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ARIZONA DEPARTMENT
OF HEALTH SERVICES

Providing Tobacco Cessation Services in Correctional Settings: Frameworks, Feasibility, and Effectiveness

The Justice-Involved Tobacco Cessation Project

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I. Introduction

The number of persons incarcerated in the U.S. is staggering: U.S. prisons house more than 1.5 million inmates (Sabol & Minton, 2008). These justice-involved (JI) individuals smoke at three to four times the rate of the general population. Therefore, while 16.8% of the adult population in the U.S. smokes cigarettes, the smoking rate for JI populations is estimated to be between 70%-80% (CDC, 2015; Cropsey et al., 2010). Unsurprisingly then, the leading causes of death among individuals who have been jailed are all associated with or directly caused by tobacco use, including: suicide, heart disease, drug or alcohol intoxication, cancer, and liver diseases (Binswanger et al., 2011; Binswanger et al., 2007; Binswanger, Krueger, & Steiner, 2009; United States Department of Health and Human Services [USDHHS], 2006). Inmates and parolees who use tobacco products are more likely to develop chronic health conditions that are expensive to manage and put undue strain on taxpayer-funded criminal justice and healthcare programs. These health disparities follow JI individuals from incarceration back into their communities after release.

There is a critical need for tobacco cessation interventions in corrections settings, but such services continue to be the exception rather than a standard of care. Even so, there is increasing evidence suggesting that interventions in the criminal justice system are both feasible and effective. This report begins by providing background information regarding JI individuals' tobacco use, correctional settings and tobacco-free policies, considerations for community corrections, and findings specifically for Maricopa County. This background is instructive in understanding how evidence-based strategies might be utilized across a range of corrections settings. The report then moves into proven cessation strategies for the general population, how these interventions and resources can be applied to JI populations, and the evidence base we have thus far for providing JI individuals such treatment.

II. A Background for Intervention

Justice-Involved Smokers:

The high rate of tobacco use among the JI population is partially attributable to the large demographic overlap between the JI population and other “underserved” populations with similarly high smoking rates. These groups include individuals with low socioeconomic status, behavioral health conditions, and/or substance use disorders.

Low socioeconomic status (SES), a measure typically comprised of variables such as income and educational level, is an indicator of high rates of tobacco use (Barbeau, Krieger, & Soobader, 2004). For instance, poverty has been well established in the scientific literature as a significant risk factor for tobacco use (Barbeau, Krieger, & Soobader, 2004), and JI individuals often come from socioeconomically disadvantaged backgrounds. It is estimated that 26% of individuals below poverty level smoke, versus only 15% of those at or above poverty level. For those who are homeless, prevalence rates are even higher – estimated to be between 70%-80% (Okuyemi et al., 2013; Torchalla et al., 2011). Additionally, educational attainment, another variable of SES status, is an indicator of tobacco use. Tobacco use rates for individuals with a GED is 43%, versus only 8% for those with an undergraduate degree. As a group, JI individuals have relatively low rates of educational attainment. While only 18% of the general population has less than a high school diploma, 40% of individuals in state prisons, 47% in jails, and 31% in community corrections have less than a high school diploma (Wolf, 2003).

Moreover, individuals within the behavioral health population (defined as having mental illnesses or substance use disorders) also have a high smoking prevalence rate. Research estimates that individuals with behavioral health conditions are nicotine dependent at rates two to three times the general population (CDC, 2013). Within the behavioral health population, prevalence rates are estimated to range between 32%-90% depending upon the diagnosis (Grant et al., 2004; Lasser et al., 2000; Morris et al., 2009; Williams & Zeidonis, 2004). Although only 25% of the U.S. population has a behavioral health condition, this group consumes 40% of all cigarettes smoked (Substance Abuse and Mental Health Services Administration [SAMHSA] 2013). A disproportionate share of the JI population has a behavioral health condition. Recent estimates indicate that 17–34% of jail inmates have a recent history of mental disorders (Steadman et al., 2009; Steadman et al., 2013), and well over half of all incarcerated individuals have significant substance use problems (Lurigio, 2011; Steadman et al., 2013). The overlap between the JI and behavioral health populations may then contribute to the high smoking prevalence rate among the JI.

Despite these facts, smoking among JI individuals is a largely ignored public health epidemic. Although the past 30 years has seen extensive research and study of tobacco cessation within the general population, individuals who are involved in the criminal justice system remain notably absent from the scientific literature. Tobacco cessation interventions with this population continue to be understudied, and empirically-validated treatments remain sparse despite the recent increase in correctional system tobacco/smoking bans (Cropsey et al., 2010;

Kauffman et al., 2011). Failing to address tobacco use in this population has significant financial, social, and medical consequences that are harmful to individuals within the system and impact the greater community (Tobacco Control Legal Consortium, 2012; Binswanger et al., 2011; Wilper et al., 2009).

While JI smokers often want to quit smoking, they are not afforded the same opportunities to quit as the general population (Kauffman et al., 2010). The immense size of the U.S. corrections system has made it challenging for criminal justice institutions to operate efficiently while also providing comprehensive, quality healthcare services (Hammet, 2006). Evidence of comprehensive wellness programming is scarce. Although the direct relationship between incarceration and health outcomes is complex, access to quality healthcare and tobacco cessation services while incarcerated and when reentering communities is critical (Binswanger et al., 2011). Yet there are few available jail or community-based tobacco cessation services tailored to this population.

