



University of Kentucky  
UKnowledge

---

DNP Projects

College of Nursing

---

2016

## An Assessment of Current Nicotine Screening Rates and Practices within Primary Care

Kathryn A. Dunlap

University of Kentucky, [kadunl01@yahoo.com](mailto:kadunl01@yahoo.com)

Follow this and additional works at: [https://uknowledge.uky.edu/dnp\\_etds](https://uknowledge.uky.edu/dnp_etds)

 Part of the [Family Practice Nursing Commons](#)

[Right click to open a feedback form in a new tab to let us know how this document benefits you.](#)

---

### Recommended Citation

Dunlap, Kathryn A., "An Assessment of Current Nicotine Screening Rates and Practices within Primary Care" (2016). *DNP Projects*. 126.

[https://uknowledge.uky.edu/dnp\\_etds/126](https://uknowledge.uky.edu/dnp_etds/126)

This Practice Inquiry Project is brought to you for free and open access by the College of Nursing at UKnowledge. It has been accepted for inclusion in DNP Projects by an authorized administrator of UKnowledge. For more information, please contact [UKnowledge@lsv.uky.edu](mailto:UKnowledge@lsv.uky.edu).

## **STUDENT AGREEMENT:**

I represent that my DNP Project is my original work. Proper attribution has been given to all outside sources. I understand that I am solely responsible for obtaining any needed copyright permissions. I have obtained and attached hereto needed written permission statements(s) from the owner(s) of each third-party copyrighted matter to be included in my work, allowing electronic distribution (if such use is not permitted by the fair use doctrine).

I hereby grant to The University of Kentucky and its agents a royalty-free, non-exclusive and irrevocable license to archive and make accessible my work in whole or in part in all forms of media, now or hereafter known. I agree that the document mentioned above may be made available immediately for worldwide access unless a preapproved embargo applies. I also authorize that the bibliographic information of the document be accessible for harvesting and reuse by third-party discovery tools such as search engines and indexing services in order to maximize the online discoverability of the document. I retain all other ownership rights to the copyright of my work. I also retain the right to use in future works (such as articles or books) all or part of my work. I understand that I am free to register the copyright to my work.

## **REVIEW, APPROVAL AND ACCEPTANCE**

The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Assistant Dean for MSN and DNP Studies, on behalf of the program; we verify that this is the final, approved version of the student's DNP Project including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Kathryn A. Dunlap, Student

Dr. Sharon E. Lock, Advisor

Running Head: CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

DNP Final Project

An Assessment of Current Nicotine Screening Rates and Practices within Primary Care

Kathryn A. Dunlap

University of Kentucky

College of Nursing

Fall 2016

Sharon E. Lock PhD, APRN, FNAP, FAANP- Committee Chair/ Faculty Advisor

Chizimuzo Okoli PhD, MPH, MSN, RN- Clinical Mentor

Lewis Perkins DNP, APRN, GNP-BC, NEA-BC- Committee Member

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

### Dedication

I dedicate this manuscript to my family and friends who have encouraged me throughout this journey. A special thank you to my mother, Laurel Dunlap, and my sister, Cindy Baniago, who have been instrumental in helping me to complete my undergraduate studies. Finally thank you to my fiancé Jordan LaDuke for all of his support throughout the completion of my doctorate.

In remembrance of my grandparents Virgil and Alma Plummer.

# CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

## Acknowledgements

To my committee members, Dr. Sharon Lock, Dr. Chizimuzo Okoli and Dr. Lewis Perkins, I would like to express my thanks for all of your assistance throughout my project. I would like to thank Dr. Amanda Wiggins for her assistance with the statistical analysis. In addition, I would like to thank anyone I have had the pleasure of working with throughout my doctoral journey.

# CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

## Table of Contents

Acknowledgements.....	iii
List of Tables.....	v
List of Figures.....	vi
Abstract.....	1
Introduction.....	2
Background.....	3
Purpose.....	4
Methods.....	4
Results.....	7
Discussion.....	8
Conclusion.....	9
References.....	11

# CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

## List of Tables

Table 1. Demographic summary of the sample.....13

Table 2. Summary of screening and intervention recommendation rates recorded at visit of interest.....14

# CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

## List of Figures

Figure 1. Percentage screened for nicotine according to smoking status.....	15
---	----



## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

### Abstract

**Purpose:** The purpose of this project was to explore the current practices related to nicotine screening in the primary care setting within the Norton Healthcare System. The objectives were to assess: 1) the current compliance rate for nicotine screening and documentation per visit for patients who are seen in a primary care office, and 2) documentation of tobacco cessation counseling and pharmacologic management for patients seen in a primary care office.

