcomes more favorable due to cost and treatment synergies and lower relapse rates for non-smoking MH/SUD patients.**

****Does not include NRT spray due to high cost without corresponding improvement offset.**

Note: For greater detail see Worksheet B.

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[69] All Treatment to Quit calculations in this analysis are based on treatment effectiveness estimates published in the work of Fiore, M.C., Jaen, C.R., Baker, T.B., et, al, "Treating Tobacco Use and Dependence: Clinical Practice Guidelines" 2008, U.S. Department of Health and Human Services.

[70] When estimating the BCR for any tobacco dependence treatment modality it must be recognized that the treatment will not work all the time. Therefore, if 100 smokers use a specific intervention to quit smoking and 25 (25%) are successful, the "Treatment to Quit Ratio" is 4 (100/25). If the cost per treatment episode is $500 per smoker, the cost to get one quit is $2000 (4X$500). Because all 100 incurred the cost while the benefit accrued to only 25, the total cost is based on all who were treated and the benefit is based only on those who quit, resulting in a conservative BCR.

NICOTINE DEPENDENCE TREATMENT: BENEFIT TO COST RATIO FOR THE SMOKER

Based on average cost per pack of $7.40 US Median adjusted to 2018

	Treatment to Quit Ratio	Total Quit Cost	Payback Period 1.5 pk/day cost/mo $338	BCR 1 Year 1.5 pk/day 1 yr cost $4050	BCR 3 Year 1.5 pk/day 3yr cost $12,150	BCR 5 Year 1.5 pk/day 5yr cost $20,250
PROTOCOL GROUP						
Mono-med TXs	3.8	$1041	3.1 mos	3.9/1	11.7/1	19.5/1
Combination med TXs	3.7	$3017	8.9 mos	1.3/1	4.0/1	6.7/1
Counseling alone	6.8	$4110	12.2 mos	1.0/1	3.0/1	4.9/1
Counseling and med TXs	3.6-3.7	$3748	11.1 mos	1.1/1	3.2/1	5.4/1
Med. Non-residential TXs	**3.8**	**$3108**	9.2 mos	1.3/1	3.9/1	6.5/1
Med. Non-Res excl. Counseling alone	**3.6**	**$3017**	8.9 mos	1.3/1	4.0/1	6.7/1
Average Residential TX	**2.1**	**$9224**	27.3 mos	NA	1.3/1	2.2/1
Med: All TXs	**3.7**	**$3225**	9.5 mos	1.3/1	3.8/1	6.3/1

Note: For greater detail see Worksheet C.

NICOTINE DEPENDENCE TREATMENT: BENEFIT TO COST RATIO FOR THE EMPLOYER

Based on a 2015 study by the College of Public Health, The Ohio State University, Micah Berman

	Treatment to Quit Ratio	Total Quit Cost	Payback Period $485 lost productivity per month	BCR 1 Year $5816 prod. Recovery/TX cost	BCR 3 Year $17,448 productivity Recovery/TX cost	BCR 5 Year $29,080 productivity Recovery/TX cost
PROTOCOL GROUP						
Mono-med TXs	3.8	$1041	2.1 mos	5.6/1	16.8/1	27.9/1
Combination med TXs	3.7	$3017	6.2 mos	1.9/1	5.8/1	9.6/1
Counseling alone	6.8	$4110	8.5 mos	1.4/1	4.2/1	7.1/1
Counseling and med TXs	3.6-3.7	$3748	7.7 mos	1.6/1	4.7/1	7.8/1
Average Non-residential TXs	**3.8**	**$3108**	6.4 mos	1.9/1	5.6/1	9.4/1
Ave. Non-Res excl. Counseling alone	**3.6**	**$3017**	6.2 mos	1.9/1	5.8/1	9.6/1
Average Residential TX	**2.1**	**$9224**	19.0 mos	NA	1.9/1	3.2
Average: All TXs	**3.7**	**$3225**	6.6 mos	1.8/1	5.4/1	9.0/1

Note: For greater detail see Worksheet D.

