

Running Head: Scholarly Project

Evaluation of a Free Smoking Cessation

Program in North Omaha

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Abstract

Nicotine dependence, specifically smoking cigarettes, is a significant healthcare and societal issue. Tobacco use is the number one cause of preventable morbidity and mortality in the United States. Socioeconomic status plays a role in smoking habits and is a major determinant of tobacco-related health disparities. Smoking cessation is a cost-effective preventive care service that allows for reallocation of funds spent on cigarettes. A smoking cessation program was designed with the goal of increasing smoking cessation rates in underserved, vulnerable populations. The program used evidence-based guidelines, Nicotine Replacement Therapy (NRT), and individualized support and follow-up, and was implemented in a free clinic setting. An evaluation was conducted at the 8-week point. Out of 15 program participants, 4 participants completed the eight weeks. Of the four completers, three (75%) cut back on the number of cigarettes smoked and one (25%) was smoking just as many cigarettes as prior to the program. Participants' triggers to smoking included stress, negative emotions, habits, and set-backs to quitting. Participants reported satisfaction with the resources, support, and convenience of the smoking cessation program, and preferred nicotine patches over nicotine gum. Participants offered suggestions on improving the program and increasing the availability of smoking cessation programs for the free clinic community.

## Evaluation of a Free Smoking Cessation Program in North Omaha

Nicotine dependence, specifically smoking cigarettes, is a significant healthcare and societal issue. Tobacco use is the number one cause of preventable morbidity and mortality in the United States (Center for Disease Control and Prevention [CDC], 2008). Cigarette smoking causes over 438,000 premature deaths a year in the U.S. alone (American Cancer Society, 2007). In 2008, 1 out of 5 adults in the U.S. was a current smoker and persons over the age of 45 years make up 41% of adult smokers (CDC, 2008). Cigarette smoking was estimated to be responsible for \$192 billion in annual health-related economic losses in the U.S., which included nearly \$96 billion in direct medical costs and an additional \$97 billion in loss of productivity, and results in 5.1 million years of potential life lost every year (CDC, 2008).

Socioeconomic status plays a role in smoking habits and is a major determinant of tobacco-related health disparities (Pleis & Lethbridge-Cejku, 2007). Among uninsured individuals, 34% report smoking, compared to 18% among individuals with private insurance (Pleis & Lethbridge-Cejku, 2007). Among unemployed individuals, 45% report smoking, compared to 28% among fulltime workers (CDC, 2011). Among low-income African Americans, smoking rates are as high as 60% in males and 41% in females (Delva, et al, 2005). Because of the prevalence of smoking among uninsured persons, free clinics present an opportunity for providing smoking cessation intervention to high risk, vulnerable populations (Pockey, et al, 2012).

The free clinic chosen for this study serves a population of clients who have a high prevalence of nicotine dependence, specifically cigarette smoking. The patient population is predominately unemployed and uninsured minority (mainly African American) persons ages 19

to 64 years. The purpose of this project was to evaluate a smoking cessation program that could lead to a reduction in nicotine dependence. The smoking cessation program was implemented by health care providers and health science students at the clinic. The goals of the project were to:

- 1) offer the clinic patients who smoke support, education, and an opportunity to quit smoking;
- (2) implement a smoking cessation program that uses evidence-based practice guidelines; and (3)

evaluate the success of the smoking cessation program, and the participants' experiences during and perceptions of the smoking cessation program.

### **Conceptual Model and Framework**

Behavior change takes time, especially addictive behaviors such as smoking (South Carolina Offering Prescribing Excellence [SCORE] 2010). The Transtheoretical Model (TTM) of behavior change is the conceptual model guiding the smoking cessation intervention. The TTM, developed by Prochaska and DiClemente in 1984, identifies five stages that an individual passes through in order to change an established behavior. The five stages include: 1) Precontemplation, 2) Contemplation, 3) Preparation, 4) Action, and 5) Maintenance. The TTM can be applied to smoking cessation in the following way: 1) Precontemplation – the client does not want to quit, 2) Contemplation – the client might quit 1 to 6 months from now, 3) Preparation – the client is actively planning to quit, 4) Action – the client is actively quitting, and 5) Maintenance – the client is maintaining abstinence over 6 months (SCORE, 2010). The TTM offers two additional stages that are relevant to smoking relapse and remission: Relapse – the client experiences smoking after quit date, and Termination – the client's quitting is considered permanent (SCORE, 2010). In the context of behavior change, clinical practice guidelines were used in the development of the smoking cessation intervention.

