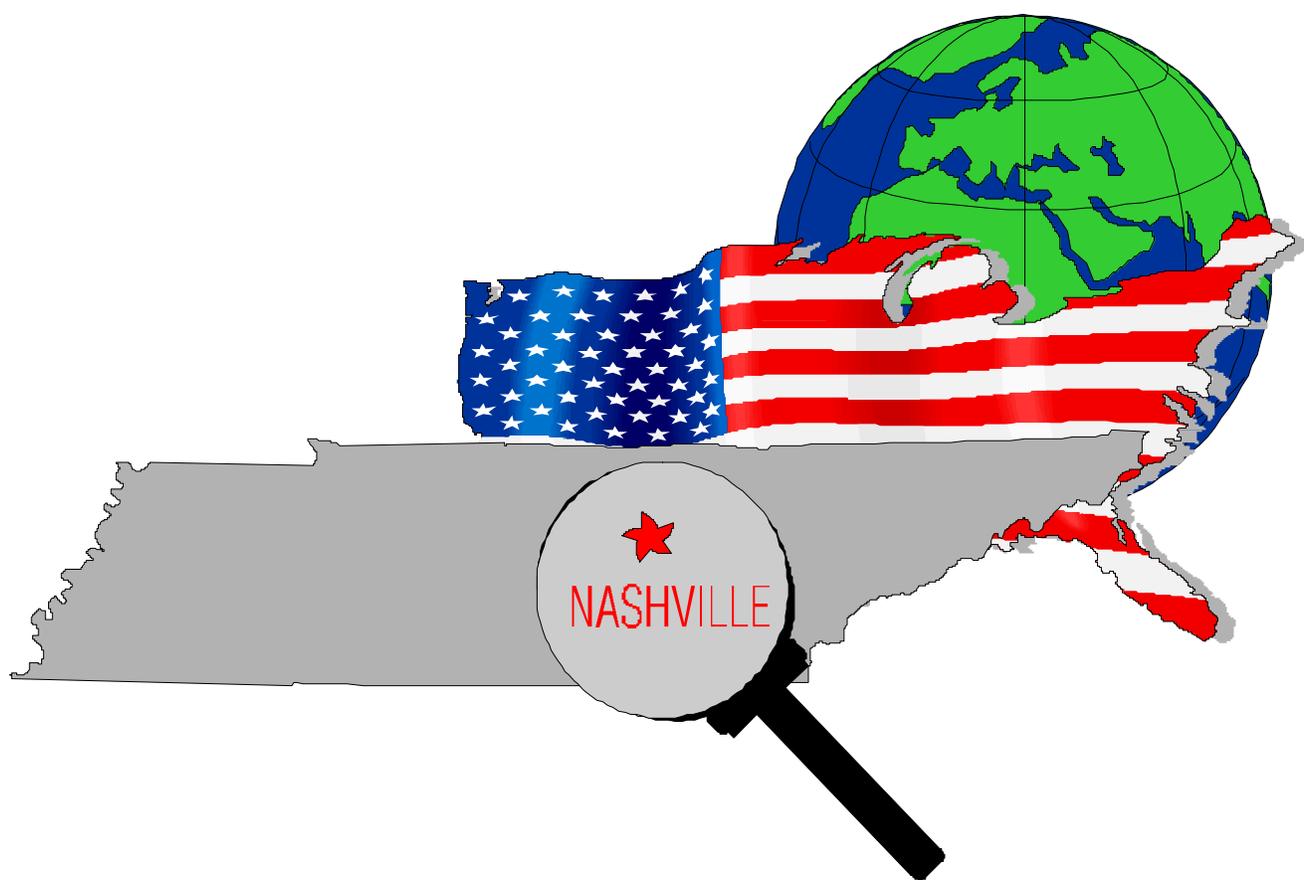


The Community Health Assessment Report Plan



Division of Epidemiology
March 1999

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The Community Health Assessment Report Plan

I. INTRODUCTION

The mission of the Metropolitan Health Department of Nashville and Davidson County (MHD) is to promote physical and mental health and prevent disease, injury, and disability. This mission is achieved through policies and programs that assess community health status and assure needed health services.

The Department commits to identify and prioritize community health needs and convey an awareness of these needs to the community. MHD continuously gathers accurate and timely data about the community's health status, providing information to the community and translating information into public health policies and higher level decisions that will affect the community's well-being now and in the future.

In 1995 MHD began formally collecting and analyzing data as a part of an ongoing community health assessment under the Division of Assessment and Surveillance, which was formed as part of the 1995 Metro Health Department strategic planning process. The Health Status of Davidson County, 1990-1996, the first health status assessment report of its kind in Davidson County, was published in 1997, followed by a series of publications on mortality, natality, syphilis epidemic, and other public health topics. In 1999, The Division of Assessment and Surveillance was renamed as the Division of Epidemiology.

One of the main goals of the Division of Epidemiology is to play an essential role in enhancing the department's community health assessment capacity. Setting in motion a planning process is the first step toward that goal. This planning document will serve as a blueprint for establishing a comprehensive Davidson County health assessment system. Specifically, the system will enable the Division of Epidemiology, in cooperation with related internal programs and external agencies, to produce high quality products on an annual basis, reflecting the department's effort in

1. Systematically assessing Nashville and Davidson County's community health status.
2. Providing and disseminating the latest available community health information to the citizens of Nashville and Davidson County, including health care providers and health related agencies

For planning purposes, we will define health, community, neighborhood, planning district, councilmanic district, and community health assessment in the following sections.

Health

Modern concepts of health are broad, covering many dimensions of life not contained in traditional health measures. Review of the literature suggests that the

concept of health is very dynamic. A definition of health is likely to reflect the ideology and culture of the most powerful groups in society. Several authors look at health as “a behavioral capacity - including biological as well as social components - to carry out basic functions” or “health is the equilibrium and harmony of all possibilities of the human being: biological, psychological and social.” From the many theoretical approaches to defining health, we have chosen the definitions proposed in 1946 and in 1986 by the World Health Organization (WHO) as the theoretical basis for the Davidson County Community Health Assessment Model:

Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. (1946)

Health covers “the extent to which an individual or group must be able to identify and to realize aspirations, to satisfy needs, to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources as well as physical capabilities.” (1986)

Community

The Merriam-Webster Dictionary defines community as “a unified body of individuals; the people with common interests living in a particular area; an interacting population of various kinds of individuals (as species) in a common location, a group of people with a common characteristic or interest living together within a larger society.” In this document, MHD considers Davidson County, TN as a community. Any geographical subdivision within Davidson County will be treated as a **neighborhood**.

Davidson County is the second most populated county in Tennessee. It contains the state capitol, Nashville. Under its present Metropolitan Charter, which became effective April 1, 1963, Nashville and Davidson County have a single government with its authority encompassing more than a half-million people and 533 square miles. Its estimated 1997 population of 533,689 people comprises about 10% of the Tennessee population.

In 1997 the population was roughly 47% male and 53% female, 73% white, 25% black, and 2% other races.

According to the 1990 census, 76% of the Davidson County residents aged 25 years and over were high school graduates and 24% were college graduates. The estimated median household income in 1993 was \$30,940, with 18% of the population living in poverty.

Planning District

For public health planning purposes, Nashville has been divided into sixteen planning districts (PDs). Originally, there were fourteen planning districts. They were

geographical subdivisions of the county adopted by the Metropolitan Planning Commission. Each planning district consists of one to sixteen 1990 census tracts. Due to noticeable changes in demographic factors in planning districts 7 and 10, it was decided in 1998 to divide planning districts 7 and 10 each into two sub-divisions, i.e., PD 7 north (7a), PD 7 south (7b), PD 10 north (10a), and PD 10 south (10b).