**Methods:** A retrospective chart review was conducted to assess the current compliance rate for nicotine screening and documentation per visit for patients who are seen in a primary care office. A random sample of 200 medical records from both male and female patients age 18 and older who were seen from January 1, 2014 to December 31, 2015 were reviewed. Data was compiled and analyzed using SPSS.

**Results:** The project results showed that the overall rate of nicotine screening was 35%. Only 12.7% of those screened for nicotine use who identified as current nicotine users were offered an intervention such as cessation counseling or pharmacological management. Provider screening rates did not vary based upon demographic data.

**Conclusions:** This project highlights the disparity between national goals for nicotine screening and current nicotine screening rates within primary care. The research also emphasizes possible barriers to provider screening. This project demonstrates a need for not only better nicotine screening practices, but better provider documentation compliance within primary care. Patients should be screened for nicotine use at every patient encounter despite previous nicotine screening status in order to optimize healthcare outcomes and practices.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

### **Introduction**

Tobacco dependence is the leading preventable cause of increased morbidity and mortality in the United States, accounting for approximately 443,000 preventable deaths each year and 193 billion annually in healthcare costs (U.S. Dept. of Health and Human Services [DHHS], 2014). Adults 18 years of age and older account for the largest portion of those affected (DHHS, 2014). In 2011, 29.0% percent of adults in Kentucky smoked compared to a national average of 21.2% (Centers for Disease Control and Prevention [CDC], 2014). Treating tobacco dependence in the United States is a healthcare issue that requires immediate and sustained improvement. The adverse consequences of tobacco usage are not limited to those who smoke themselves. Secondhand smoke has significant consequences for those exposed. Since 1964, 2.5 million deaths have been attributed to secondhand smoke exposure (DHHS, 2014).

The implications of this information serve to show that screening for tobacco use and providing cessation information and assistance for tobacco users should be a priority issue for our healthcare system at all levels, especially at a primary care level. Focusing on decreasing tobacco use is a healthcare issue that requires immediate and sustained improvement. Norton Healthcare has designated nicotine screening as a target for improvement system wide.

The purpose of this project is to expose the need for increased screening efforts and increased initiation of smoking cessation interventions. By attaining these goals, healthcare outcomes have the potential for improvement. This project explored the nicotine screening process within a primary care office.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

### **Background**

Approximately 70 chemicals and toxins in tobacco smoke are potentially carcinogenic (CDC, 2014). Secondhand smoke exposure is also detrimental to children, adolescents and young adults who are exposed. Data from the Centers for Disease Control and Prevention shows that 2 out of 5 young children, 3-11 years of age, are exposed to second hand smoke on a regular basis (CDC, 2014). Secondhand smoke exposure accounts for many health problems in young children, including an increased risk for sudden infant death syndrome (SIDS), ear infections, worsening asthma, and respiratory infections. Adults who come into contact with secondhand smoke are at increased risk for cardiovascular disease, stroke and many forms of cancer at rates similar to those of people who smoke themselves. Even brief encounters with secondhand smoke exposure are shown to affect non-smokers health risks (CDC, 2014).

Racial and socioeconomic disparities remain for those who are exposed. Estimates between 2007 and 2008, indicate that approximately 88 million nonsmoking Americans were exposed to secondhand smoke (CDC, 2014). Tobacco dependence and exposure to secondhand smoke greatly increase a person's risk for mortality, as well as the financial burden of their healthcare costs (CDC, 2014). Disability and lost productivity play a large role in the cost associated with smoking as well. The number of people who are unable to provide care to self or dependents because of advanced disease attributed to tobacco usage are on the rise.

The implications of this information serve to show that consistent nicotine screening and familiarity with current tobacco use and dependence guidelines should be a priority issue for our healthcare system at all levels, especially primary care (CDC, 2014). Despite the incredible amount of knowledge in regards to tobacco screening and treatment and its impact on improved patient outcomes we continue to fall short in this area. National guidelines place the goal for

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

tobacco screening in office based ambulatory care settings at 68.6% (Office of Disease Prevention and Health Promotion [ODPHP], 2016).

According to, *Tobacco use assessment and counseling practices among Alabama primary care physicians* (Crawford et al., 2008), both the nicotine screening rates and knowledge level on tobacco screening and treatment of primary care physicians remain low. The pervasive initiation and use of tobacco products nationwide is an area where the government and healthcare have great potential for improvement. Therefore, it is imperative that system wide changes are made in order to increase screening compliance. Increased screening for tobacco and nicotine use at every visit, increases chances that a patient will eventually be motivated to participate in tobacco cessation intervention or counseling.