## **Smoking Cessation Clinical Practice Guidelines**

Smoking intervention strategies can be described using the “5 A’s” (i.e., 5As) approach for treating tobacco use and dependence (SCORE, 2010). The 5As stand for five smoking cessation strategies: ask, advise, assess, assist, and arrange (Goolsby, 2001). These strategies are recommended by the National Cancer Institute and the American Medical Association to be a useful approach in assisting patients with smoking cessation (SCORE, 2010). The 5As approach, in combination with the TTM were used as a framework to guide smoking cessation interventions.

### **Ask About Smoking**

Tobacco dependence is a serious, chronic medical condition that requires consistent monitoring and assessment by health care professionals (SCORE, 2010). The smoking status of patients should be assessed at every opportunity (Raw, McNeill & West, 1999). Assessment of tobacco use status has been considered a ‘sixth vital sign’ that requires monitoring and documentation at every visit and with every patient (SCORE, 2010). The Public Health Service recommends the implementation of a tobacco user identification system, such as chart prompts, sticker reminders, computer prompts, or provider questioning, in order to assist providers in recognizing smokers (Foley & Sutfin, 2008).

### **Advise to Quit**

The U.S. Surgeon General Report (2008) revealed that a healthcare provider’s advice to quit smoking can increase the odds of quitting by 30% (Mitchell, Brown, & Smith, 2009). Healthcare providers should use a clear and personalized approach in urging their patients to quit (Goolsby, 2001; SCORE, 2010). Brief advice (i.e., 3 to 5 minutes) is effective in increasing

smoking cessation rates (Sutherland, 2002). Repeated encouragement to quit smoking and to attend follow-up visits has been shown to promote abstinence and may double cessation rates (Sutherland, 2002). Personalizing the message while offering support can increase the likelihood of quitting. The message to quit is personalized by addressing the patient's specific health problems, his or her family history, desire to quit, or the impact of smoking on family members (Goolsby, 2001). For example, a healthcare provider may state, "It is important for you to quit for many of the reasons that we discussed and I can help you" (SCORE, 2010).

### **Assess Willingness to Make Quit Attempt**

Each smoker should be assessed on their willingness or motivation to quit smoking (Goolsby, 2001; SCORE, 2010; Woody, DeCristofaro, & Carlton, 2008). Using the TTM, the patient's motivational stage can be evaluated and healthcare providers can determine where each smoker is in the process of change, precontemplation, contemplation, preparation, action, maintenance or relapse (SCORE, 2010). These stages may overlap, allowing a patient to be categorized in more than one stage. For example, a patient may have recently experienced relapse in smoking, while also being in the preparation stage of making another attempt to quit (SCORE, 2010).

### **Assist in Quit Attempt**

For persons in the contemplation, preparation, or action stages, clinicians should provide practical counseling regarding formation of a quit plan, setting a quit date, anticipating challenges and seeking social support (Goolsby, 2001; SCORE, 2010). A plan to quit should be negotiated and implemented with the patient. Once in the preparation stage, patients should set a quit date within two weeks, if possible. If patients are unable to stop "cold turkey", then they

may be advised to cut down on the number of daily cigarettes or delay smoking each cigarette by 30 minutes (SCORE, 2010). Because abstinence is the goal, meaning not another puff after the quit date, patients should attempt to remove all tobacco from their environment and strive for a smoke-free household by their quit date (SCORE, 2010). Patients are encouraged to learn new skills and behaviors that will assist in reducing stress and will help them to abstain from smoking. Patients may need to change their routines and replace smoking with other behaviors, such as replacing smoking with low-calorie foods and exercise (Goolsby, 2001). Smoking triggers, such as alcohol and proximity to other smokers and cigarettes, should be identified and avoided. Social support is important for most patients to achieve abstinence. Patients are encouraged to discuss their smoking cessation goals with families and friends and network for support (Goolsby, 2001).

Along with nonpharmaceutical interventions, research suggests that healthcare providers offer pharmaceutical interventions (SCORE, 2010; Goolsby, 2001; Raw, McNeill, & West, 1999; Woody, DeCristofaro, & Carlton, 2008; Sutherland, 2002; Raw, et al., 2009). Although counseling and medications have been shown to be effective as monotherapy, the combination is more effective than either treatment alone (SCORE, 2010; Goolsby, 2001; Woodly, DeCristofaro, & Carlton, 2008). All patients who are attempting to quit smoking should be prescribed pharmacotherapy unless contraindicated. Pharmacotherapy is contraindicated in patients with coronary artery disease, history of myocardial infarction or angina pectoris, or serious cardiac arrhythmias. (Goolsby, 2001). First-line medications recommended for smoking cessation include: a) Nicotine Replacement Therapies (NRTs) such as nicotine gum, inhaler, lozenge, nasal spray, or patch; b) Bupropion SR; and c) Varenicline. The decision of which pharmaceutical to prescribe or recommend is based on multiple factors, such as cost, patient