Councilmanic District

Thirty-five (35) councilmanic districts were created by the Charter of the Metropolitan Government of Nashville and Davidson County, Tennessee. According to article 3 of the Charter, "There shall be thirty-five (35) councilmanic districts in the metropolitan government, which are hereby created and established in accordance with the detailed descriptions thereof by metes and bounds as set forth in Appendix Two hereto attached as a part of this Charter." "The descriptions of the councilmanic districts given in this appendix were originally promulgated in Bill No. 81-701, § adopted Oct. 6, 1981. Descriptions of Districts 1 -- 35 were entirely amended in the redistricting plan adopted by referendum vote on Sept. 5, 1991. "

Community Health Assessment

According to *The Future of Public Health* by the Institute of Medicine, assessment is the process used to regularly and systematically collect, assemble, analyze and make available information on the health of the community, including statistics on health status, community health needs, and epidemiological and other studies of health problems. It is important to understand that assessment is a process, not a single activity unrelated to other activities, that is done once and then forgotten. Assessment, as an ongoing activity, requires a system for staff involvement, data collection and maintenance, regular, systematic and complete analysis of the data. It also requires a system to enable a variety of decision-makers and health planners to have a thorough review of results.

As an ongoing process, the assessment involves an obligation to provide information in a simple and straightforward manner that includes data-based, scientific conclusions and recommendations for action on the part of public officials and health professionals.

The ability to conduct health assessments is critical in order for the community to determine its health status. This ability is central to the oversight function of the Metropolitan Health Department as a governmental entity, which is in charge of undertaking routine monitoring and special investigations of health status in order to:

- measure health status,
- identify community health concerns,
- prioritize health systems and local public health response, and
- analyze both short and long term trends.

In conjunction with the Tennessee Department of Health, Metro Health Department provides local interpretations and forecasts of health status and other related information, and serves as the repository of such information for the community served. Metro Health Department also provides leadership at the local level in disseminating information to the public on community health status. It is a responsibility of both local and state health departments to provide clear, understandable health information to the media and public officials on a regular basis.

In summary, community health assessment is an ONGOING process which:

- involves a multi-disciplinary approach,
- utilizes data from a variety of sources,
- identifies available resources and their effectiveness, and
- translates data into information that can be used by decision-makers as well as the public.

Therefore, it is well within the purview of the Metropolitan Health Department to take the leadership in developing a community health assessment model appropriate to our community.

II. HEALTH MODEL

Utilizing WHO definitions, MHD proposes an operational model for Davidson County's community health assessment. This model is based on two recognized frameworks: (1) Assessment and Planning Excellence through Community Partners for Health (APEXCPH) Community Health Status Assessment Framework and (2) the Canadian and Quebec Health Surveys Framework.

The MHD's operational model of health consists of three main levels (Figure 1):

1. Determinants of health,
2. Health status, and
3. Consequences of health.

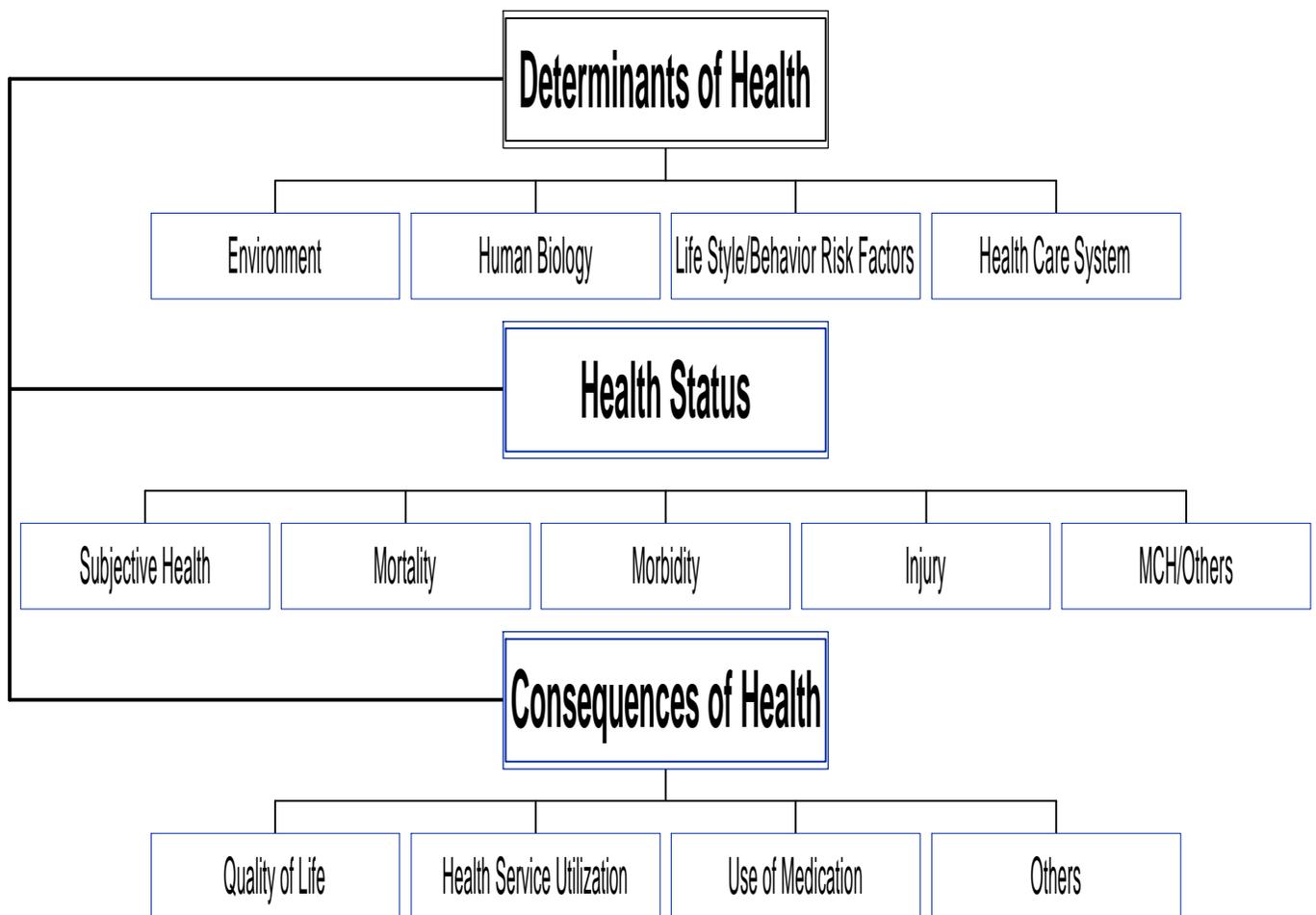


Figure 1. The MHD's Operational Model of Health

The concept of determinants of health goes beyond purely medical boundaries. It includes four major elements that contribute to health problems. They are (1) environment, (2) human biology, (3) lifestyle and behaviors, and (4) the health care system. Any health problem can be traced to one or a combination of the four elements. The environment will rank first in this framework.

The environment category includes all those matters related to health which are external to the human body and over which the individual has little or no control. In this document, we refer to environment as (1) physical environment, including all areas of environmental health, and (2) social environment, including, demographic indicators, sociodemographic indicators, and socioeconomic indicators

Because of the importance of the health care system, we separate it from the environmental element. The health care system consists of the quantity, quality, arrangement, nature, and relationship of people and resources in the provision of health care.

The human biology element includes all those aspects of health which are developed within the human body as a consequence of the basic biology of man and the make-up of the individual. There is no feasible population-based human biology indicator available now.

The lifestyle and behavior category consists of the aggregation of decisions by individuals that affect their health. The behavioral risk factors domain in the APEXCPH Community Health Status Assessment list can be considered to belong to the lifestyle and behavior element.

Health status is related to a more medical view of health. It is generally accepted that there are two components to health status, (1) a subjective one based on an individual, personal reading of health status, and (2) a so-called objective one based on a normative, professional assessment. Subjective health status is defined as a person's own assessment of his or her health. Objective health status refers to an assessment by a health professional. It is recognized that a professional assessment remains a judgement, though based on criteria that are more specific and on which some consensus has been reached. Objective health includes mortality, morbidity (hospital morbidity, non-hospital morbidity, physician visit and non-physician visit).

Consequences of health include disability (long-term and short-term), use of health services, the use of medication and quality of life.

III. SOURCES OF DATA

Eight types of data are identified to support this community health assessment.