However, it is known that cessation interventions increase the ability of inmates to quit (Clarke et al., 2013; Cork, 2012; Richmond et al., 2006). Additionally, research indicates that as individuals in correctional settings improve their health, medical costs as well as problems with general security decrease (Glaser & Greifinger, 1993; Kim et al., 1997). At release, communities benefit when individuals reenter their communities with increased health literacy, healthy habits, and greater self-efficacy (Conklin, Lincoln, & Tuthill, 2000; Freudenberg, 2001; Glaser & Greifinger, 1993; Hammet, Roberts, & Kennedy, 2001; Kim et al., 1997).

Tobacco control strategies save lives, improve quality of life, and are cost effective (Fiore et al., 2008). The criminal justice system offers unique access points to deliver smoking interventions to vulnerable and underserved individuals (Donahue, 2009). The majority of prisoners are aware of the risks that are associated with tobacco use and have a desire to quit, making prisons and the correctional system more broadly an “ideal setting for intervention” (Kauffman et al., 2011).

Tobacco Use in Corrections:

Tobacco use in criminal justice settings has historically been condoned (MacDonald et al., 2010), and corrections staff commonly possess negative attitudes toward cessation services (MacAskill & Hayton, 2007). Tobacco has traditionally been viewed as one of few “privileges” for prisoners, and prisoners have been found to rely on tobacco use to combat boredom and stress while incarcerated (Cork, 2012). As recently as the late 1980s, prisons issued tobacco to prisoners for free (Kauffman et al., 2008). Today, cigarettes and other tobacco products are still sold in many commissaries.

However, following a 1993 Supreme Court decision that ruled that secondhand smoke exposure in prisons could constitute cruel and unusual punishment, and thus violate the 8th Amendment, prison tobacco policies began to change (Cork, 2012). In 2004, the Federal Bureau of Prisons instituted a smoking ban in federal prisons. Since 2004, other correctional systems such as the

American Jail Association, the American Correctional Association, and the National Commission on Correctional Health Care have also adopted smoke-free resolutions that promote tobacco-free policies in jails and prisons (American Nonsmokers' Rights Foundation, 2012).

Today, all federal correctional facilities, as well as most state and local facilities, have adopted varying degrees of smoke-free or tobacco-free policies (Clarke et al., 2011; Cork, 2012). Nevertheless, very few criminal justice facilities offer tobacco cessation services for inmates, probationers, parolees, or staff members. In fact, one literature review found that most tobacco-free correctional institutions do not offer cessation support (Kennedy, Davis, & Thorne, 2015). Another study found that the limited cessation assistance that is available may not be adequate; of all state correctional facilities that provide cessation assistance, the majority of these programs are limited to the provision of educational materials or other unspecified assistance (Cork, 2012). Consequently, there remains a great need for cessation support within correctional institutions as well as within community reentry programming (de Andrade & Kinner, 2017).

Considerations for Community Corrections:

Studies have found that smoking rates among individuals under community corrections supervision are comparable to those who are incarcerated – more than 70% (Cropsey et al., 2010). However, there are some specific demographic considerations that should be taken into account when tailoring a tobacco cessation program to meet the needs of individuals under community corrections supervision. For instance, the population under community corrections supervision is largely comprised of young adults. The relatively young age of the community corrections population creates an opportunity to achieve greater long-term benefits from early tobacco interventions. On the other hand, JI individuals under community corrections supervision may be less likely than older populations to see or have experienced the detrimental medical effects of their tobacco use (Cropsey et al., 2010), potentially affecting their motivations to quit.

Despite high prevalence rates for tobacco use within community corrections, these JI individuals are interested in quitting. In fact, when surveyed, more than 50% of tobacco users under community corrections supervision report interest in tobacco cessation programming (Cropsey et al., 2010). In addition, 60% of these individuals also report interest in using pharmacotherapy to assist quit attempts (Cropsey et al., 2010).

Maricopa County:

JJ individuals in Maricopa County reflect nationwide trends. According to Maricopa County Public Health's 2017 Adult Probation report, "Smoking Questionnaire for Adult Probationers Report – Maricopa County," 55% of adult probationers reported that they are current smokers. The Drug Court sample and the Serious Mental Illness (SMI) sample had the highest rates overall, around 83% and 80% respectively. Of all of smokers, 78% reported daily tobacco use

while 21% reported only smoking on some days. Smokers reported that they used cigarettes primarily for stress reduction and weight control.

However, the report also revealed that many of these smokers are interested in quitting. Around 37% of all smokers rated their “readiness to quit” as an 8, 9, or 10 on a 1-10 scale where 10 indicated that they were “very ready” to quit. Readiness rates were highest at the Western Regional Center and were lowest among the SMI sample. This interest in quitting reinforces both the importance of and the possibility for successful tobacco cessation interventions within the county correctional system.

Community corrections comprises a significant portion of the Maricopa County budget, and corrections costs appear to be on the rise. According to the Morrison Institute (2015), in 2010 the average cost of incarceration per offender for Maricopa County was \$24,805 (or about \$67.96 per day). In comparison, in 2016 the cost of incarceration per offender was estimated to be around \$31,203 (or about \$85.49 per day). It can be inferred that JI tobacco users cost the county much more than non-users due to medical and psychiatric comorbidities as well as hospitalizations, many of which are associated with tobacco use (Florida State University, 2017). Tobacco cessation within the county correctional systems offers a means to address these rising costs.