preference and prior experience, adverse effects, and patient comorbidities (Woody, DeCristofaro, & Carlton, 2008). Patients using NRTs are 1.5 to 2.7 times more likely to remain abstinent from smoking at 1 year than those using placebo (Sutherland, 2002). The current national benchmark quit rate data for patients using NRT is 19% to 26% (WebMD, 2011). NRTs are used to reduce the severity of nicotine withdrawal symptoms and are typically prescribed for 10 weeks to 6 months, depending on the specific form of therapy. All NRTs are equally efficacious, so patient preference assists in determining the choice of replacement therapy (SCORE, 2010).

### **Arrange Follow-Up**

Patients should be assessed for progress or relapse during follow-up appointments. Evidence-based guidelines suggest that the first follow-up visit should be by office visit or phone call and should be scheduled within one week post quit date (SCORE, 2010; Woody, DeCristofaro, & Carlton, 2008). If a relapse occurs, healthcare providers should review the circumstances surrounding a relapse and educate the patient that relapses are a normal part of the smoking cessation process. Follow-up visits should address medication use and identify potential problems or side effects associated with the pharmaceutical intervention. Throughout the follow-up visits, healthcare providers may provide smoking cessation counseling and support or refer a patient to a counselor or smoking cessation specialist to receive these services (SCORE, 2010).

### **Tobacco-Related Health Disparities**

Although the overall prevalence of tobacco use has declined, tobacco-related health disparities persist (CDC, 2011). Populations at risk for tobacco-related health disparities include



the uninsured and minority populations. Each of these populations will be discussed in relation to tobacco-related health disparities.

### **Uninsured Population**

Individuals who are uninsured are at the highest risk for tobacco-related morbidity and mortality (Pockey, et al., 2012). Uninsured individuals are more likely to smoke than persons with insurance (Foley & Sutfin, 2008). Parnes, Main, Holcomb, and Pace (2002) found that the uninsured are three times less likely than those with insurance to receive smoking advice from a healthcare provider. Uninsured individuals also find it more difficult to pay for smoking cessation medications, which can cost from \$2.50 per day to over \$7.00 per day (SCORE, 2010). However, according to the American Lung Association (2014), the average retail price of a pack of cigarettes in the U.S. is \$5.51.

### **Minority Population**

African Americans experienced the highest rates of tobacco-related morbidity and mortality (Kendzor, et al., 2009). Compared to other racial/ethnic groups, African Americans have a higher prevalence of modifiable risk factors, including obesity, insufficient physical activity, and alcohol consumption, that are linked to increased smoking mortality (Kendzor, et al., 2009). African American men are 50% more likely to be diagnosed with lung cancer and die than non-Hispanic White men (Webb, 2008; Trinidad et al., 2011). Significantly fewer African Americans report long-term quitting success compared with non-Hispanic Whites; African Americans were about 50% as likely to quit as non-Hispanic Whites (Trinidad, et al, 2011). Racial/ethnic minorities are less likely to use nicotine replacement therapy. Although smoking cigarettes is a significant issue in the African American population, African Americans are

underrepresented in smoking cessation research trials (Webb, 2008). Jones, Waters, Oka, and McGhee (2010) stress the importance of engaging African American communities in tobacco control efforts, and using strategies that increase involvement, such as developing relationships, raising awareness, and creating collective power (Jones, Water, Oka, & McGhee, 2010).

### **Tobacco Cessation Services in Free Clinics**

There exists a great need for tobacco cessation services for free clinic populations (Foley & Sutfin, 2008; Pockey, et al., 2012). Over half of free clinic patients smoke, which is twice the national average (Pockey, et al., 2012). Despite the high percentage of smokers among free clinic patients, the use of smoking assessment, education, and intervention has fallen short of the guidelines within free clinic settings (Pockey, et al., 2012). Free clinic patients have been found to receive lower than average smoking cessation advice and counseling (Pockey, et al., 2012). Many free clinics fail to meet and provide the recommended evidence-based practice guidelines for smoking cessation (Foley & Sutfin, 2008). Consistent with the 5As, best practices for smoking cessation guideline implementation in a free clinic include the use of a smoker identification system with every patient (e.g., chart prompts or patient intake form), education of clinic staff in tobacco control, implementation of evidence-based treatments, including counseling sessions and pharmacological interventions, and dedication of tobacco-control personnel to champion a smoking cessation program (Foley & Sutfin, 2008).