- (1) Vital statistics (mortality and natality data)
- (2) Morbidity data (notifiable disease records, cancer incidence data, and others)
- (3) Behavioral risk and quality of life survey data

- (4) Health care utilization data (TennCare encounters, TennCare surveys, hospital discharge records)
- (5) Environmental health data
- (6) Socio-economic and demographic data (population, income, and others), and
- (7) Community perception (survey, focus group, key informant interview)
- (8) US and Tennessee data.

(1) Vital Statistics

Metro Health Department's (MHD) Division of Vital Statistics collects Davidson County's original birth/death certificates. The Tennessee Department of Health (TDH) compiles death and birth data, assigns ICD-9 codes to death certificates, and releases mortality and natality data annually in an electronic form. There are two sources for vital statistical data:

- a. Standardized dataset from the Office of Health Statistics and Information, Policy Planning and Assurance, TDH. The dataset for each year is available the following December.
- b. MHD Vital Statistics Division has residential birth records from 1949 and death records from 1966. These data are not digitized and not ICD coded, therefore, they are not suitable for population-based assessment. However, to obtain individual death/birth information for special study, this may be an alternative source.

TDH also provides population-based abortion data and fetal death data on request.

(2) Morbidity Data

- a. Notifiable diseases:
MHD Communicable Disease Control Program collects all notifiable disease data except STD, TB, and HIV/AIDS. Data are transferred electronically to TDH's National Electronic Surveillance System (NETSS). MHD has access to the data on a monthly basis.
- b. Sexual Transmitted Disease data (including HIV/AIDS)
MHD's STD/HIV/AIDS Program collects STD and HIV/AIDS data. Data are transferred electronically to TDH's REACTOR and HARS systems respectively. MHD has access to both database on a monthly basis.
- c. Tuberculosis (TB)
MHD's TB Program collects TB data. Data are transferred electronically to TDH's TB reporting system: TIMS. MHD has access to the database on a monthly basis.

- d. **Immunization Data**
MHD collects immunization coverage data. TDH conducts an immunization status survey annually. MHD can obtain survey results on an annual basis.
- e. **Cancer Incidence Data**
All cancer cases diagnosed and/or treated in Tennessee hospitals are reported to the Tennessee Cancer Registry. We can obtain Davidson County's cancer incidence data from TDH's Cancer Registry.

(3) **Behavior Risk Factor Survey**

There are two sources of behavior risk factor data available pertaining to Davidson County residents. TDH has conducted the behavior risk factor survey on a yearly basis since 1984. Due to its limitation in sample size (3,000 for the entire state), only several hundred Davidson County residents are interviewed yearly. Small sample size makes small area analysis results unreliable.

MHD conducts a behavior risk factor survey on bi-annual basis. The latest survey was completed in 1998 with a sample size of 3000+. MHD also conducted a Youth Behavior Risk Factor Survey in 1999.

(4) **Health Care Utilization Data**

a. **Hospital discharge data**

State law requires insurance companies to submit discharge data to TDH from approximately 130 TN hospitals since 1995. The first set of data is 1995 data. MHD can obtain this data from the TDH hospital discharge data system.

b. **Annual Hospital Survey data**

TDH has conducted an annual survey of 160 hospitals statewide since 1990. The data is available. The value of the data is to be determined.

c. **Annual Nursing Home Survey data**

TDH conducts an annual survey of nursing homes statewide. The data is available. The value of the data is to be determined.

d. **TennCare encounters and TennCare surveys data**

TennCare has a data system that covers the entire TennCare population. It could be a good health care utilization data source.

e. **Metro Health Department Clinic Encounter Data**

MHD collects clinic encounter data for all client visits (dental, immunization, WIC, etc) through the Patient Care Management Information System (PCMIS), formerly the Patient Tracking and Billing Management Information System (PTBMIS) . Potentially, this can be an additional assessment data source.

- (5) Environmental Health Data
MHD environmental health programs collect and maintain program and/or population data. They are important data sources for environmental health assessment.
 - a. Restaurant inspection data
 - b. Air quality data
 - c. Others data (animal, daycare inspection, etc.)

- (6) Socio-economic and demographic data
 - a. Population data
Source: 1990 Census
Location: Metro Health Department Library or any public library
Data format: CD-RAM: ASCII
 - b. Population estimation/projection
Source: Census Bureau/Internet, TDH, UT Sociology Department
 - c. Other demographic data: marketing firms and other for-profit agencies, universities. Two reputable companies are: CACI Marketing system (www.demographics.caci.com) and Claritas (www.claritas.com). The Nashville Area Chamber of Commerce is a valuable source for historic socio-economic and demographic data in this community.

- (7) Community perception (survey, focus group, key informant interview)
Perceptions drive behavior. Gathering community perception data is useful for planning and assessment purposes, especially in the community needs assessment and prioritization process. Sometimes we may depend on interviews or surveys of “key informants” to gather information. Nurses, physicians, social workers, and hospital or clinic clerks may be regarded as key informants. In theory, these people are able to synthesize or filter the “raw” data inexpensively and rapidly, thereby, providing us with useful information.

- (8) US and State data
Source: TDH, CDC, and Census Bureau publications.

IV. COMMUNITY HEALTH ASSESSMENT PROCESS

A community-centered community health assessment process should be established to conduct a comprehensive community health assessment. The APEXCPH Community Health Status Assessment’s nine steps are recommended to guide MHD’s community health assessment. The nine steps are:

1. Establish a committee to oversee the community health assessment
2. Review the indicator listing and begin to collect data for core indicators
3. Select additional locally-appropriate data indicators

4. Complete data collection
5. Analyze data, provide initial meaningful interpretations, and create an initial health profile
6. Present initial findings to the community and dialogue with community members to gather feedback and reactions to the results.
7. Disseminate a Health: Nashville and Davidson County, TN report
8. Establish a system to monitor the indicators over time
9. Define challenges and opportunities related to community health assessment

See APEXCPH for more information.

Internal program collaboration is vital in the community health assessment process. The Division of Health Promotion and the Community Health Action Teams will play an important role in this nine-step process. Data collection and methodology support from the Division of Research and Evaluation will be critical to the success of the community health assessment.

V. OPERATIONAL PLAN

Systematic community health assessment is the priority of the Division of the Epidemiology. All three members of the division will dedicate major resources and time to implement the community health assessment process in terms of data collection, analysis, interpretation, and dissemination.

Data collection, analysis, and interpretation will be on a continuous basis. The procedures to guide these data activities will be the Division's Operation Manual: Policies and Procedures, specifically, the document titled "Data Operation and Data Integrity Assurance Background Paper".

There are three main channels to disseminate community health assessment results. On a bi-monthly basis, the Division of Epidemiology publishes important community health assessment results in the Division's Newsletter Public Health Watch. On a monthly basis, the Division publish The Monthly Indicator Report for the EMT and The Monthly Notifiable Disease Surveillance Report. On a yearly basis, the Division publishes a comprehensive health assessment report. The systems for monthly and bi-monthly dissemination of community health assessment results have been established and are running smoothly now. The annual dissemination system is to be established under this plan. A pilot report will be produced in 2000.

VII. THE PROPOSED OUTLINE FOR A COMMUNITY HEALTH ASSESSMENT REPORT

Establishing a comprehensive community health assessment system is a very challenging task. Some needed data is not currently available. To present data in a manner easily understood/appreciated by ordinary citizens is not an easy job. It will take a few years to allow the system to mature. The following is a proposed outline for

a community health assessment report. It is expected that the list of indicators will be modified according to the outcome of a community health assessment process.

A Proposed Outline For A Yearly Assessment Report

Name of the Report:

Health: Nashville/Davidson County, TN, 2000

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VII References (Omitted)

Draft 1: December 20, 1999
Draft 2: December 23, 1999
Third version: March 1, 2000

Walk Nashville Week October 2-10, 1999

The *Healthy Nashville* Community Health and Wellness Team collaborated with "Walk/Bike Nashville", the Kim Dayani Center of Vanderbilt University, and The Nashville Sports Council to conduct a week of walking in Nashville.