III. Evidence-Based Strategies for Tobacco Cessation

Interventions in the General Population:

When people try to quit on their own, fewer than 5% of quit attempts are successful (Fiore et al., 2008). However, there are many different evidence-based options for tobacco cessation. Treatment methods include tobacco cessation medications, counseling, supportive education about tobacco use, and referrals to tobacco cessation resources. The most effective approach to tobacco cessation combines multiple treatment strategies. Treatments that combine tobacco cessation medications with behavioral interventions have the best rates of treatment acceptance and cessation (Fiore & Baker, 2011).

| Treatment Format | Abstinence Rate |
|-------------------------|------------------------|
| Unaided | 4-7% |
| Self-help | 11-14% |
| Quitline | 11-15% |
| Individual counseling | 15-19% |
| Group counseling | 12-16% |
| Medication alone | 22% |
| Medication + counseling | 25-30% |

Tobacco cessation medication is used to decrease physical withdrawal symptoms (Benowitz, 2008). Cessation medications help individuals to feel comfortable while quitting and allow them to focus on their changing behaviors related to tobacco use. Most medications for tobacco cessation approximately double the cessation rates at six months (Fiore & Baker, 2011). Combined therapies (using two or more tobacco cessation medications) are more effective, with a 33%-37% abstinence rate versus 19%-26% with a single medication (Fiore et al., 2008). Starting nicotine replacement therapy (NRT) two or more weeks prior to the quit date can be beneficial (Lindson & Aveyard,

2011). In one study, individuals who used the patch prior to quitting were twice as likely to have maintained their abstinence as those who initiated the patch on their quit date (Shiffman & Ferguson, 2008; Rose et al., 2009).

Counseling generally begins with a brief intervention and screening to assess the intensity of the client's nicotine dependence. Counseling can take a variety of forms, including individual, group, or telephonic counseling (US Public Health Service, 2009). Counseling for tobacco cessation can include cognitive behavioral strategies to practice skills building and problem solving, Motivational Interviewing (MI) to increase interest in and readiness to quit, and psychoeducational components.

Counseling for cessation does not need to be intensive to be effective. It is estimated that interventions with no person-to-person contact, such as receiving self-help information only, have an abstinence rate of around 10.9%. With minimal counseling (defined as less than 3 minutes), low intensity counseling (defined as between 3-10 minutes), and high intensity

counseling (defined as greater than 10 minutes), estimated abstinence rates increase to 13.4%, 16%, and 22.1%, respectively (Bureau of Public Health Service, 2008).

Finally, tobacco cessation resources – like quitlines – can significantly increase abstinence rates compared to minimal or no counseling. Referrals to resources like quitline counseling can significantly improve abstinence rates compared to medication alone (Fiore et al., 2008).

Overview of Interventions for the Justice-Involved:

Due to the limited amount of research that explores tobacco cessation interventions in JI populations, and community corrections in particular, there is not a standard set of guidelines or best practices for interventions in correctional settings (de Andrade & Kinner, 2017). However, in the last few years researchers have increasingly begun to explore many promising cessation interventions for the JI. For instance, the use of Motivational Interviewing (MI) or Cognitive Behavioral Therapy (CBT) in JI populations has been found to improve smoking abstinence by 6.6 times compared with a control group (Clarke et al., 2013). Pharmacotherapy for cessation is also effective within the JI population (de Andrade & Kinner, 2017). In fact, one study in community corrections found that the use of pharmacotherapy alone can result in abstinence rates comparable to providing both pharmacotherapy and counseling (Cropsey et al., 2015). Overall, studies have found that the interventions with the greatest efficacy in JI populations are those that provide combination therapy, or both behavioral intervention and pharmacotherapy for cessation (de Andrade & Kinner, 2017; Jalali et al., 2015).

Additionally, it has been recommended that correctional, medical, and mental health providers should construct cessation treatment plans for individuals prior to release from jail or prison (Binswanger, 2011). Many individuals who have been recently released from jail or prison do not have access to regular medical care and have difficulty navigating complicated medical systems. A lack of a “medical home” can make this even more difficult for the JI (Binswanger et al., 2011). These are significant stressors that may make it difficult to access cessation programming in the community and can contribute to tobacco relapse. In response, pre-release planning could increase the likelihood that individuals will follow up with primary care or other providers and access community cessation resources.

During pre-release planning, it may also be useful to assess an individual’s intent to maintain change once released, since post-release intentions to smoke are an extremely strong indicator for remaining tobacco free upon release (Thibodeau et al., 2010). An individual’s intent or motivation to remain tobacco-free could be impacted by interventions received while incarcerated, such as tobacco cessation groups or pre-release planning.

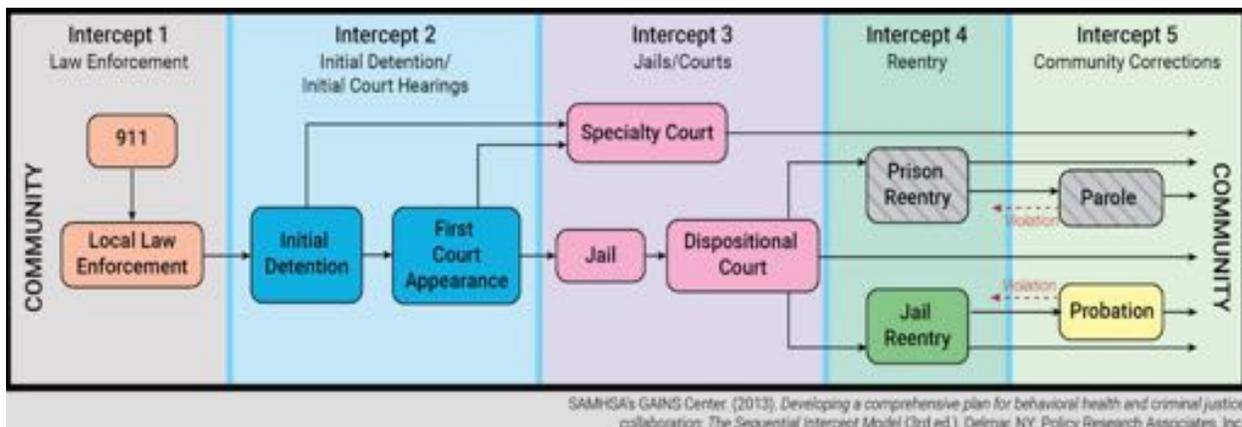
Recommended Treatment Models:

There are several models that hold promise for effectively structuring tobacco cessation in corrections systems. The Sequential Intercept and Patient Centered Medical Neighborhood

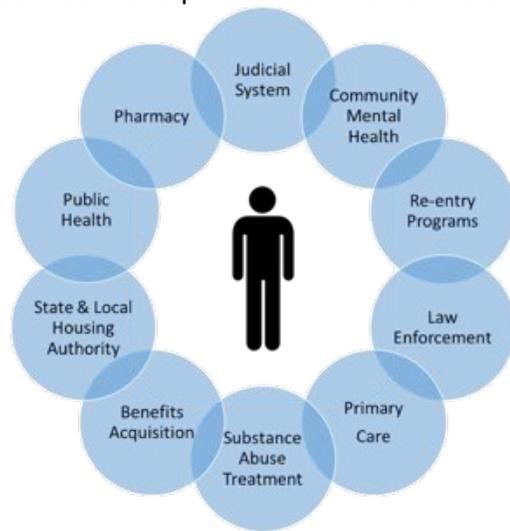
Models are presented as a means for identifying points of intervention. The 5As and 2As-R Models are then presented as a framework for tobacco cessation services within any given service setting or community hub of care.

Sequential Intercept Model: The Sequential Intercept (SI) Model provides a conceptual framework for collaboration between the criminal justice and other treatment systems to methodically address and reduce criminalization and recidivism. The model depicts the ways in which people typically move through the criminal justice system and suggests a series of "points of interception," or opportunities for intervening. Thus, the SI model can help to identify points of intervention for Maricopa County's tobacco cessation and whole health programming.

Research suggests that tobacco cessation interventions are integrated best within Intercept 3: Jails/Courts, specifically upon entry into prisons or other community corrections programming, as well as Intercept 4: Reentry (Kauffman, 2011). However, research also highlights the need for continued cessation supports for JI individuals when they have returned the community and are participating in community corrections programming during Intercept 5: Community Corrections (de Andrade & Kinner, 2017).



The Patient-Centered Medical Neighborhood: The “patient-centered medical home” suggests that a primary care agency should serve as the hub of healthcare and point of referral for other services. Yet, for the JI population, the expanded “patient-centered medical neighborhood” (PCMN) is a more realistic, compelling, and pragmatic model. Although the PCMN includes primary care, it also incorporates a network of agencies that serve the JI population’s whole health (Taylor et al., 2011). This network often includes, but is not limited to: criminal justice, social service agencies, community hospitals, specialty medical offices, pharmacies and laboratories, housing, and state and local public health departments. The core of the PCMN model is community-based integration and system redesign that promotes population health.



Unlike the patient-centered medical home, within the PCMN any point of service may become the hub of care. The PCMN allows for a continuity of care model to integrate county public health programs and their expansive community connections. Therefore, the PCMN model assumes that multiple professionals work toward the common goal of community health. For decades, many health professionals have worked in silos and failed to adequately communicate or collaborate with other providers, often at the expense of quality care. This is particularly true for individuals who have been recently released from jail or prison. These JI individuals commonly have difficulty navigating complicated medical systems or lack access to regular medical care. Studies have shown that after release from jail or prison, only 15% of inmates are estimated to have health insurance, and individuals recently released from correctional facilities report that lack of access to healthcare leads to significant instability at reentry (Burgess-Allen et al., 2006; Seal, 2007). Lack of a “medical home” can make this even more difficult (Binswanger et al., 2011). In response, the core tenets of the PCMN model address these deficits and provide the framework for innovative service delivery for the JI population.

The 5As Model: Only 40%-76% of general population patients report that their physicians ask about smoking and advise them to quit (e.g., Hu et al., 2003; Kaplan et al., 2016; Park et al., 2015). Advice to quit was given significantly less often to respondents classified as less educated (42.3%), or to patients with a lower family income (43.5%) who live outside the northeast (Kaplan et al., 2016). For all smokers, advice to quit is typically not followed by assessment, brief treatment, appropriate referrals, or follow-up (Conroy et al., 2005; Morris, Miller and Mahalik, 2011). Rates of providing counseling or pharmacotherapy are below 20% (DePue et al., 2002; Longo et al., 2006; Park et al., 2015).

The 5As Model directs providers and staff to screen for tobacco use (ASK), to recommend reducing or stopping use (ADVISE), to evaluate (ASSESS) both smokers’ willingness to quit and level of nicotine dependence, to offer aid (ASSIST) to help in their quit attempt, and then to set (ARRANGE) follow-up visits (Fiore et al., 2008). Utilizing the 5As Model helps to ensure

treatment consistency. The 5As Model is also advantageous to the criminal justice system, as the model may be modified to complement common behavioral health and integrated care assessment, screening, treatment, and referral practices.

2As-R Model: Similar to the 5As Model, the 2As-R Model provides a shortened intervention to be used when providers cannot provide all needed cessation services. The 2As-R Model directs providers and staff to screen for tobacco use (ASK), to recommend stopping tobacco use (ADVISE) and to refer patients or clients to additional services (REFER). As with the 5As Model, the 2As-R Model ensures treatment consistency.

Tobacco-Free Policies in Correctional Systems:

Tobacco-free policies are currently the primary form of preventive intervention deployed in correctional systems (Cork, 2012). Tobacco-free policies within correctional settings range from limited indoor smoking bans to comprehensive campus (indoor/outdoor) tobacco bans.