### **Purpose**

The purpose of this project was to explore the current practices related to nicotine screening in the primary care setting within the Norton Healthcare System. The objectives were to assess:

1. the current compliance rate for nicotine screening and documentation per visit for patients who are seen in a primary care office, and
2. documentation of tobacco cessation counseling and pharmacologic management for patients seen in a primary care office.

### **Methods**

A retrospective medical record review was performed to establish current screening rates by assessing documentation within the electronic health record (EHR) and compare rates to both the national and regional levels. A random sample of 200 medical records of male and female patients 18 years and older who were seen in a primary care office in Louisville, KY over a 24-

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

month period of time (January 1, 2014 to December 31, 2015) were reviewed. This information was taken from pre-existing patient records from a primary care office within the Norton system. Patient records were de-identified prior to data extraction. Guidelines for the safe and confidential handling of all personal health information (PHI) were established prior to data extraction. A crosswalk table and spread sheet were constructed in order to store and assess the data. Each visit record was treated as a separate encounter and nicotine screening attempt. Records were reviewed for documentation of the following data: demographic information (age, sex, race), current smoking status, whether the patient was screened for nicotine use during their most recent visit which met study criteria, whether tobacco cessation counseling and pharmacologic management for those who smoke was recommended.

### **Study Permissions**

In order to conduct this project, approval was obtained from both the University of Kentucky Institutional Review Board (IRB) and the Norton Healthcare Office of Research Administration (NHORA). In accordance with the ethical standards of the IRB and NHORA, the rights and welfare of participating subjects was highly regarded. Every attempt was made to secure the confidentiality of patient protected health information.

### **Sample and Setting**

A random sample of 200 medical records of male and female patients 18 years and older was reviewed over a 24-month period of time (January 1, 2014 to December 31, 2015). This information came from pre-existing patient records from the Fairdale primary care office within the Norton Healthcare system.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

### **Inclusion and Exclusion Criteria**

Prior to data collection, inclusion and exclusion criteria were created. Inclusion criteria: 1) Patients 18 years of age or older, 2) Patients were seen within the Norton Healthcare system at the Fairdale primary care office located in Louisville, KY, 3) Patients were seen between January 1, 2014 and December 31, 2015. EHR records which did not meet these criteria were excluded from the study.

### **Data Collection**

The Research Randomizer (2013) computer program was used to randomly select medical record numbers to be selected. No patient identifying data was collected. Each patient record was accessed by the PI through EPIC which is an electronic, secure, encrypted, firewall protected electronic medical record system at Norton Health Care. During data collection, patient records were accessed using the Norton medical record number. Next, records were assigned a unique study number. Data was abstracted from the record and transferred to an electronic spread sheet. The data on the spread sheet was linked only to the patient's unique study number. A cross-walk table was developed with the patient's unique study number linked to the medical record number. The crosswalk table and the spread sheet were stored in separate files on the PI's identity authenticated secure firewall protected research folder at Norton Healthcare.

### **Data Analysis**

Data analysis was performed using SPSS version 22. Demographic data was analyzed using descriptive statistics in the form of frequency tables, means, percentages, and standard deviations. Parametric testing in the form of independent sample t-tests were used to compare the means of continuous variables within the data. Categorical variables were analyzed using crosstabulation and the chi-squared test for independent samples.

### **Results**

#### **Sample characteristics**

In order to quantify the demographic findings of the project descriptive statistics were used to analyze the 200 randomized charts. Of those 200 charts 89 (44.5%) were male, while 111 (55.5%) were female. Racially the sample was fairly homogenous. Of those analyzed 155 (77.5%) were Caucasian, and 21 (10.5%) were African American. Because the Asian, Hispanic, and Other categories were relatively small they were combined into a category titled 'Other'. The analyzed sample had a median age of 48.7 years and a range of 18 to 95 years of age (see Table 1).

The sample was also analyzed according to smoking status. All charts were examined for information regarding whether or not the patient was a current or former user of either tobacco or smokeless tobacco or both. No charts were found to have evidence of smokeless tobacco products, so this category was excluded from analysis. This left 4 categories for analysis: current smokers 64 (32%), former smokers 45 (22.5%), never used tobacco products 76 (38%), and unknown tobacco use history 15 (7.5%).