October 2 was the international "Global Embrace" walk, where senior adults were encouraged to walk and exercise, all over the world. Here in Nashville, approximately 250 seniors came out to the Vanderbilt track and to several Senior centers around the city. At the Kim Dayani Center, a breakfast of cappuccino and bagels was served before the walk to the track, where participants were led in stretching exercises and a one-mile walk. T-shirts were given to all the walkers. This was the grand finale of the World Health Organization's "Year of Active Aging" initiative.

October 6 was "Walk our Children to School Day". The purpose of the day was to encourage families to walk for exercise, to emphasize safety for pedestrians, and to draw attention to areas that are not "walker friendly" due to cracked sidewalks, broken glass, blocked sidewalks, etc. Five schools joined the event, with a total of 1500 parents and children participating. Local dignitaries came to the five schools, walked with the children, and spoke briefly at an assembly. Mayor Bill Purcell and Vice-Mayor Ronnie Steine participated. Dr. Stephanie Bailey walked with children at Cockrill Elementary. Healthy breakfast foods were served to the walkers at each school.

The Hunters Lane String Band played as the walkers arrived at Eakin School. Two schools used yellow rope to create "Walking School Buses", by having the children to walk in a straight line and hold on to the rope, as a safety measure. Parents and children took pictures of unsafe sidewalks and traffic hazards. Some of these pictures are posted at www.walkbikenashville.com The team is planning to expand the event to many by working with the Metro PE teachers.

The final event was October 10, "Titan Fans Walk to the Game". Distances were measured from 10 parking lots or garages to the stadium. Banners were placed in five of those parking lots that identified the walking distance to the game. Volunteers stood at the Woodland Street Bridge and handed out 2500 stickers that read "I Walked to the Game Today". The participants seemed to enjoy wearing their stickers and receiving encouragement from the volunteers for walking.

A total of 250 senior adults, 1500 parents and children, and more than 2500 sports fans participated in the first "Walk Nashville Week". Walk Nashville Week is expected to draw even more participation the second year, October 2000.

Customer Preference Survey:

Attitudes and Behavior Intentions Related to the Adoption of Smoke-Free Policies in Restaurants in Davidson County

SMOKE-FREE
Nashville

A Study Conducted at the Request of Smoke-Free Nashville by the
Division of Health Care Services Evaluation
Bureau of Health Assessment and Evaluation
Metropolitan Health Department of Nashville and Davidson County
311 23rd Avenue, North
Nashville, TN 37203

Executive Summary

The Division of Health Care Services Evaluation of the Metropolitan Health Department of Nashville and Davidson County in collaboration with Smoke-Free Nashville conducted a study among Davidson County residents to assess the attitudes, sentiments, and behaviors in response to a smoke-free policy in restaurants throughout the county.

Smoke-Free Nashville is a coalition of individuals representing not-for-profit organizations and commercial businesses devoted to promoting programs, actions, and policies that reduce death and disease caused by tobacco use. There exists a strong interest in reducing the harmful effects of exposure to tobacco smoke on employees and patrons in restaurants.

Telephone interviews were conducted with a random sample of 1,059 residents during the months of July and August 1998. The respondent sample was representative of the current population estimates of the percentage of adults who smoke and who do not smoke across the fourteen planning districts. Interviews were conducted during evening hours Monday through Friday and during the day on Saturday.

The specific objective were to:

- a) identify the demographic profile of restaurant patrons who smoke and do not smoke;
- b) identify the attitudes regarding a smoke-free policy;
- c) identify the potential behavior of dining at restaurants if smoke-free policies are adopted.

Key Findings

1. The majority of respondents (62%) reported that Nashville restaurants should adopt smoke free policies.
2. The majority of respondents (87%) predicted that they would dine out more often, or at the same frequency as they currently dine out, if Nashville restaurants adopted a smoke free policy.
3. Of the 266 respondents who indicated that they would change their frequency of dining out, equal percentages were found for those who would eat out more often and for those who would eat out less often (12%).
4. Of the 266 respondents who indicated that they would dine out more or less frequently, no significant differences were found in the amount of money spent on the average at each visit.
5. The demographic profile of smokers and nonsmokers was found to be significantly different. Smokers were younger than non-smokers and more smokers were Caucasian than of other races.

Customer Preference Survey:

Attitudes and Behavior Intentions Related to the Adoption of Smoke-Free Policies in Restaurants in Davidson County

Introduction

Smoking is the number one *preventable* cause of death and disability in the United States according to the U.S. Department of Health and Human Services (DHHS). The Surgeon General has concluded that tobacco smoke causes cancer and is an important risk factor in heart disease. Ample research has shown smoking and Environmental Tobacco Smoke (ETS) is dangerous. The health risks from inhaling tobacco smoke are not limited to the smoker but also include those who inhale ETS. Nonsmokers exposed to ETS are at risk for lung cancer and heart disease. Exposure to ETS has been associated with cervical cancer, stroke, and low birth-weight babies (cited from the Environmental Protection Agency (EPA)).

The EPA estimates that ETS causes about 53,000 deaths a year: 37,000 from heart disease; 3,700 from lung cancer and 12,000 from other cancers. The EPA has classified ETS as a Class A Carcinogen. The National Institute for Occupational Safety and Health (NIOSH) recommends that workers should not be exposed involuntarily to tobacco smoke and that tobacco smoke be eliminated from the workplace.

With the consideration that ETS is harmful and should not be inhaled, there are other beneficial factors to consider when eliminating ETS. According to the Office on Smoking and Health, instituting smoke-free work environments can reduce costs for cleaning and maintaining facilities/equipment and improves employee morale.

There is a growing concern that patrons and employees of restaurants and bars may be exposed to high levels of ETS. Among restaurant employees, this exposure has been linked to increased risk of lung cancer.^{1,2}

As of August 1996, 191 cities, towns, and counties had enacted ordinances regarding smoke-free restaurants. In opposition to these ordinances, the restaurant and tobacco industries have argued that smoke-free policies will result in economic hardship.

Research has shown that smoke-free restaurants have not had economic losses. A Flagstaff, Arizona study conducted in 1997 compared restaurant sales before and after the "enactment of the no-smoking ordinance." They found no evidence that prohibiting smoking in Flagstaff restaurants affected restaurant sales³.

In addition, assessments were made regarding the concerns of [Flagstaff] restaurant representatives about the nonsmoking ordinance before and after the enactment. The research found that "most respondents believed that the ordinance would have no effect on their business and most reported that

the ordinance had no or no known effect on business. Although many restaurant representatives had concerns about a non-smoking ordinance prior to its enactment, restaurant representatives' self-reported experience with the ordinance suggest that most of these concerns were not realized."³

Another study evaluated the economic effects of ordinances requiring smoke-free restaurants and bars. The authors concluded that, "ordinances had no significant effect on the fraction of total retail sales that went to eating and drinking places or on the ratio between sales in communities with ordinances and sales in comparison communities."⁴

The purpose of this study was to identify the potential impact of smoke-free policies on Davidson County restaurants and patronage. The specific objectives were to:

- 1) identify the demographic profile of restaurant patrons who smoke and do not smoke,
- 2) identify the attitudes of restaurant patrons as related to smoke-free restaurant policies, and
- 3) identify the potential behavior of restaurant patrons if smoke-free policies are adopted.

Methodology

Sample: A random sample of 6566 phone numbers within the 14 planning districts of Davidson County was chosen.

Methods: The survey was conducted using a telephone methodology. All telephone interviews were made between July 13, 1998 and September 8, 1998 by trained interviewers. Interviews were conducted during evening hours Monday through Friday between 5:00 and 8:00p.m. and between 10:00a.m. and 4:00p.m. on Saturday. One thousand fifty-nine interviews were completed. This yields a + or – 3% margin of error for questionnaire responses.

A quota system was used in the data collection process to control for the number of responses received from each planning district. Further, quotas were used to control the number of smokers and non-smokers interviewed. The goal was to establish a set of responses in which the percentages of smokers and non-smokers represented the percentages of smokers and non-smokers based on countywide results of the 1995 Behavioral Risk Factor Surveillance Survey. Table 1 shows that overall, smokers are represented in the collected data in approximately same percentages as were found in the 1995 Behavioral Risk Factor Surveillance Survey.