Free clinics fill an important gap in access to healthcare and may act as an important health promotion resource to vulnerable, underserved populations. Free clinics are in a unique, yet powerful position to make a strong impact on smoking cessation rates through screening and brief intervention (Pockey, et al., 2012). Although researchers have studied the presence of

smoking cessation clinical guidelines in free clinic settings, research is limited on the outcomes of applying a smoking cessation program and providing free NRT in a free clinic setting. One of the recommendations regarding guidelines for smoking cessation includes making provisions to ensure that NRT is available to patients who need NRT (Raw, McNeill, & West, 1999).

## **Program Development, Implementation, and Evaluation**

### **Setting and Sample**

Data were collected in an urban free clinic that is attached to a community center that provides food pantry services, a clothes closet, youth mentoring, and community outreach. The free clinic patient population is predominately unemployed and uninsured minority (mainly African American) individuals ages 19 to 64 years. Healthcare at the clinic is provided by a nurse practitioner, and each week, a pharmacy faculty member, pharmacy students, medical students, and nurse practitioner students attend the clinic and participate in care.

The smoking cessation project was implemented in the fall of 2013. The target population was adult free clinic patients who meet the sample criteria and consent to participate in the study. The sample criteria are nonexclusive to gender or ethnic background. Patients who meet the sample inclusion are those who are: (a) a patient of the free clinic; (b) an adult at or above 19 years of age, (c) English-speaking, and (d) a daily smoker of cigarettes. Exclusion criteria for NRT are patients who (a) have a hypersensitivity to NRT or (b) have a medical history of myocardial infarction, angina pectoris, serious cardiac arrhythmias, and unstable angina. The clinic's nurse practitioner, as well as the health science students and faculty were involved in the assessment and educational component of the project by assessing patients for smoking, administering the smoking questionnaire, and referring the patient for the smoking

cessation program. The NRT was funded by a grant. Table 1 displays the cost of nicotine patches or gum per person per week of progress through the program, which varies depending on the participant choice of patches or gum. For participants who completed eight weeks of the program, the nicotine patches cost approximately \$100 per person. The nicotine gum costs at least \$176 per person if a participant chewed the fewest number of pieces of gum to be therapeutically effective. Using the average cost of a pack of cigarettes at \$5.51, an individual who smokes a pack per day for 8 weeks would pay over \$308 for their cigarettes (American Lung Association, 2014).

### *Smoking Cessation Program*

Prior to the initiation of the smoking cessation program, the clinic's documentation system was redesigned to include assessment of each patient's smoking status so that every patient was assessed. Next, clinic healthcare providers and health science students were provided an informational hand-out on the smoking cessation program, which stated why the smoking cessation program was needed, the goals of the program, and the importance of assessing every patient and offering education/therapy for those who are willing and ready to quit. The students and providers also received an overview of the most recent, evidence-based practice guidelines on smoking cessation.

Patients who are identified as smokers were asked to voluntarily complete the Smoking Questionnaire, which is an assessment tool for determining a patient's eligibility for program and consent to participate in the program evaluation. Faculty or students assisted patients in completing the questionnaire. Using the information from the Smoking Questionnaire, patients were categorized into one of the seven TTM stages. Patients who were in the preparation,

action, or relapse stages of behavior change and who met the inclusion criteria were asked if they would like to participate in a smoking cessation program where they would be provided with education, support, NRT, and follow-up. Informed consent was provided to patients interested in participating in the smoking cessation program. The participants were asked to leave a phone number for follow-up at weeks 1, 4, and 8 if they were unable to attend clinic. After the informed consent was signed, the smoking cessation program implementation and data collection were initiated.

Patients who agreed to be participants in the smoking cessation program received a 5 to 10 minute education session on smoking cessation, how to form a quit plan, and information about the use of NRT. Three American Cancer Society brochures were used to assist in patient education: 1) *The Decision is Yours*, 2) *Set Yourself Free*, and 3) *Benefits of Quitting*. The possible side effects of NRT were discussed. Once a participant established a quit date, he or she was provided NRT and ongoing support and education that included follow-up at 1 week, 4 weeks, and 8 weeks after the initiation of the NRT. At each patient encounter, information was documented, storing the patient's quit plan, progress, relapses, and the number of days after a quit date that the patient relapsed, number of relapses, number of cigarettes/day, and the use of smoking cessation interventions (i.e., counseling, education, and NRT). During each visit, additional counseling, education and guidance were provided on an individual basis. If patients were unable to attend clinic for follow-up, they were contacted via telephone in order to gather this information and provide support. Documentation was kept on each participant and stored in a locked file cabinet at the clinic. Results were compared to the national benchmark data on quit rates for those who use NRT; the current benchmark is a 19% to 26% quit rate with NRT (WebMD, 2011).