#### **Patient screening and recommendation of interventions**

Data analysis showed that both screening and intervention recommendation rates were low overall. The rate for nicotine screening across all smoking status categories was 35%. However, the rate of screening was only 37.1% for current smokers (See figure 1). Only 12.7% of those smokers who were screened, were offered an intervention or smoking cessation counseling (see Table 2). To receive credit for providing counseling the provider had to document that education was provided or some form of counseling was prescribed. Pharmacologic interventions included the prescription of Wellbutrin, Chantix, and nicotine patches for tobacco cessation assistance.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

Other interventions prescribed included online or in person classes focusing on tobacco cessation strategies

### **Discussion**

As demonstrated by the results of the data analysis primary care providers are not screening patients for tobacco use at every visit. The current rate of screening in this primary care setting was 35% for all patients regardless of current smoking status. National guidelines place the goal for tobacco screening in office based ambulatory care settings at 68.6% (ODPHP, 2016). This research demonstrates that there is a need in primary care to improve procedures related to nicotine screening in order to meet national target goals related to tobacco screening.

### **Limitations**

A number of limitations were identified throughout the course of the project. The first limitation was the relatively small sample size (n=200). By reviewing only 200 randomized charts, it is difficult to generalize the project's findings to all primary care providers within the Norton Healthcare system. In addition to this finding, the data was limited to one primary care office within the Norton Healthcare system. This fact combined with the fact that the sample was racially homogenous limits the generalizability of the findings. By having a larger and more diverse patient sample that was procured from more than one primary care office, the project may have provided better observations about nicotine screening practices in primary care.

Another project limitation was the study's design. There are many inherent limitations to performing a retrospective chart review. Because the data comes from pre-existing patient records, it cannot be reviewed for accuracy. And because one cannot discuss the charted information with the provider it must be concluded that a patient was not screened for tobacco use if it is not charted against in the EHR. Because of these elements, inaccuracies may lead to false



## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

negative conclusions. The study was able to highlight gaps in provider screening compliance, but was unable to pinpoint why they occurred.

### **Implications for practice**

This project was effective in demonstrating a deficiency in the current screening practices. However, the results of this project show that further research is needed to understand the barriers to overall poor tobacco screening compliance in primary care. Further study must employ strategies that allow for a greater generalization of the findings. Also, a study design that allows for provider feedback into the reasons for low provider compliance would be beneficial.

Currently there is not an area within the EHR where a provider can document tobacco cessation interventions or counseling without having to write a narrative note within the overall provider note. This may lead providers to discuss these elements with patients, but neglect to chart it within the EHR. Additionally, tobacco and nicotine screening can be charted during the visit, but does not require the provider to update this information at each visit. Efforts should be focused on developing easily accessible documentation strategies for tobacco and nicotine screening.

### **Conclusion**

The destructive effects of tobacco are well understood by both patients and healthcare providers. Despite this fact, it is essential that providers within primary care comply with screening and treating nicotine abuse. Primary care providers are in a prime position to screen for and treat nicotine abuse because of the rapport and familiarity that exists between patients and their family healthcare provider. This point of care is the most important in terms of educating, evaluating, and treating patients who use tobacco. Therefore, it is imperative that system wide changes are made in order to increase screening compliance. Increased screening for tobacco and nicotine use

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

at every visit, increases chances that a patient will eventually be inclined to participate in tobacco cessation intervention or counseling.

This project highlights the disparity between national goals for nicotine screening and current nicotine screening rates within primary care. This project demonstrates a need for not only better nicotine screening practices, but better provider documentation compliance within primary care. Patients should be screened for nicotine use at every patient encounter despite previous nicotine screening status in order to optimize healthcare outcomes and practices. Improvements may be gained for both tobacco users as well as healthcare organizations.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

### References

Centers for Disease Control. (2012). Preventing Tobacco Use Among Youth and Young Adults:

A Report of the Surgeon General-Executive Summary. Available:

<http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/exec-summary.pdf>. Accessed March 22, 2016.

Centers for Disease Control. (2014). Secondhand Smoke (SHS) Facts. Available:

[http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/secondhand\\_smoke/general\\_facts/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/general_facts/)  
Accessed March 11, 2016.

Crawford, M., Woodby, L., Russell, T., Turner, T., Hardin, M., & Harrington, M. (2015).

Tobacco use assessment and counselling practices among Alabama primary care physicians. *Quality in Primary Care*, 13, 163-170. Retrieved November 29, 2015, from CINAHL.

Fiore, M.C., Jaen, C.R., Baker, T.B., et Al. (2008). Clinical practice guideline: Treating tobacco use and dependence—2008 update. Rockville, MD: US Department of Health and Human Services.