WORKSHEET A

NICOTINE DEPENDENCE TREATMENT COSTS

Based on retail prices for mono-meds advertised at Walgreen's April, 2016

PROTOCOL	TX PHASE	DOSAGE	COST/WK	DURATION	Cost	Total Cost
Patches	Step 1	1 box, 7 patches - 21 mg- per week	$31	Weeks 1-6	$186	
	Step 2	1 box, 7 patches - 14 mg -per week	$37	Weeks 7-8	74	
	Step 3	1 box, 7 patches - 14 mg -per week	$53	Week 9	53	
						$313
Gum		100 pieces per week	$16	12 weeks		$192
Lozenges	Step 1	12-4mg per day @ $.35	$29	Weeks 1-6	$176	
	Step 2	6-4mg per day @.35	$15	Weeks 7-9	44	
	Step 3	3-4mg per day @ .35	$7	Weeks 10-12	22	
						$242
Sprays	Step 1	64 sprays per day max	$158	Weeks 1-4	$630	
	Step 2	64 sprays per day max	158	Weeks 4-8	630	
	Step 3	64 sprays per day max	158	Weeks 9-12	630	
						$1,890
ZYBAN		As prescribed	$21	Weeks 1-4	$84	
Bupropion)						
				Weeks 4-8	84	
				Weeks 9-12	84	
						$252
CHANTIX		2mg per day-53 pills per month	$354/mo	12 weeks		$1,062
(Varenicline)						

COMBINATION MED THERAPIES			Total Cost
Patch (long term <14 weeks) plus gum or spray		(($578 + $224) + ($578 + $2205)) /2 = mean average	$1,793
Patch (long Term < 14 weeks plus gum			$802
Patch (long term <14 weeks spray)			$2,783
Patch plus Buprorion SR	14 weeks	$578 + $294	$872
Patch plus Nortripoline	14 weeks	$578 + $	UNKNOWN
Patch plus Inhaler	14 weeks	$578 + $1333	$1,921
Patch plus second generation anti-depressants 14 weeks			UNKNOWN

COUNSELING					
Counseling alone	8-1/2 hr sessions @ $75	$600	N/A	$600
0-1 Session plus medication		$75	$742	$817
2-3 Sessions plus medication		$225	$742	$967
4-8 Sessions plus medication		$600	$742	$1,342
More than 8 Sessions plus medications		$800	$742	$1,542
MEDICATION AND QUITLINE		N/A	$742	$742

RESIDENTIAL PROGRAMS		
St. Helena Program for a Smoke-Free Life -- St. Helena, California.	10 Day residential program	$3,550
Nicotine Dependence Center in Minnesota -- Mayo Clinic Rochester, Minnesota.	8 Day residential program	$5,500

WORKSHEET B

NICOTINE DEPENDENCE TREATMENT COSTS , QUIT (RECOVERY) RATES AND QUIT COSTS

COST OF TREATMENT FOR NICOTINE ADDICTION						QUIT-RATE: META-ANALYSIS			
PROTOCOL	**TX PHASE**	**DOSAGE**	**COST/WK**	**DURATION**	**Cost**	**Total Cost**	**MonoMed QuitRate [1]**	**Tx/Quit Ratio [2]**	**QUIT COST [3]**
Patches	Step 1	1 box, 7 patches - 21 mg- per week	$31	Weeks 1-6	$186				
	Step 2	1 box, 7 patches - 14 mg -per week	$37	Weeks 7-8	74				
	Step 3	1 box, 7 patches - 14 mg -per week	$53	Week 9	53				
						$313	26.50%	3.8	$1,181
Gum		100 pieces per week	$16	12 weeks		$192	26.10%	3.8	$735
Lozenges	Step 1	12-4mg per day @ $.35	$29	Weeks 1-6	$176				
	Step 2	6-4mg per day @.35	$15	Weeks 7-9	44				
	Step 3	3-4mg per day @ .35	$7	Weeks 10-12	22				
						$242	24.20%	4.1	$1,000
Sprays	Step 1	64 sprays per day max	$158	Weeks 1-4	$630				
	Step 2	64 sprays per day max	158	Weeks 4-8	630				
	Step 3	64 sprays per day max	158	Weeks 9-12	630				
						$1,890	26.70%	3.7	$7,079
ZYBAN		As prescribed	$21	Weeks 1-4	$84				
Bupropion)									
				Weeks 4-8	84				
				Weeks 9-12	84				
						$252	24.20%	4.1	$1,041
CHANTIX		2mg per day-53 pills per month	$354/mo	12 weeks		$1,062	33.20%	3	$3,199
(Varenicline)									