### *Patient Perceptions*

The participants' perceptions of triggers, set-backs, and support were assessed by administering a post-intervention survey at the 8 week follow-up visit. The survey addressed participants' experiences with the smoking cessation program, successes and growth during the program, and suggestions to improve the program. Qualitative analysis was used to discern common themes or experiences of the smoking cessation program participants.

## **Smoking Cessation Success and Program Evaluation**

### **Program Participants**

The smoking cessation program enlisted a total of 15 participants during the eight week period of data collection. All participants reported a stage of readiness to quit based on the TTM; 80% were in the preparation stage, while 20% were in the action stage. The average age of participants was 45.8 years (range 21 to 65 years). The majority of the participants identified their race as African American (67%), with 27% of participants identified as Caucasian and 7% as Hispanic. The majority of the participants were female (73%). On average, participants smoked 15 cigarettes daily (range 5 to 25 cigarettes daily). The average number of years participants smoked cigarettes was 26.3 years (range 4 to 50 years). The vast majority of participants had previously attempted to quit smoking (93%) and had tried to quit, on average, five times.

For those participants who had previously attempted to quit smoking, 80% had tried to quit "cold turkey", 20% gradually cut back, 33% set a quit date, 13% sought counseling, 40% used NRT, 13% used other smoking cessation medications, and 33% received social support.

For those participants who had previously attempted to quit, the longest period of time they went without cigarettes was on average 21 days (range of 2 days to 5 years).

### **Program Evaluation**

Of the 15 participants, four participants progressed through the eight weeks. At eight weeks, three (75%) had cut back on the number of cigarettes smoked and one (25%) initially cut back on the number of cigarettes smoked per day and then by the 8-week point, continued to smoke as many cigarettes as prior to the program. Of the four participants who were still engaged in the program but had not reached the 8 week point, one participant had zero cigarettes since the quit date and one participant had cut back on the number of cigarettes smoked per day. Two participants had just begun the program and no follow-up data had been collected. Seven participants did not attend the follow-up visits, so no follow-up data were collected. Two of these seven participants reported that they were unable to follow-up due to a lack of transportation to the clinic.

### **Patient Perceptions of the Smoking Cessation Program**

Qualitative data provided insight on participants' satisfaction with and perceptions of the smoking cessation program that may assist in the development and improvement of such programs. One of the follow-up questions assessed participants' triggers to smoking. During the week one follow-up visit, five of the participants stated that stress was a significant trigger to smoking. One participant who reported no smoking as of the week one follow-up was very aware of his triggers to smoking, "I have discovered my triggers ahead of time, so I don't smoke at those times – like when I am angry or upset or bored." Along with the theme of stress, participants discussed how their triggers were "emotionally driven" and many experienced

wanting to smoke more when they were “upset”, “anxious” or “angry.” Participants also discussed a common theme of certain times of the day or habits that triggered a temptation to smoke. For example, one participant shared how she always has a cigarette with coffee in the morning, so every morning she craves a cigarette. In addition to the common themes of stress and habits/time of the day, some participants shared how their social environment triggers their smoking. For example, six participants stated that when they were around friends or others who smoke, they experienced a strong temptation to smoke as well. By identifying their triggers to smoking, many participants felt more aware of their smoking habits at follow-up visits.

The week eight follow-up worksheet question asked participants about who is helping or supporting them in their quit attempt. Most participants identified family and friends as an important support system. Additionally, a few of the participants talked about God, their therapist, and “everyone” as supportive in their quit attempt. One participant stated that no one was supporting them and that they were going through the program using “will power.”

The participants’ perceptions can be related to the program design of the 5As. Because the documentation at the clinic was created to include assessment of smoking status, all patients of the clinic were asked if they smoked. If the response was “yes”, the patient was advised to quit. The four participants who had completed the eight weeks were asked in the closing survey what they liked about the program. Common themes were related to the assist component of the 5As and included how the program motivated participants to quit. One participant addressed the support aspect of assistance to quit and would not consider quitting cold turkey. “I never thought of quitting on my own...I liked that you explained a lot.” Another participant discussed how she appreciated the availability of resources. Along with the support and resources available, participants enjoyed the personal contact and the use of the patches. “I liked the easiness of the



patches to use...and being able to talk to you (the investigator) face to face.” The participants also reported satisfaction with the location of the program in relation to the access to other services, such as the food pantry and clothes closet.