Tobacco-free policies significantly reduce concentrations of secondhand smoke within jails and prisons (Proescholdbell et al., 2008) and reduce smoking-related mortality (Binswanger et al., 2014). There are distinct differences, however, between facilities that adopt an indoor smoking ban versus a comprehensive campus tobacco ban. Research demonstrates that indoor smoking bans alone do little to promote smoking cessation (Kauffman et al., 2011). While indoor smoking bans do contribute to a reduction in the number of cigarettes consumed per day, the number of smokers can still increase under an indoor smoking ban (Kauffman et al., 2011). In addition, one 2015 literature review found that between 20%-76% of inmates report noncompliance with such tobacco-free policies (Kennedy, Davis, & Thorne, 2015). Therefore, indoor smoking bans may not be enough to reduce or eliminate secondhand smoke exposure within correctional facilities (Lasnier et al., 2011).

Compared to an indoor tobacco ban, a campus (indoor/outdoor) tobacco ban may further reduce daily smoking and secondhand smoke exposure in correctional facilities. For instance, one study found that 64% of inmates in a state prison reported daily smoking under an indoor smoking ban, versus only 42% of inmates in another state prison that introduced a campus smoking ban (Proescholdbell et al., 2008). However, research also demonstrates that even campus tobacco-free policies are not sufficient to promote cessation within JI populations. In fact, most JI individuals released to the community quickly relapse to smoking. Strikingly, studies show that up to 97% of former inmates relapse back to smoking within six months of their release back to the community (Lincoln et al., 2009).

Under tobacco-free policies, individuals who continue to use tobacco products (and therefore prolong withdrawal symptoms) report high levels of distress compared to those who cease to use tobacco under such bans (Cropsey & Kristeller, 2005). To improve the efficacy of smoking bans in promoting tobacco cessation, it is recommended that jails and prisons review the products that are sold in their commissary (Greenbacker et al., 2017). Ideally, tobacco products

would be removed from commissaries under tobacco bans. However, for jails and prisons that continue to permit tobacco use outdoors, studies have found that the type of products sold in commissaries may impact the amount of cigarettes that individuals smoke. Decreases in tobacco use have been found to be greater within institutions that only sell ultra-light manufactured cigarettes, compared to institutions where less expensive, unfiltered, hand-rolled cigarettes were available for purchase (Kauffman et al., 2011).

The efficacy of tobacco-free policies can also be improved through consistent enforcement. Problems with tobacco-free policies within correctional settings tend to be related to lax or inconsistent enforcement as well as the unequal treatment of staff and inmates (Cork, 2012). Facilities that properly enforce tobacco-free policies see greater reductions in secondhand smoke exposure (Proescholdbell et al., 2008). In comparison, a tobacco-free policy in a correctional setting may be undermined if exemptions permit smoking in designated areas or, alternatively, if staff members – but not JI individuals – are allowed to continue tobacco use. Such policies are common; one Canadian study found that among prisons and jails that reported that they were “tobacco-free,” 79% permitted the use of tobacco by staff (Chavez et al., 2011). Within such situations, research suggests that it is likely that members of the prison staff provide the tobacco products used by the JI in correctional facilities (Foley et al., 2010). Accordingly, tobacco-free policies should be enforced for both correctional staff members and the JI.

Another issue with smoke-free policies includes the development of black markets for tobacco products, which some feared could increase violent behavior within incarcerated populations (Cork, 2012; Macaskill & Hayton, 2007). However, despite early concern, there has been little evidence that banning tobacco use in jails and prisons contributes to an increase in violent behavior among inmates (Kennedy et al., 2015).

In conclusion, to reduce the prevalence of tobacco use in correctional settings and for the JI, campus smoking bans should be implemented, and are much more effective when accompanied by proven cessation services (Cork, 2012; Kennedy et al., 2015; Proescholdbell et al., 2008).

Counseling/Behavioral Interventions for Tobacco Cessation in JI Populations:

Motivational Interviewing (MI): MI is an empirically developed style of communication that emphasizes the evocation and reinforcement of intrinsic motivation (change talk) within a compassionate, collaborative, and supportive relationship (Miller & Rollnick, 2013). Utilizing brief MI, non-judgmental, open-ended reflective responses, affirmations, and well-timed summaries, serves to mirror and reinforce self-efficacy and healthy behavior change. Meta-analyses have found MI to be effective in comparison to no-treatment, written materials, and non-specific treatment (Hettinga et al., 2010; Lundahl et al., 2010). MI has been proven effective for tobacco cessation across a wide spectrum of healthcare and public service sectors (Lai et al., 2010; Burke et al., 2003).

MI has had substantial national uptake in correctional systems (US Dept. of Justice, 2016). While there are both pros and cons associated with the use of MI within correctional programming, studies have found MI to be effective in working with the criminal justice population (Noonan, 2012; Bradford & Nandi, 2012). For example, one study found that MI for tobacco cessation increased prisoner cessation attempts and helped inmates to achieve a short-term reduction in smoking days (Jalali et al., 2015). MI may also be more appropriate than other methods of behavioral intervention for JI individuals who are not yet ready to make a behavior change (van den Berg et al., 2016). In addition, the ability of MI to increase individual interest in quitting is important in jails and prisons with tobacco-free campuses, where individuals may not have the ability to engage in or practice cognitive behavioral strategies (Clarke et al., 2011).