Table 1: Percentage of Smokers

Planning District	1995 BRFSS	Customer Preference Survey
1	22%	30%
2	34%	33%
3	26%	26%
4	29%	30%
5	30%	30%
6	20%	22%
7	23%	26%
8	31%	30%
9	29%	32%
10	23%	22%
11	31%	24%
12	30%	24%
13	30%	29%
14	21%	22%
Overall	27%	27%

Population Weights: The results presented in Figures 1 through 3 were weighted by the population percentages for each of the fourteen planning districts. These were then aggregated to provide the overall percentages shown.

Demographics

Overall, 38% of respondents were male while the majority (62%) were female. The average age of respondents was 44. Smokers were found to be significantly younger at an average age of 41 years compared to non-smokers at 45 years of age. Fifty-five percent of smokers were 40 years of age or younger compared to only 47 percent of non-smokers.

Overall, 38% of respondents had a high school education or less while the majority (62%) had more than a high school education. No significant differences were found between smokers and non-smokers in terms of education levels attained.

Overall, 69% of respondents were Caucasian, while 26% were African-American, and four percent were of another race. Significant differences by race were found between smokers and non-smokers. Seventy-three percent of smokers compared to 68% of non-smokers were Caucasian. Twenty-one percent of smokers were African-American compared to 28% of non-smokers.

The majority of respondents had no children (61%). No significant differences were found between smokers and non-smokers in regard to the number of children in their households. Ninety-two percent of smokers reported having two or fewer children in their households compared to 91% of non-smokers. (See Table 2.)

Table 2: Demographics

	Smokers	Non-Smokers	Overall
Gender:			
Male	41%	37%	38%
Female	59%	63%	62%
*Age:			
<21	6%	5%	5%
21-30	19%	20%	19%
31-40	30%	22%	24%
41-50	22%	20%	21%
51-60	16%	14%	14%
61+	8%	20%	16%
Average:	41 years	45 years	44 years
Education:			
<HS	10%	8%	9%
HS Graduate	31%	28%	29%
Some College	27%	27%	27%
College Graduate	26%	25%	25%
Post Graduate	6%	12%	10%

Note: Percentages may not add to 100% due to rounding.

Table 2: Demographics (continued)***Race\Ethnicity:**

White/Caucasian	73%	68%	69%
Black/African American	21%	28%	26%
Other	6%	3%	4%

**Number of Children
in Household:**

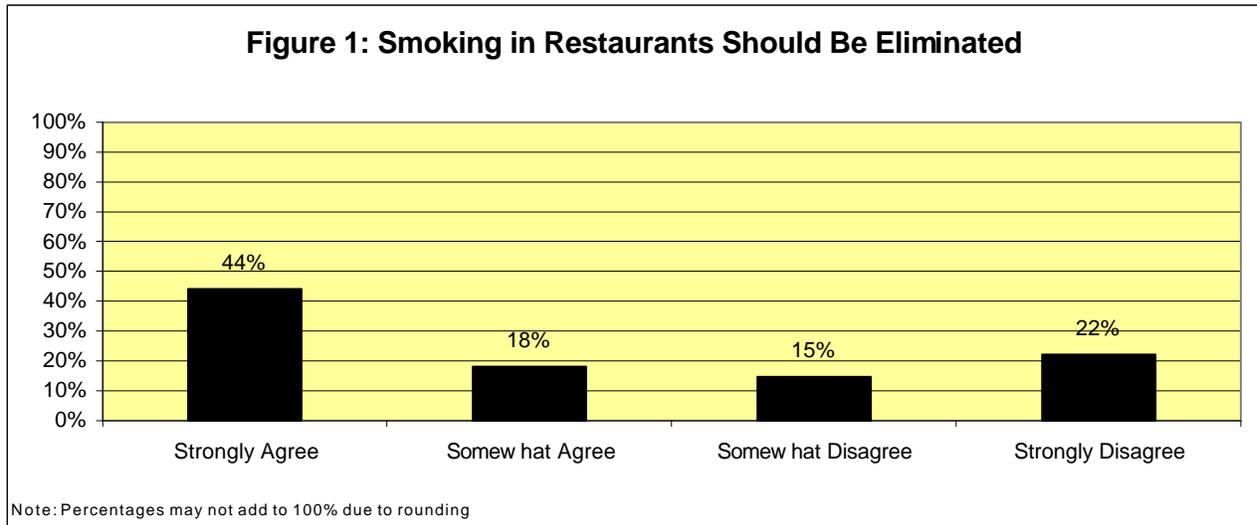
None	61%	60%	61%
1-2	31%	31%	31%
3-4	8%	8%	8%
5+	0%	1%	1%

Note: Percentages may not add to 100% due to rounding.

Results

Overall Attitudes

In order to identify the attitudes of respondents in regard to a smoke-free policy, they were asked to respond to the statement: “Smoking in restaurants should be eliminated.” Figure 1 shows that the majority (62%) agreed with the statement.



Overall Predicted Behavior

Respondents were also asked about their predicted behavior if the restaurants they frequented eliminated smoking. More specifically, respondents were asked to predict how their frequency of visits to restaurants would be affected if a smoke-free policy was adopted. Figure 2 shows that adoption of a smoke-free policy would not affect restaurant patronage. While 12% predicted they would visit restaurants less often, another 12% predicted they would visit restaurants more often.