Participants were asked about their dislikes of the program and common themes were the limited hours of follow-up visits and problems with the NRT. Because the clinic was only open on Wednesdays from 9:00 to 12:30, some participants found it difficult to make it to all of the follow-up visits, “I am at work during that time and have to rush in to the clinic.” Two participants discussed issues regarding NRT. One participant experienced the patches falling off her skin every day. Another participant ran out of patches because she was taking one off when smoking and then reapplying another during the day. One of the participants who chose to use the nicotine gum found that the gum tasted extremely bitter and decided that patches would be a better option, so switched to the nicotine patches.

Participants more frequent suggestions for improving the program were to expand the clinic hours and to expand the program to others by advertising the availability of the program and adding support and resources for participants. One participant stated, “Open the clinic more...let more people know that it is available.” Examples of additional support and resource expansion included offering more frequent follow-up meetings, group meetings and support, and bringing in successful quitters to tell their stories and be mentors to those attempting to quit.

## **Discussion**

### **Designing a Smoking Cessation Program**

Use of the 5As (SCORE) (2010) and evidence-based guidelines for smoking cessation, a smoking cessation program was designed and implemented to assist free clinic patients in their

attempts to quit smoking and to educate patients on the benefits and process of quitting.

Participants received NRT at no cost and individualized counseling and support throughout the quitting process.

Failure to follow-up on program visits was a primary concern. Because the free clinic was only open for a limited number of hours one day per week, it may have been difficult for patients to follow-up during a narrow slot of time. In addition, transportation was an issue for some participants. It was reported that at least two of the participants were unable to follow-up due to an inability to be transported to the clinic. Limited transportation, as well as limited open times at the clinic reportedly impacted participants' ability to follow-up and receive subsequent NRT.

All participants reported satisfaction with the individualized counseling and support throughout the program. The majority of participants preferred nicotine patches due to the reported bitter taste of the nicotine gum.

Free clinic populations experience a great need for tobacco cessation services (Foley & Sutfin, 2008). Participants uniformly offered suggestions to increase the availability of the smoking cessation program and to increase the community's awareness of the program. The participants themselves recognized this need and confirm that additional smoking cessation counseling and pharmacological interventions are important for assisting free clinic patients to quit.

### **Limitations**

The results of this program evaluation must be considered in the context of the small sample size, lack of a nonrandomized sample, absence of a control group, and lack of control of

extraneous variables, such as personal quit attempts not influenced by the smoking cessation program. In addition, a limitation is that not all participants had completed eight weeks of the program.

### **Recommendations for Future Free Clinic Smoking Cessation Programs**

Free clinics fill an important gap in access to healthcare and may act as an important resource to vulnerable, underserved populations. However, many free clinics fail to meet and provide the recommended evidence-based practice guidelines for smoking cessation (Foley & Sutfin, 2008). By enhancing the documentation system in this clinic, every patient was asked about their smoking status. Of the 5As, assisting the patient in quitting and arranging follow-up were the two most challenging aspects. One way to “assist” smoking cessation in a free clinic setting is to ensure that NRT is available to all patients who need it (Raw, McNeill, & West, 1999). NRT may be made available through clinic funds, donations or grants. The healthcare providers of the clinic should abide by the evidence-based practice guidelines of the 5As (Goolsby, 2001) and should be willing to offer support and intervention to any smoker.

Although data were collected at the eight week point, research suggests that NRTs may be used for 10 weeks to 6 months. Specifically, nicotine gum and patches are typically used up to 12 weeks (SCORE, 2010). Continuation of the smoking cessation program will allow for smoking cessation support, counseling and NRT past the 8 week point. Because tobacco dependence is a chronic disorder with frequent relapses and remissions, it is essential that clinicians provide ongoing support and care (SCORE, 2010). The free clinic smoking cessation program will continue through a grant, providing an excellent opportunity for growth and

success of the program. Also, increasing the clinic hours may enhance access to follow-up appointments.

Recommendations for future smoking cessation programs in a free clinic setting may involve offering group meetings and the use of mentors (individuals who have successfully quit smoking) may provide additional resources and support for patients willing to quit. Because smoking cessation is one of the most cost-effective preventive care services (SCORE, 2010), it is recommended that every free clinic offer consistent screening, intervention and support for smoking cessation.

References

American Cancer Society (2007). *Cancer facts & figures for African Americans 2007-2008*.

Atlanta, GA: Author.

American Lung Association (2014). The United States Facts. Retrieved from

<http://www.lung.org/stop-smoking/tobacco-control-advocacy/reports-resources/cessation-economic-benefits/states/united-states.html>

Barker, K. & Oandasan, I. (2005). Interprofessional care review with medical residents: lessons learned, tensions aired – a pilot study. *Journal of Interprofessional Care*. 19: 204-214.