MI can be utilized at nearly every point in the correctional case management process and can be applied in various ways to tobacco cessation. MI can be used to gather detailed information about tobacco use, to reduce resistance to tobacco interventions, and to provide a structure for advancing behavior change. Additionally, MI can help inmates to increase individual interest in remaining smoke-free post-release (Clarke et al., 2011). Since post-release intentions to smoke were an extremely strong indicator for remaining tobacco free (Thibodeau et al., 2010), MI is likely to improve long-term abstinence rates.

Within the JI population, studies have found that individual interest in quitting tobacco use is typically related to feeling generally better, improvements in overall health, increases in exercise tolerance, the acknowledgement of stress, and the ability to taste food (MacAskill & Hayton, 2007; Muir, 2016). Based on these themes, MI may offer an important opportunity to easily integrate tobacco cessation within other whole-health programming and to tailor tobacco programming specifically for the JI population.

Cognitive Behavioral Strategies: In the general population, there is consistent evidence that more intensive cognitive behavioral counseling (session duration lasting more than 20 minutes) and higher numbers of counseling sessions relate to increased abstinence from smoking (Fiore & Baker, 2011). Research shows a strong relationship between the length of time spent in person-to-person contact and successful treatment outcomes. Minimal counseling (defined as less than 3 minutes) is associated with abstinence rates around 13.4%. In comparison, low-intensity counseling (defined between 3-10 minutes) and high intensity counseling (defined as more than 10 minutes), have associated abstinence rates of 16% and 22.1%, respectively (Fiore et al., 2008). Moreover, multiple treatment sessions increase tobacco abstinence rates compared to one or no sessions. Estimated abstinence rates for 0-1 sessions is 12.4%, 2-3 sessions is 16.3%, 4-8 sessions is 20.9% and >8 sessions is 24.7% (Fiore et al., 2008).

According to the Clinical Practice Guideline, the cognitive and behavioral interventions with the highest abstinence rates are skills building/problem solving and support/encouragement (Fiore et al., 2008). Skills building and problem solving may include learning to identify high-risk situations or situations that trigger an individual's smoking behavior, and practicing associated

coping skills. Support and encouragement may include providing psychoeducation around tobacco cessation strategies or statistics.

Cognitive behavioral strategies should address corrections-specific issues such as boredom, stress, and transfer or reentry (Richmond et al., 2006). Consistent with guidance for the general population, more than two cognitive behavioral sessions have been recommended for working with the JI (Richmond et al., 2006). It is also important to recognize the possibility that cognitive behavioral strategies may not be equally effective within all correctional settings; Clarke et al., (2013) suggests that cognitive behavioral strategies may not be as applicable for incarcerated populations held in correctional settings with campus tobacco-free policies where the JI cannot actively practice cessation strategies. In such correctional settings, it is suggested that cognitive strategies be combined with MI to improve intervention efficacy.

Tobacco-Free Groups: Group interventions are an important counseling modality used to help motivate individuals to change. Tobacco-free groups offer an effective intervention to promote and to achieve tobacco cessation. Tobacco-free groups have been found to have associated quit rates between 7-13% within the general population (Fiore et al., 2008).

Tobacco-free groups have also shown promising results within the JI population (Cropsey et al., 2008; Garver-Apgar et al., 2017). For example, a 2017 study evaluating tobacco-free groups implemented within probation, parole, and drug court units in Arkansas found that 39% of the entire sample (n=962) reported at least one quit attempt during their group attendance (Garver-Apgar et al., 2017). For those who attended the full 6-session curriculum, 49% reported at least one quit attempt and 5% reported no tobacco use. In addition, between session 1 and session 6, the number of tobacco users who reported using tobacco more than 11 times per day decreased. This decrease indicates an increased likelihood that these individuals will be capable of quitting tobacco use in the future (Broms, Korhonen & Kaprio, 2008). Finally, the evaluators found that attending just three group sessions contributed to reduced tobacco use. Given that 59% of the sample attended at least three group sessions, a majority of participants were determined to have attended enough sessions to receive some therapeutic benefit (Garver-Apgar et al., 2017).

Another study instituted a 10-week group intervention, along with NRT, to women in a U.S. correctional facility (Cropsey et al., 2008). At the end of the intervention, 18% of participants had quit tobacco use. At six months, 14% of participants had remained abstinent, compared to only about 3% of the control group.

There are some caveats to consider when working with the JI population: individual treatment is recommended for those who self-harm, those who are determined to be mentally unstable, individuals who are disruptive or lack self-esteem, and highly intelligent individuals (Department of Health and HM Prison Service, 2003).

Co-occurring Treatment: Research indicates that comprehensive treatment programs for incarcerated individuals with co-occurring mental health and substance use disorders can significantly reduce recidivism, and that the addition of community reentry services can augment these positive outcomes (Lurigio, 2011; Peters et al., 2012; Sacks et al., 2004). Research also demonstrates that individuals who treat their addiction to tobacco and other substances at the same time are 25% more likely to sustain their recovery than individuals who do not address tobacco while in recovery from other drugs (Prochaska, Gill, & Hall, 2004). Therefore, co-occurring treatment presents an advantageous opportunity for effectively addressing tobacco cessation within community correctional systems.

Rather than building “siloes” tobacco cessation treatment, these activities can be embedded within individual and group counseling that is already occurring. As an example, tobacco dependence has often been perceived as separate from other alcohol and drug use, but the core behavioral treatments are typically the same. Treatment approaches that concurrently address mental health and substance use disorders, such as MI, trauma-informed care, and cognitive behavioral therapies, are equally applicable to tobacco dependence (Lurigio, 2011; Peters et al., 2012).