COMBINATION MED THERAPIES			Total Cost	Comb Med Quit Rate	TX/Quit Ratio	Quit Cost
Patch (long term <14 weeks) plus gum or spray		(($578 + $224) + ($578 + $2205)) /2 = mean average	$1,793	36.50%	2.7	$4,912
Patch (long Term < 14 weeks plus gum			$802	36.50%	2.7	$2,197
Patch (long term <14 weeks spray)			$2,783	36.50%	2.7	$7,624
Patch plus Buprorion SR	14 weeks	$578 + $294	$872	28.90%	3.5	$3,017
Patch plus Nortripoline	14 weeks	$578 + $	UNKNOWN	27.30%	3.7	UNKNOWN
Patch plus Inhaler	14 weeks	$578 + $1336	$1,924	25.80%	3.9	$7,457
Patch plus second generation anti-depressants 14 weeks			UNKNOWN	24.30%	4.1	UNKNOWN

1. Quit Rate: The percentage who quit out of the total number who commenced TX. 2. Tx to Quit ratio: The number commencing TX divided by the number who completed TX and quit. 3.Fifteen percent (15%) of those commencing treatment dropped out before completion (DOF); their full treatment cost is included.

WORKSHEET B - CONTINUED

NICOTINE DEPENDENCE TREATMENT COSTS , QUIT (RECOVERY) RATES AND QUIT COSTS

COST OF TREATMENT FOR NICOTINE ADDICTION				QUIT-RATE: META-ANALYSIS		
COUNSELING	Cost		Total Cost	Quit Rate	TX/Quit Ratio	Quit Cost
Counseling alone-8 sessions	$600	N/A	$600	14.60%	6.8	$4,110
0-1 Session plus medication	$75	$742	$817	21.80%	4.9	$3,748
2-3 Sessions plus medication	$225	$742	$967	28.00%	3.6	$3,454
4-8 Sessions plus medication	$600	$742	$1,342	26.90%	3.7	$4,988
More than 8 Sessions plus medications	$800	$742	$1,542	32.50%	3.1	$4,745
MEDICATION AND QUITLINE	N/A	$742	$742	28.10%	3.6	$2,641

RESIDENTIAL PROGRAMS		Total Cost	Quit Rate	TX/Quit Ratio	Quit Cost
St. Helena Program for a Smoke-Free Life -- St. Helena, California.	10 Day residential program	$3,550	45.00%*	2.2	$7,889
Nicotine Dependence Center in Minnesota -- Mayo Clinic Rochester, Minnesota.	8 Day residential program	$5,500	52.00%	1.9	$10,577
BLENDED AVERAGES		$1,431	29.70%	3.6	$5,152
MEDIAN		$967	27.30%	3.6	$3,748

* St. Helena's followed up 12 months after discharge: Rate of abstinence was 39.9%. Author adjusted for 6 months to 45% based on substance use recovery outcome studies showing roughly 5% higher recovery rates at 6 months versus 12 months.

ALTERNATIVES TO TREATMENT	Cost	Quit Rate	TX/Quit Ratio	Quit Cost
No Counseling or Meds	N/A	11.20%	8.9	N/A
Placebo	N/A	8.30% to 13.80%	12.1 7.4	N/A N/A

NICOTINE DEPENDENCE TREATMENT: BENEFIT TO COST FOR THE SMOKER

WORKSHEET C

$7.40 per pack: Based on 2017 US median (Louisiana) cost of $7.00 plus 5.7% average annual increase. Source: Rebecca McCarthy, Awl July 11, 2017