Bridges, D., et al. (2011). Interprofessional collaboration: Three best practice models of interprofessional education. *Medical Education Online*.

Centers for Disease Control and Prevention (CDC) (2008). **Smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 2000–2004**. *MMWR* 2008;57(45):1226–8.

Centers for Disease Control and Prevention (CDC) (2008). Cigarette smoking among adults and trends in smoking cessation – United States. *MMWR* 2009: 58(44):1227-1232.

Centers for Disease Control and Prevention (CDC) (2011). CDC health disparities and inequalities report – United States, 2011. *MMWR*, 60, 1-109.

Center to Reduce Cancer Health Disparities (CRCHD) (2011). Health disparities defined:

Retrieved from <http://crchd.cancer.gov/disparities/defined.html>

- Delva, et al. (2005). Cigarette smoking among low-income African-Americans: A serious public health problem. *American Journal of Preventive Medicine*, 29, 218-220.
- Efrainsson, E., Fossum, B., Ehrenberg, A., Larsson, K., & Klang, B. (2012). Use of motivational interviewing in smoking cessation at nurse-led chronic obstructive pulmonary disease clinics. *Journal of Advanced Nursing*, 68(4), 767-782.  
doi:<http://dx.doi.org/10.1111/j.1365-2648.2011.05766.x>
- Foley, K. L. & Sutfin, E. L. (2008). Availability of tobacco cessation services in free clinics. *North Carolina Medical Journal*, 69(4), 270-274.
- Goolsby, M. (2001). Clinical practice guidelines. Treating tobacco use and dependence. *Journal Of The American Academy Of Nurse Practitioners*, 13(3), 101-105.
- Gottlieb, N., Guo, J., Blozis, S., & Huang, P. (2001). Individual and contextual factors related to family practice residents' assessment and counseling for tobacco cessation. *Journal of American Board of Family Practice*, 14(5), 343-351.
- Hall, S. M., et al. (2008). Older versus younger treatment-seeking smokers: Differences in smoking behavior, drug and alcohol use, and psychosocial and physical functioning. *Nicotine & Tobacco Research*. 10: 463-470.
- Husten, C. (2008). Tobacco use: ending the epidemic. *MEDSURG Nursing*, 17(5), 345-355.
- Interprofessional Education Collaborative (2011). Team-based competencies: Building a shared foundation for education and clinical practice. Washington D. C. Conference Panel.
- Jones, S., & Hamilton, S. (2011). Smoking cessation: implementing hospital-based services. *British Journal Of Nursing*, 20(18), 1210-1215.

Jones, P., Waters, C., Oka, R., & McGhee, E. (2010). Increasing Community Capacity to Reduce Tobacco-Related Health Disparities in African American Communities. *Public Health Nursing*, 27(6), 552-560. doi:<http://dx.doi.org/10.1111/j.1525-1446.2010.00882.x>

Karim, R. & Ross, C. (2008). Interprofessional education and chiropractic. *Journal of the Canadian Chiropractic Association*. 52: 766-778.

Kenzor, D. E., Reitzel, L. R., Mazas, C. A., Cofta-Woerpel, L. M., Cao, Y., Ji, L., & ... Wetter, D. W. (2012). Individual- and area-level unemployment influence smoking cessation among African Americans participating in a randomized clinical trial. *Social Science & Medicine*, 74(9), 1394-1401. doi:<http://dx.doi.org/10.1016/j.socscimed.2012.01.013>

Kenzor, D., Businelle, M., Mazas, C., Cofta-Woerpel, L., Reitzel, L., Vidrine, J., & ... Wetter, D. (2009). Pathways between socioeconomic status and modifiable risk factors among African American smokers. *Journal Of Behavioral Medicine*, 32(6), 545-557. doi:<http://dx.doi.org/10.1007/s10865-009-9226-3>

Mitchell, J., Brown, J., & Smith, C. (2009). Interprofessional education: a nurse practitioner impacts family medicine residents' smoking cessation counselling experiences. *Journal Of Interprofessional Care*, 23(4), 401-409. doi:<http://dx.doi.org/10.1080/13561820802490941>

National Institute of Health (NIH) (2010). Health disparities definition.