A Parallel Process: While often overlooked, a high percentage of criminal justice employees in courts, jails, and community service settings are tobacco users. Relatedly, corrections staff often possess negative attitudes toward tobacco cessation services (MacAskill & Hayton, 2007). These negative staff attitudes towards tobacco cessation and tobacco-free policies can result in lax tobacco-free policy enforcement (Cork, 2012). One critical means of overcoming potential staff bias toward tobacco-free policy enforcement and the provision of treatment to the JI is to offer tobacco cessation resources and support to correctional staff who smoke (Cork, 2012).

Pharmacotherapy for Tobacco Cessation in JI Populations:

When people stop using tobacco products and the amount of nicotine in their body decreases, they experience withdrawal symptoms. Withdrawal symptoms can make people so uncomfortable that they often relapse and begin to use again. Cessation medications help to alleviate nicotine withdrawal, mimic the effects of nicotine, and block the effects of nicotine. Therefore, cessation medications help make people more comfortable while they are working to change their smoking behavior or habit.

The use of pharmacotherapy increases the likelihood of tobacco cessation in the general population (Fiore et al., 2018). The use of pharmacotherapy has also been proven to be effective within the JI population. In fact, a recent systemic review of studies involving cessation interventions for incarcerated adults and/or prison staff found that cessation interventions that include a pharmacological component are particularly effective (de Andrade & Kinner, 2017). Similarly, studies have found that NRT combined with MI is more effective than MI alone in a JI population (Jalali et al., 2015), and NRT alone can produce an abstinence rate comparable to counseling and NRT combined (Cropsey et al., 2015). Moreover, the majority of JI individuals in

community corrections are interested in pharmacotherapy for tobacco cessation (Cropsey et al., 2010).

There are currently seven cessation medications approved by the Food and Drug Administration (FDA). These medications include nicotine gum, nicotine lozenge, nicotine patch, nicotine nasal spray, nicotine inhaler, bupropion SR tablets (Zyban), and varenicline tablets (Chantix). Cessation medications that are available without a prescription include nicotine gum, lozenges, and patches. Currently, the most common forms of pharmacotherapy used for cessation interventions within the JI population include the nicotine patch and bupropion. The nicotine patch is a convenient choice since it delivers relatively higher levels of nicotine over a sustained period of time. As a result, the nicotine patch only needs to be applied once per day. In comparison, given the high prevalence of behavioral health conditions among the JI, bupropion has been selected for some studies because of both its anti-depressant effects and because there is a generic version available (Cropsey et al., 2015). However, the use of anti-depressants for smoking cessation in jails and prisons may be unfeasible (Cropsey et al., 2008).

While there is some concern that NRT and other cessation medications may be contraindicated within the JI population (Maurer, 2014), NRT is a safe medication with typically few side effects. There are no interactions between NRT and psychiatric medications. Although the concomitant use of bupropion and NRT for tobacco cessation may increase risk for hypertension, the FDA still approves combination therapy with bupropion and NRT. NRT can be used safely by individuals with stable cardiovascular disease, but should not be used within two weeks of a heart attack or if the individual has a serious arrhythmia or severe or worsening angina (Ferguson, Shiffman, & Gitchell, 2011; Moore et al., 2009).

Additionally, there is some concern that many of the JI within correctional facilities policies may not meet the general medical criteria for cessation pharmacotherapy (Maurer, 2014). Pharmacotherapy is intended to be used to inhibit or prevent nicotine withdrawal symptoms. Withdrawal symptoms typically subside between 2-4 weeks after ceasing tobacco use (USDHHS, 2004). If an individual is held within a tobacco-free correctional facility for more than a month, it is possible that their withdrawal symptoms will have already subsided; in these cases, the use of pharmacotherapy may not be effective (Clarke et al., 2011). However, given the fact that tobacco-free policies are not always well enforced in correctional settings, individuals' withdrawal symptoms may not subside during incarceration (Cork, 2012). Additionally, knowledge of and familiarity with NRT may help individuals to feel confident in their ability to remain tobacco-free upon release into the community.

Other potential issues around NRT in corrections settings may include the misuse of NRT, challenges to accessing NRT due to jail/prison transfers and reentry (Richmond et al., 2006), and the possible development of NRT black markets (MacAskill & Hayton, 2007). To avoid some of these issues, one small study within a prison elected to coordinate the daily administration nicotine patches (Greenbacker et al., 2017). Within this study, NRT was administered to the entire participant cohort once per day at the prison pharmacy. However, there are currently no

known best practices or recommendations around pharmacotherapy administration in correctional settings.

Despite JI interest in NRT (Cropsey et al., 2010), NRT and other cessation pharmacotherapy can be difficult for the JI to access. When sold in jails and prisons in commissaries, nicotine gum can cost more than what a prisoner can earn in a single month (Kauffman et al., 2011). Moreover, a box of nicotine patches can cost more than 15 times what is charged for a single pack of cigarettes (Kauffman et al., 2011). Even within the community, accessing NRT can be challenging for the JI. One intervention that evaluated the efficacy of tobacco-free groups for individuals on probation and parole found that less than 4% of participants accessed NRT during the intervention (Garver-Apgar et al., 2017). Moreover, even when NRT prices are subsidized, the JI are unlikely to access NRT. For example, one study in Australia found that, despite government subsidized prices, only 86 of the 971 individuals the study tracked after release from prison accessed some form of NRT or pharmacotherapy (Puljević et al., 2017).

Adherence to cessation medication can also be problematic within the JI population (Cropsey et al., 2015; Turan & Turan, 2016). This is true both when JI individuals pay for their own pharmacotherapy (Turan & Turan, 2016) as well as when they receive medication for free (Cropsey et al., 2015). Medication adherence is significantly related to cessation (Cropsey et al., 2008; Jalali, 2015), but studies show that without additional intervention only around 50% of JI individuals who receive free pharmacotherapy through cessation interventions are medication-adherent (Cropsey et al., 2015; Cropsey et al., 2008).