		TOTAL	PAYBACK PERIOD			BCR 1 YEAR			BCR 3 YEARS			BCR 5 YEARS		
	TX/QUIT	QUIT	Packs/day and costs/yr			Packs/day and cost /year			Packs/day and 3 yr cost			Packs/day and 5 yr cost		
PROTOCOL	RATIO	COST	1	1.5	2	1	1.5	2	1	1.5	2	1	1.5	2
			$2,700	$4,050	$5,400	$2,700	$4,050	$5,400	$8,100	$12,150	$16,200	$13,500	$20,250	$27,000
MONO-MED THERAPIES														
Patches	3.8	$1,181	5.2 mos	3.5 mos	2.6 mos	2.3/1	3.4/1	5.2/1	6.9/1	10.3/1	13.7/1	11.4/1	17.1/1	22.9/1
Gum	3.8	$725	3.2 mos	2.1 mos	1.6 mos	3.7/1	5.6/1	8.3/1	11.2/1	16.8/1	22.3/1	18.6	27.9/1	37.2/1
Lozenges	4.1	$1,000	4.4 mos	3.0 mos	2.2 mos	2.7/1	4.1/1	6.1/1	8.1/1	12.2/1	16.2/1	13.5/1	20.3/1	27.0/1
ZYBAN (Buproprion)	4.1	$1,041	4.6 mos	3.1 mos	2.3 mos	2.6/1	3.9/1	5.9/1	7.8/1	11.7/1	15.6/1	13.0/1	19.5/1	25.9/1
CHANTIX (Varenicline)	3	$3,199	14.2 mos	9.5 mos	7.1 mos	NA	1.3/1	1.9/1	2.5/1	3.8/1	5.1/1%	4.2/1	6.3/1	8.4/1
MEDIAN MONO-MED TXs	3.8	$1,041												
COMBINATION MED TXs														
Patch <14 weeks plus gum	2.7	$2,197	9.8 mos	6.5 mos	4.9 mos	1.2/1	1.8/1	2.8/1	3.7/1	5.5/1	7.4/1	6.1/1	9.2/1	12.3/1
Patch <14 weeks plus Buproprion SR	3.5	$3,017	13.4 mos	8.9 mos	6.7 mos	NA	1.3/1	2 to 1	2.7/1	4.0/1	5.4/1	4.5/1	6.7/1	8.9/1
Patch <14 weeks plus Nortripoline	3.7	UNKNOWN												
Patch <14 weeks plus inhaler	3.9	$7,457	33.1 mos	22.1 mos	16.6 mos	NA	NA	NA	1.1/1	1.6/1	2.2/1	1.8/1	2.7/1	3.6/1
Patch <14 weeks plus second generation anti-depressan	4.1	UNKNOWN												
MEDIAN COMB. MED TXs	3.7	$3,017												
COUNSELING														
Counseling alone	6.8	$4,110	18.3 mos	12.2 mos	9.1 mos	NA	1.1/1	1.3/1	2.0/1	3.0/1	3.9/1	3.3/1	4.9/1	6.6/1
0-1 Session plus medication	4.9	$3,748	16.7 mos	11.1 mos	8.3 mos	NA	1.3/1	1.4/1	2.2/1	3.2/1	4.3/1	3.6/1	5.4/1	7.2/1
2-3 Sessions plus medication	3.6	$3,454	15.4 mos	10.2 mos	7.7 mos	NA	1.3/1	1.6/1	2.3/1	3.5/1	4.7/1	3.9/1	5.9/1	7.8/1
4-8 Sessions plus medication	3.7	$4,988	22.2 mos	14.8 mos	11.1 mos	NA	NA	1.1/1	1.6/1	2.4/1	3.2/1	2.7/1	4.1/1	5.4/1
< 8 sessions plus meds	3.1	$4,785	21.3 mos	14.2 mos	10.6 mos	NA	NA	1.1/1	1.7/1	2.5/1	3.4/1	2.8/1	4.2/1	5.6/1
"Quitline" and medications	3.6	$2,641	12.0 mos	7.8 mos	5.9 mos	1.0/1	1.7/1	2.0/1	3.1/1	4.6/1	6.1/1	5.1/1	7.7/1	10.2/1
MEDIAN COUNSELING	3.6-3.7	$3748-$4110												
RESIDENTIAL PROGRAMS														
St. Helena Program for a Smoke-Free Life-St. Helena, CA.	2.2	$7,889	35.1 mos	24.2mos	17.5 mos	NA	NA	NA	1.0/1	1.5/1	2.1/1	1.7/1	2.6/1	3.4/1
Nicotine Dependence Center Mayo Clinic -- Rochester, MN	1.9	$10,577	47.0 mos	32.4mos	23.5 mos	NA	NA	NA	NA	1.1/1	1.5/1	1.3/1	1.9/1	2.6/1
MEDIAN ALL TX APPROACHES	3.7	$3017--$3,199												
NO COUNSELING OR MEDS	8.9													
PLACEBO	7.4 - 12.1													