Retrieved from <http://www.drugabuse.gov/about-nida/organization/health-disparities/about-nida-health-disparities/nih-%E2%80%94health-disparities-definition>

- Parnes, B., Main, D.S., Holcomb, S. & Pace, W. (2002). Tobacco cessation counseling among underserved patients: a report from CaReNet. *Journal of Family Practice*, 51, 65-69.
- Pleis, J. R. & Lethbridge-Cejku, M. (2007). Summary health statistics for U.S. adults: National Health Interview Survey, 2006. *Vital and Health Statistics*, 10, 1-163.
- Pockey, J., Song, E., Sutfin, E., Spangler, J., Jones, C., Helme, D., & Foley, K. (2012). The need for tobacco cessation in a free clinic population. *Addictive Behaviors*, 37(12), 1299-1302. doi:<http://dx.doi.org/10.1016/j.addbeh.2012.03.032>
- Prochaska, J. O. & Diclemente, C. (1984). *The Transtheoretical Approach: Crossing the Traditional Boundaries of Therapy*. Homewood, IL: Dow Jones-Irwin.
- Raw, M., McNeill, & West, R. (1999). Smoking cessation: evidence based recommendations for the healthcare system. *BMJ*, 318, 182-185.
- Raw, M., Regan, S., Rigotti, N., & McNeill, A. (2009). A survey of tobacco dependence treatment guidelines in 31 countries. *Addiction*, 104(7), 1243-1250. doi:10.1111/j.1360-0443.2009.02584.x
- Reus, V., & Smith, B. (2008). Multimodal techniques for smoking cessation: a review of their efficacy and utilisation and clinical practice guidelines. *International Journal Of Clinical Practice*, 62(11), 1753-1768.
- Rollnick, S., Miller, W.R., & Butler, C.C. (2008). Motivational interviewing in healthcare: helping patients change behavior. *The Guilford Press: a Division of Guilford Publications, Inc.*



- Self, T. H., et al. (2010). Are we failing to document adequate smoking histories? A brief review 1999-2009. *Current Medical Research and Opinion*, 26(7): 1961-6.
- Sheffer, C., Barone, C., & Anders, M. (2011). Training nurses in the treatment of tobacco use and dependence: pre- and post-training results. *Journal Of Advanced Nursing*, 67(1), 176-183. doi:<http://dx.doi.org/10.1111/j.1365-2648.2010.05483.x>
- Solberg, L. (2005). Impact of Insurance Coverage on the Use and Effects of Smoking Cessation Medications. *Disease Management & Health Outcomes*, 13(3), 151-158.
- South Carolina Offering Prescribing Excellence (SCORE) (2010). Evidence-based best practices smoking cessation. Retrieved from <http://www.sccp.sc.edu/centers/scorxe/protected/downloads/Smoking%20Cessation%20BPR%20November%202010%20FINAL.pdf>
- Suthers, K. (2008). Evaluating the economic causes and consequences of racial and ethnic health disparities. American Public Health Association. Retrieved from [http://www.apha.org/NR/rdonlyres/26E70FA0-5D98-423F-8CDF-93F67DE319FE/0/CORRECTED\\_Econ\\_Disparities\\_Final2.pdf](http://www.apha.org/NR/rdonlyres/26E70FA0-5D98-423F-8CDF-93F67DE319FE/0/CORRECTED_Econ_Disparities_Final2.pdf)
- Sutherland, G. (2002). Current Approaches to the Management of Smoking Cessation. *Drugs*, 62(11), 53-61.
- Trinidad, D. R., Pérez-Stable, E. J., White, M. M., Emery, S. L., & Messer, K. (2011). A nationwide analysis of us racial/ethnic disparities in smoking behaviors, smoking cessation, and cessation-related factors. *American Journal Of Public Health*, 101(4), 699-706. doi:<http://dx.doi.org/10.2105/AJPH.2010.191668>

WebMD (2011). Smoking cessation health center. Retrieved from

<http://www.webmd.com/smoking-cessation/features/quit-smoking-drug-nicotine-patches-gums?page=3>

Webb, M. (2008). Focus groups as an intervention for low-income African American smokers to promote participation in subsequent intervention studies. *Research In Nursing & Health*, 31(2), 141-151.

Woody, D., DeCristofaro, C., & Carlton, B. (2008). Smoking cessation readiness: are your patients ready to quit?. *Journal Of The American Academy Of Nurse Practitioners*, 20(8), 407-414. doi:<http://dx.doi.org/10.1111/j.1745-7599.2008.00344.x>

Table 1

*Cost of Nicotine Replacement Therapy Based on Weeks of Progression through the Smoking Cessation Program*

Week of the Program	Nicotine Patches	Nicotine Gum
1	\$12.50	\$25-\$50
4	\$50	\$100-\$201
8	\$100	\$176-\$353

Note. Cost of nicotine gum varies based on how many pieces the participant chews per day. The range provided is the cost of the least amount therapeutically chewed per day to the cost of the most pieces recommended to be chewed per day.