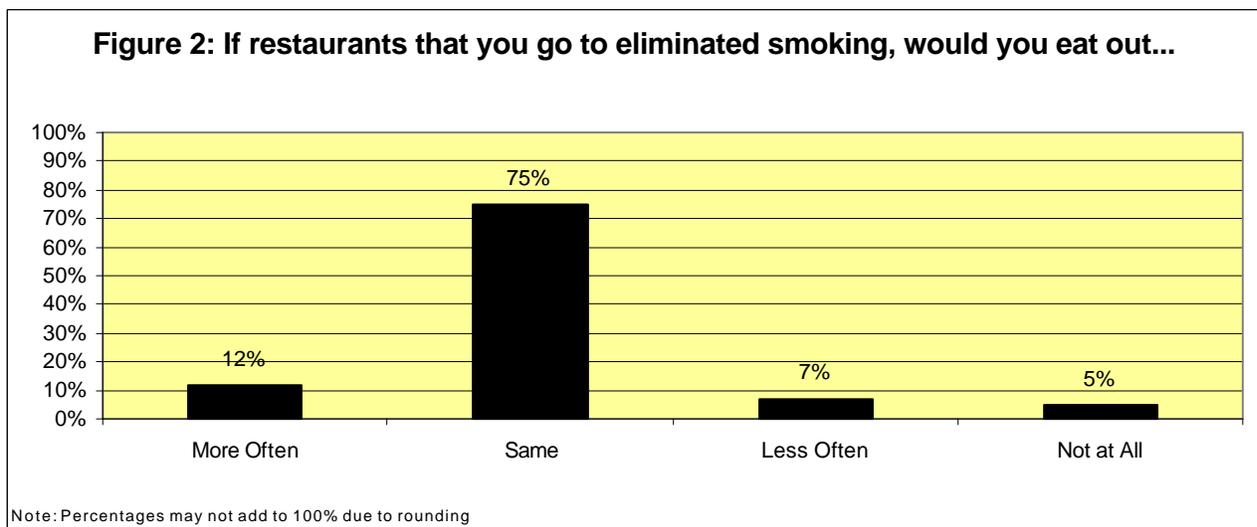
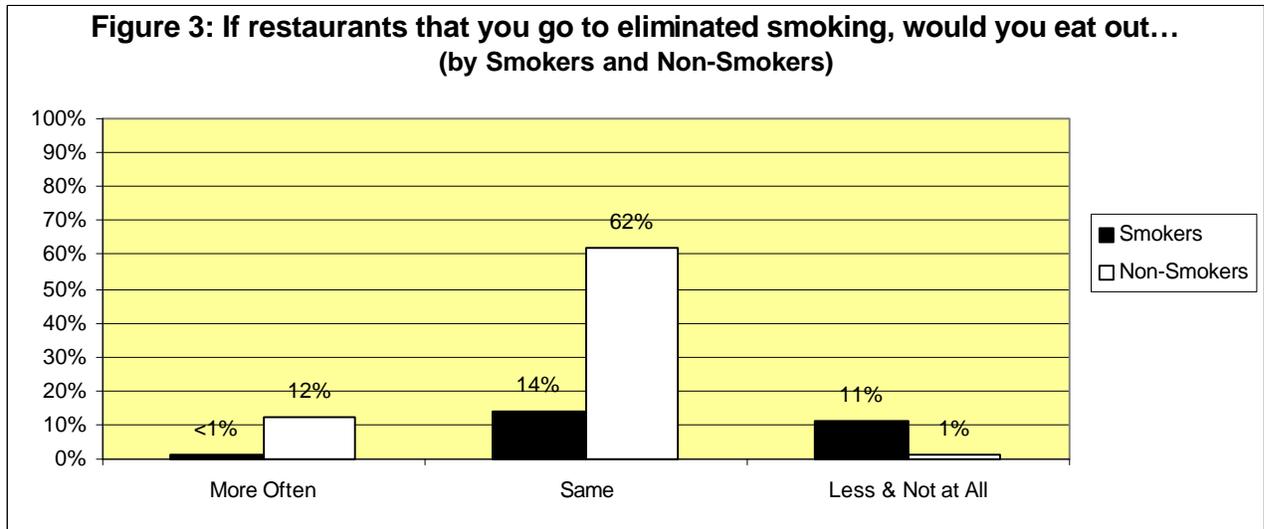
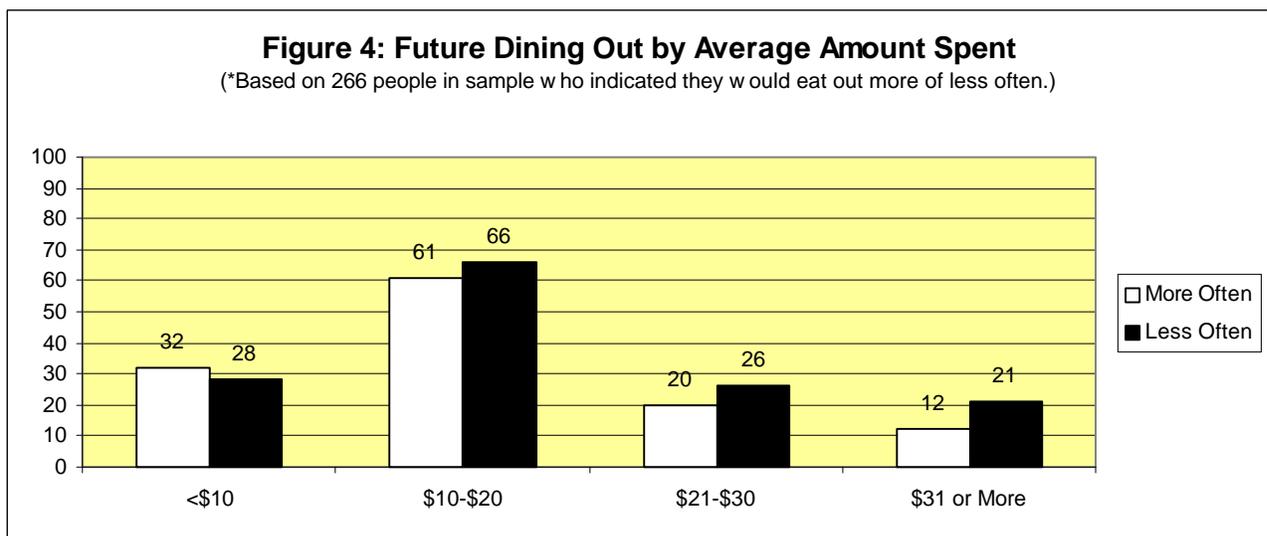


Figure 3 displays predicted behavior in terms of smokers and non-smokers. This figure shows that of the 12% of respondents who said they would eat out less often, most said they smoked. Similarly, of the 12% who said they would eat out more often, almost all did not smoke.

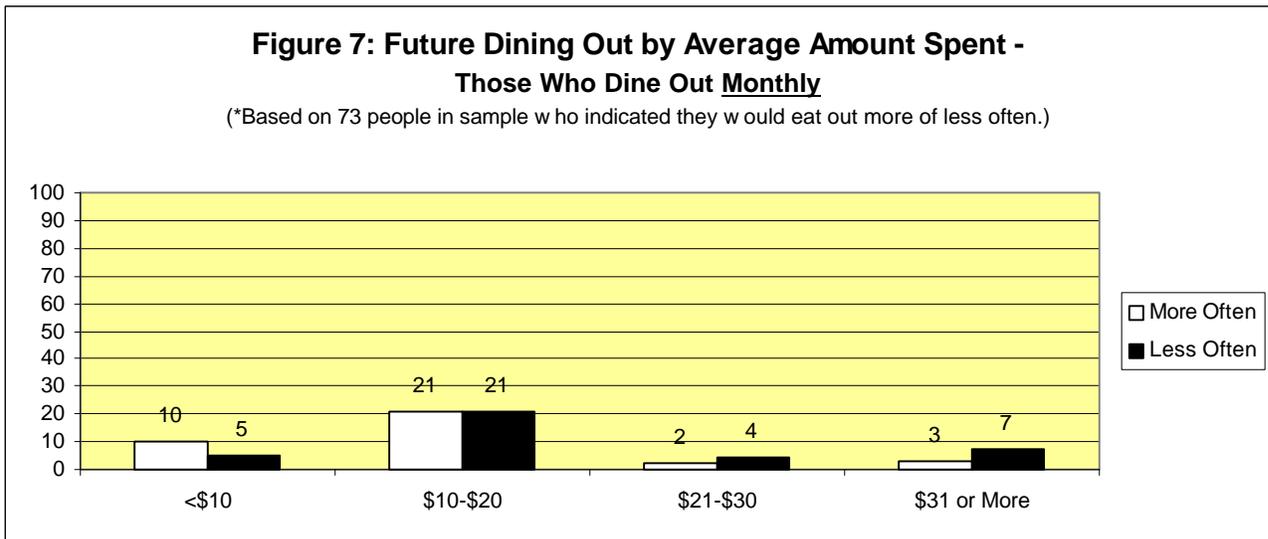
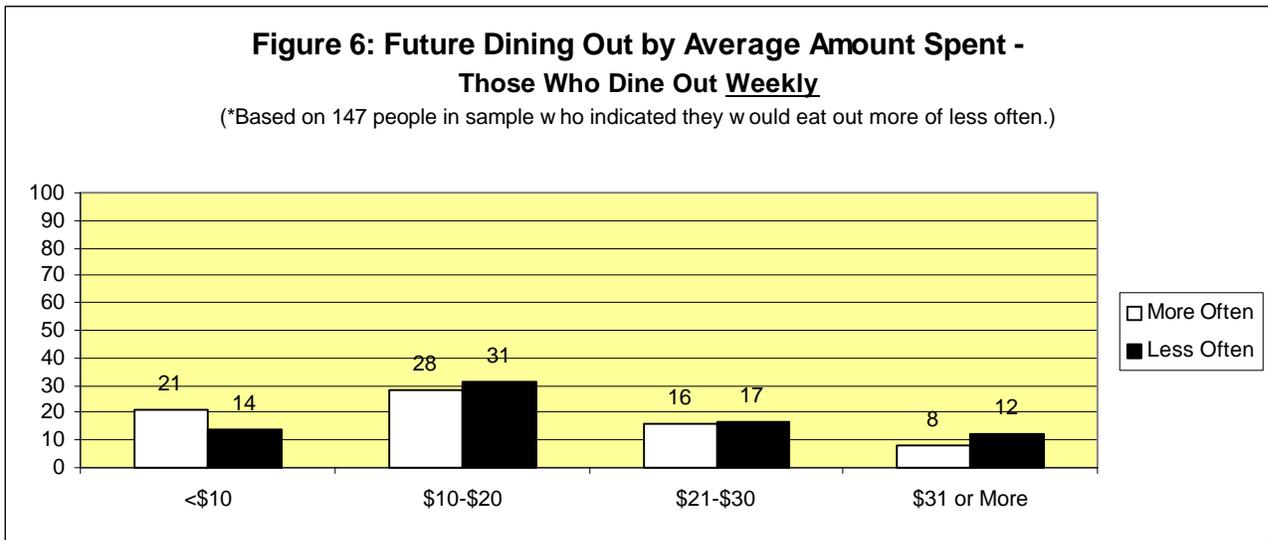
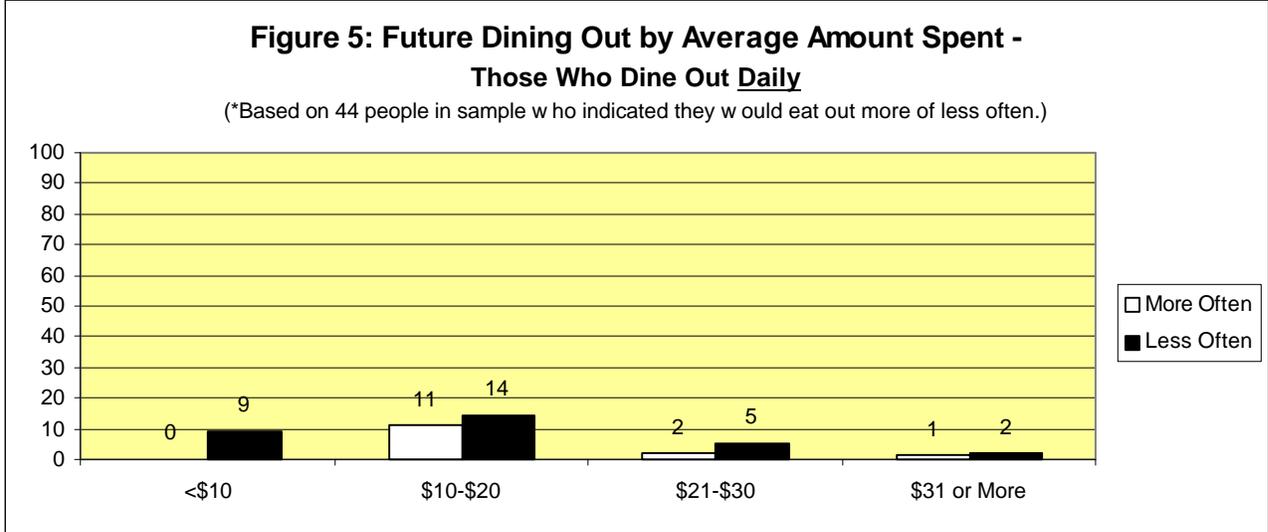