Kentucky LEADS Mission Statement. (n.d.). Retrieved February 22, 2016, from

<https://www.kentuckyleads.org/about/>

Office of Disease Prevention and Health Promotion (ODPHP). (2016). Healthy People 2020

Tobacco use Objectives. Available: <https://www.healthypeople.gov/2020/topics-objectives/topic/tobacco-use/objectives>. Accessed November 20, 2016.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

U.S. Department of Health and Human Services (DHHS). (2014). Healthy People 2020

Tobacco use Objectives. Available: <https://www.healthypeople.gov/2020/topics-objectives/topic/tobacco-use/objectives>. Accessed March 22, 2016.

U.S. Department of Health and Human Services (DHHS). (2014). The Health Consequences of

Smoking-50 Years of Progress: A Report of the Surgeon General. Available:

<http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>.

Accessed March 22, 2016.

Urbaniak, G. C., & Plous, S. (2013) Research Randomizer (Version 4.0) [Computer Software].

Retrieved on October, 26, 2016 from <http://www.randomizer.org/>.

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

Table 1.

*Demographic summary of the sample (N = 200)*

	<i>Mean (SD) or n (%)</i>
Age	48.7 (16.8)
Gender	
Male	89 (44.5%)
Female	111 (55.5%)
Race	
White	155 (77.5%)
African American	21 (10.5%)
Other	24 (12%)
Personal Smoking Status	
Current	64 (32%)
Former	45 (22.5%)
Never	76 (38%)
Unknown	15 (7.5%)
MyChart Enrollment Status	
Enrolled/Active	85 (42.5%)
Not Enrolled/Inactive	115 (57.5%)

## CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

Table 2.

*Summary of screening and intervention recommendation rates recorded at visit of interest (N = 200)*

	<i>n (%)</i>
Screening Status	N=200
Yes	70 (35%)
No	130 (65%)
Intervention Recommended	n=69
Yes	10 (12.7%)
No	69 (87.3%)

CURRENT NICOTINE SCREENING RATES IN PRIMARY CARE

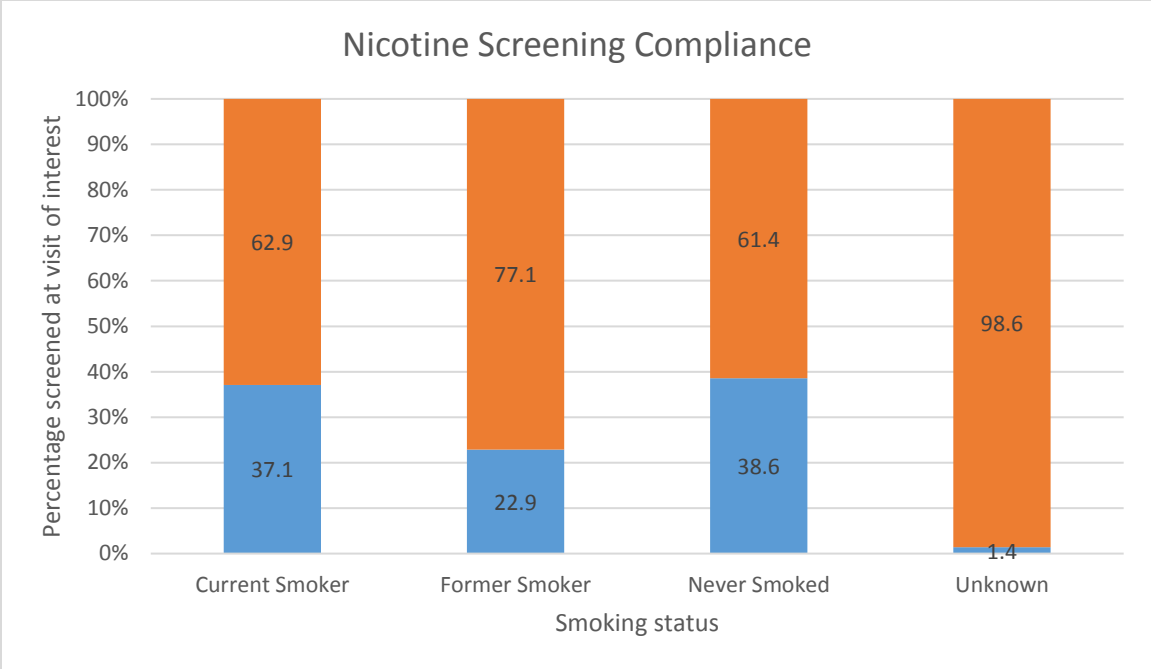


Figure 1. Percentage screened for nicotine according to smoking status (N=200)