NICOTINE DEPENDENCE TREATMENT: BENEFIT TO COST FOR THE EMPLOYER

WORKSHEET D

Based on a 2015 study by the College of Public Health, The Ohio State Univesity, Micah Berman

PROTOCOL	TX/QUIT RATIO	TOTAL QUIT COST	Payback Period $5,816 annual cost per smoker	Year 1 $5,816 saved/ Tx cost	Year 3 $17,448 saved/ TX cost	Year 5 $29,080 saved/ Tx cost
MONO-MED THERAPIES						
Patches	3.8	$1,181	2.4 mos	4.9/1	14.8/1	24.6/1
Gum	3.8	$725	1.5 mos	8.0/1	24.1/1	40.1/1
Lozenges	4.1	$1,000	2.1 mos	5.8/1	17.4/1	29.1/1
ZYBAN (Buproprion)	4.1	$1,041	2.1 mos	5.6/1	16.8/1	27.9/1
CHANTIX (Varenicline)	3	$3,190	6.6 mos	1.8/1	5.5/1	9.1/1
AVERAGE MONO-MED TXs	3.8	$1,427	2.9 mos	5.2/1	15.7/1	
MEDIAN MOMO-MED TXs	3.8	$1,041	2.1 mos	5.6/1	16.8/1	
COMBINATION MED TXs						
Patch <14 weeks plus gum	2.7	$2,197	3.9 mos	2.6/1	8.0/1	13.3/1
Patch <14 weeks plus Buproprion SR	3.5	$3,017	5.3 mos	1.9/1	5.8/1	9.6/1
Patch <14 weeks plus Nortripoline	3.7	UNKNOWN				
Patch <14 weeks plus inhaler	3.9	$7,457	4.0 mos	0.8/1	2.3/1	3.9/1
Patch <14 weeks plus second generation anti-depressants	4.1	UNKNOWN				
AVERAGE COMBINATION MED TXs	3.6	$4,224	4.4	1.8/1	5.4/1	
MEDIAN COMBINATION MED TXs	3.7	$3,017	4.0	1.9/1	5.8/1	9.6/1
COUNSELING						
Counseling alone	6.8	$4,110	7.2 mos	1.4/1	4.3/1	7.1/1
0-1 Session plus medication	4.9	$3,748	6.3 mos	1.6/1	4.7/1	7.8/1
2-3 Sessions plus medication	3.6	$3,454	6.1 mos	1.7/1	5.1/1	8.4/1
4-8 Sessions plus medication	3.7	$4,988	8.8 mos	1.2/1	3.5/1	5.8/1
< 8 sessions plus meds	3.1	$4,785	8.3 mos	1.2/1	3.7/1	6.1/1
"Quitline" and medications	3.6	$2,641	4.6 mos	2.2/1	6.6/1	11.0/1
AVERAGE COUNSELING	4.3	$3,955	6.9 mos	1.4/1	4.7/1	
MEDIAN COUNSELING	3.6-3.7	$3,748-$4,110	6.9 mos	1.5/1	4.4/1	7.4/1
RESIDENTIAL PROGRAMS						
St. Helena Program for a Smoke-Free Life-St. Helena, CA.	2.2	$7,889	16.3 mos	0.7/1	2.2/1	3.7/1
Nicotine Dependence Center Mayo Clinic -- Rochester, MN	1.9	$10,577	21.8 mos	0.5/1	1.7/1	2.7/1
AVERAGE ALL APPROACHES	3.2	$4,709				
MEDIAN ALL TX APPROACHES	3.7	$3,017-$3,199				
NO COUNSELING OR MEDS	8.9	NA				
PLACEBO	7.4 - 12.1	NA				