Economic Considerations

Considerations must also be made in regard to the economic impact a smoke-free policy would have on restaurants. Only 266 people of the 1,059 interviewed indicated that their frequencies of dining out would change. Figure 4 shows the number of respondents who reported that they would eat out more or less often by the amount they spend at each visit. In terms of average amounts spent between groups, no statistically significant differences were found between those who predicted they would eat out more often and those who would eat out less often. In other words, those who would eat out less often do not spend any less or any more than those who would eat out more often.

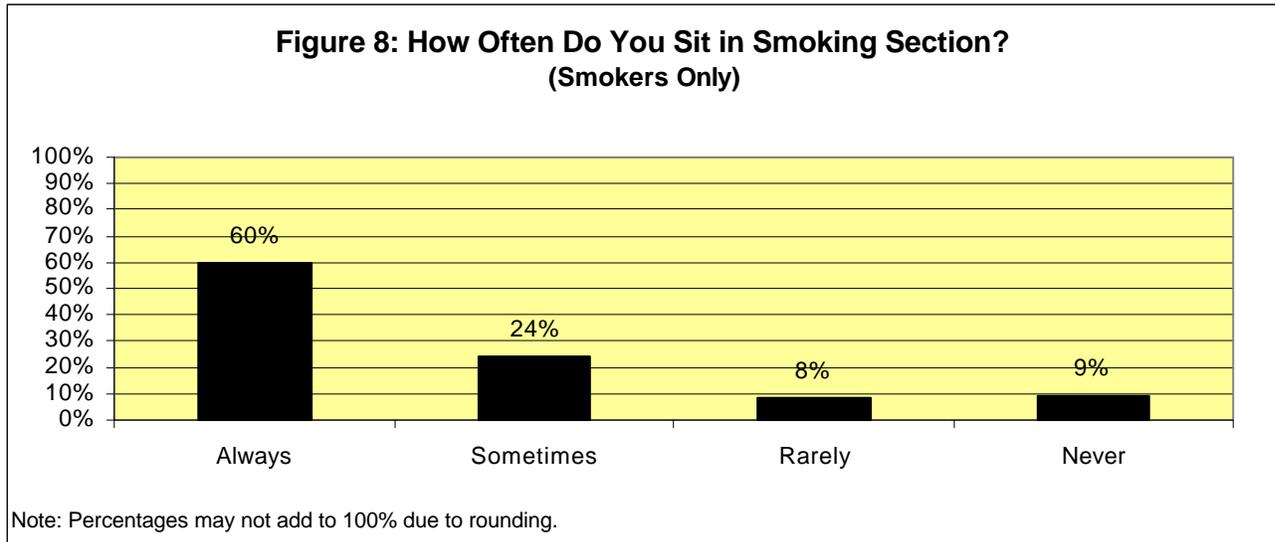


Figures 5, 6, and 7 compare the number of respondents who anticipate their frequency of dining out would change by amount spent for those who dine out daily, weekly, or monthly. Similar results were found among daily, weekly, and monthly restaurant patrons. For each group, no statistically significant differences were found in the amount spent by those who would visit restaurants more or less often if a smoke-free policy were adopted.