Individuals are often unsuccessful with NRT or discontinue its use because they do not know how to dose or administer NRT properly. This is likely true of the JI population as well as the general population. However, preliminary research demonstrates that NRT counseling in JI populations, specifically “in vivo” sampling of NRT, increases both medication adherence and the likelihood of cessation (Cropsey et al., 2017). “In vivo” sampling allows individuals to try various forms of cessation medications for relatively short periods. For instance, one recent study by Cropsey et al. (2017) implemented an “in vivo” intervention that included four 30-minute counseling sessions. During each session, individuals were instructed on how to use a specific form of NRT (both nicotine gum and the nicotine patch) and then sampled this NRT in the presence of a counselor. The timing of the session was designed to allow JI individuals to begin to experience the effects of the NRT before the session concluded. Importantly, this study demonstrated the ability of “in vivo” sampling to increase medication adherence and efficacy among the JI. Additionally, the study reinforced the feasibility of providing “in vivo” sampling among the JI; a bachelor’s level student research assistant with just two hours of training provided the required NRT counseling (Cropsey et al., 2017). Therefore, while a specialized individual such as a Tobacco Treatment Specialist (TTS) could deliver this type of intervention, it may also be feasible to explore the use of non-specialty trained individuals like peers.

Pharmacotherapy can be expensive, and its provision within correctional systems is resource-contingent. However, where possible, it is recommended that NRT and other cessation medications are offered for free to the JI (de Andrade & Kinner, 2017). Research also suggests

that providing NRT for an extended period (at least 8-10 weeks), beginning with a higher dose of nicotine and tailoring the dose down over time, may improve intervention efficacy (Cropsey et al., 2017; Cropsey et al., 2008; Greenbacker et al., 2017; Richmond et al., 2006).

Telephonic Cessation Services – The ASHLine:

All U.S. states provide telephonic cessation services, or “quitlines”. Within the general population, quitline counseling can more than double a smoker’s chances of quitting, and quitline counseling combined with medication can more than triple the chances of quitting (Anderson & Zhu, 2007; Stead, Perera, & Lancaster, 2007). Quitlines also have the potential to overcome common barriers to healthcare access such as lack of transportation as well as the cost of both counseling and cessation medications (Zhu et al., 2000). However, far too few smokers avail themselves of this service despite media campaigns targeting socio-economically disadvantaged populations. Less than 1% of all smokers in the U.S. access counseling or medication assistance through quitlines (North American Quitline Consortium, 2015).

Quitline services currently have limited reach for the JI population. However, researchers are beginning to explore the ways in which quitline services can be tailored to meet the needs of JI populations. For instance, Greenbacker et al. (2017) worked with the quitline in Pennsylvania to tailor services to the JI population. This work included reviewing the quitline intake procedure to eliminate questions that were not applicable to individuals in correctional settings, such as inquiring about employment situation, public housing, and interest in text message support. JI individuals in this intervention were also assigned to work with a designated quitline coach. Designated coaches for the JI may overcome barriers to telephonic services such as restrictions on call times in correctional settings (in this example, participants were limited to five 20-minute calls) or a limited number of phone minutes. Furthermore, designated coaches can be trained to tailor counseling to the JI population, ensuring that the coping techniques and resources provided are appropriate for and applicable to the JI (Greenbacker et al., 2017).

In Arizona, the ASHLine provides quitline services for the state, including 12 weeks of free Quit Coaching and, for eligible individuals, 4 weeks of free nicotine gum, patches, or lozenges. The ASHLine can be reached by calling 1-800-556-6222 or by texting “NO SMOKE” to 74079.

Tobacco Treatment Specialists:

Tobacco Treatment Specialists (TTS) are valuable resources who can offer specialized intervention to treat tobacco use and dependence. According to the Council for Tobacco Treatment Training Programs (CTTTP), Certified Tobacco Treatment Specialists (CTTS):

1. Understand the science behind tobacco addiction, nicotine withdrawal symptoms, and effective treatments for tobacco use
2. Provide clear and accurate information about the causes and consequences of tobacco use

3. Develop individualized treatment plans using comprehensive, evidence-based assessments and treatment strategies including:
 - a) Clear and accurate information about effective medications
 - b) Effective, practical, cognitive-behavioral strategies for quitting and staying quit
4. Provide effective treatment for all forms of tobacco and nicotine use
5. Work with a variety of specific populations including those with specific health issues
6. Use specific, well-accepted methods for tracking individual progress, record keeping, program documentation, outcome measurement, and reporting
7. Serve as educational resources for organizations, healthcare providers, and the general public regarding tobacco use treatment issues

TTS training is offered by training programs accredited through CTTTP. All TTS programs must meet the Core Competencies established by the Association for the Treatment of Tobacco Use and Dependence (ATTUD). Key personnel in corrections settings who receive CTTS training will possess the knowledge and skill sets to facilitate models such as the 5As, oversee behavioral and pharmacological interventions, and provide training to other providers and the agency as a whole.

Conclusion:

The corrections system has an essential role in the continuity of care needed to help JI individuals quit tobacco use and maintain long-term abstinence. The majority of JI individuals want help quitting, and there is growing support among corrections leadership regarding offering tobacco cessation services while individuals are in the corrections system. While there are historical barriers to care and realistic resource and workflow considerations, a mounting evidence base finds that tobacco-free policies and cessation services are feasible. Importantly, such interventions are often low-burden additions to healthcare and behavioral health treatment currently provided by the corrections system. This report provides both background and guidance for effectively identifying points of intervention, establishing treatment frameworks, and offering both behavioral and pharmacological services.

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