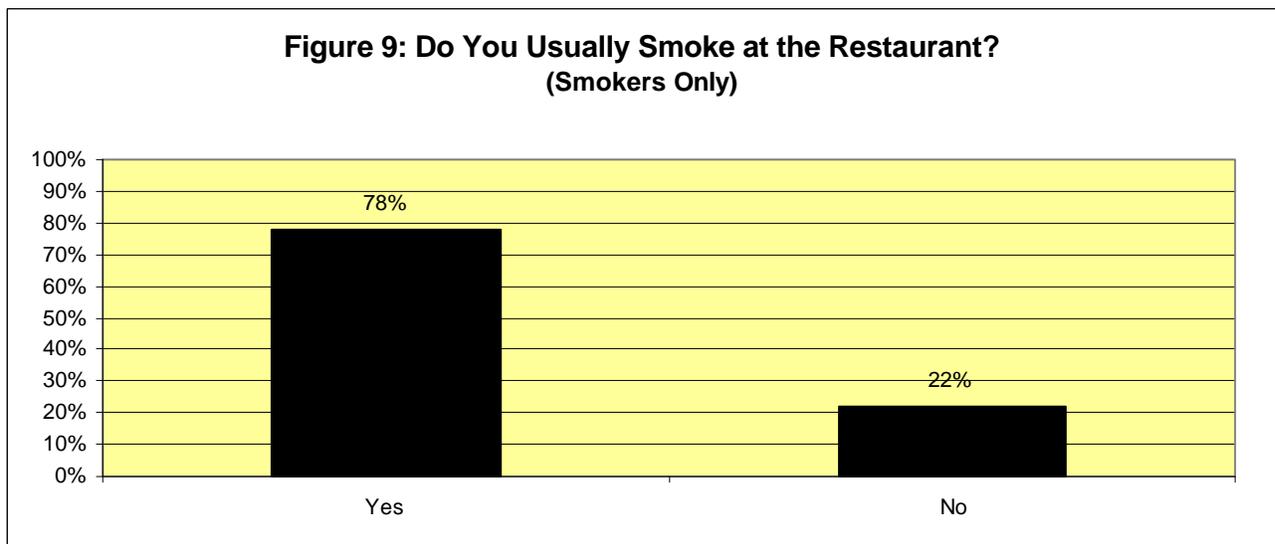


A Focus on Smokers

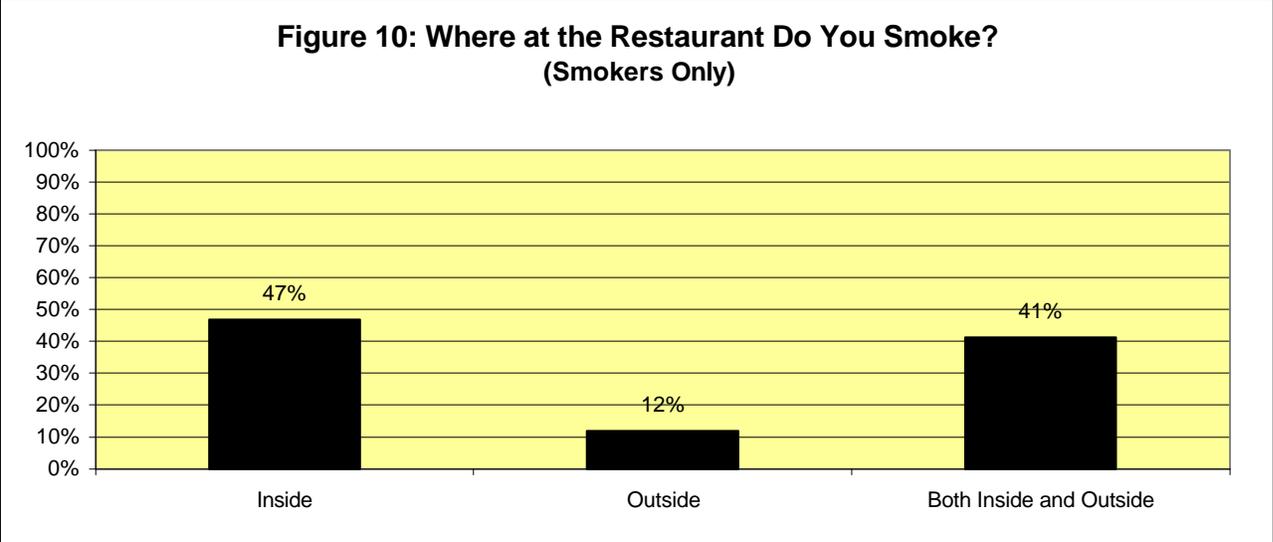
This section focuses on the behavior of smokers while at the restaurant. Figure 8 displays the frequency with which smokers report sitting in the smoking section at restaurants. Almost two-thirds (60%) said they “always” sit in the smoking section while the remainder report sitting there “sometimes”, “rarely”, or “never”.



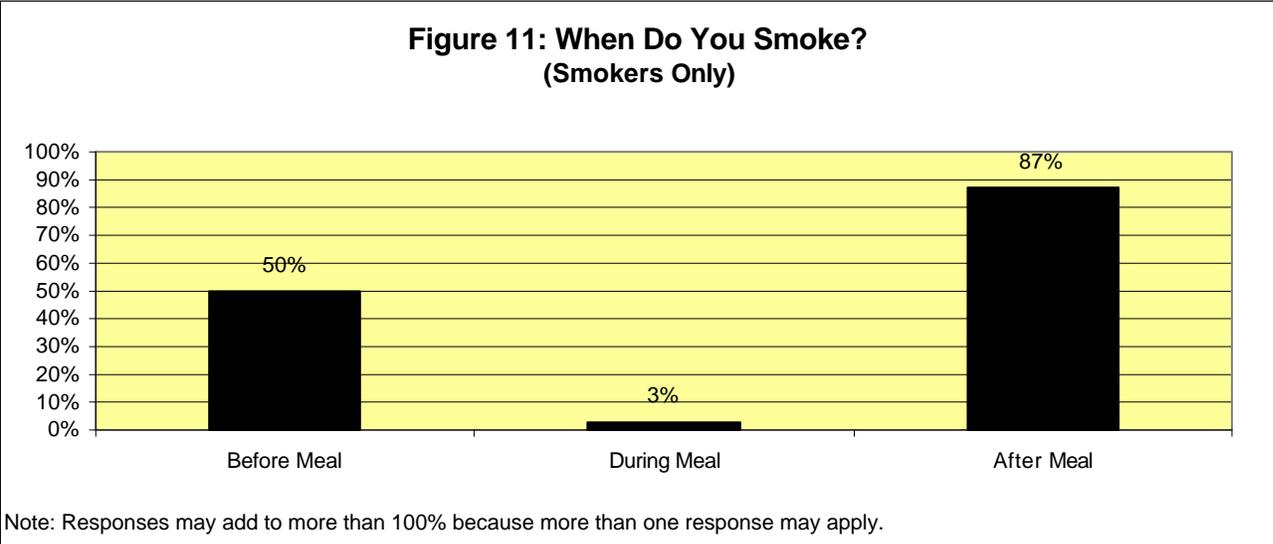
Smokers were also asked if they smoked while in the restaurant. Seventy-eight percent said they did smoke at the restaurant while 22% of smokers said they did not. (See Figure 9.)



In regard to where they smoke while at the restaurant, 47% of smokers said they smoke inside the restaurant and 12% said they only smoke outside the restaurant (e.g. patio, near front door). Forty-one percent said they smoke both inside and outside the restaurant. (See Figure 10.)



Smokers were also asked when they smoke while at the restaurant. Figure 11 shows that the greatest percentage (87%) smoke after their meal followed by 50% who smoke before their meal. Only three percent said they smoke during their meal.



Special Analyses

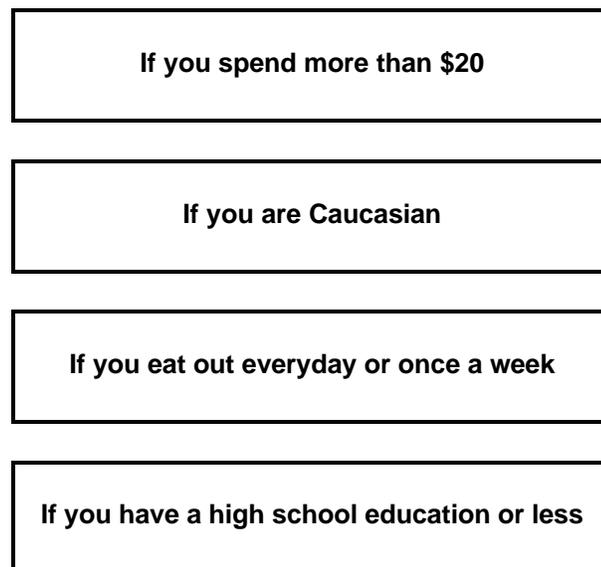
Agreement between Attitudes and Behavior

Correlation analysis was performed on collected data to determine if respondents' predicted behavior was consistent with their attitudes. If respondents agreed that smoking should be eliminated in restaurants, one would expect their predicted behavior to include eating out more often or about the same rather than less often or not at all. Perfect agreement between attitudes and predicted behavior would result in a correlation of 1.00 ($r=1.00$). The results indicated a statistically significant positive correlation ($r=.52$; $p<=0$) between agreement that a smoke-free policy should be adopted and predicted "eating out" habits. This shows that predicted behavior of restaurant patrons is consistent with their attitudes.

Predictive Modeling

Smoking was found to be the most important predictor of disagreement with smoke-free policies. To determine additional factors that predict disagreement with smoke-free policies, further analysis was conducted. The results of a regression analysis displayed in Figure 12 revealed additional significant factors. These results show that if a person spends \$21 or more at a restaurant, that person is more likely to disagree with smoke-free policies. If Caucasian, the person is more likely to disagree with the policy. If the person eats out everyday or at least once a week, he/she is more likely to disagree than the person who eats out less frequently. Finally, people who have a high school education or less are more inclined to disagree with smoke-free policies than those with more education.

Figure 12: Significant Predictors of Disagreement with Smoke-Free Policies



Note: Collectively these factors explain seven percent of the variation in whether or not a person agrees with the statement that Nashville restaurants should eliminate smoking.

Conclusions

The primary purpose of this study was to identify the attitudes and predicted behavior of restaurant patrons if smoke-free policies were adopted in Davidson County restaurants. Consistent with the results of previous studies, these findings clearly show that:

- a) the majority of the general population agree that Nashville restaurants should adopt smoke-free policies;
- b) that for the majority of residents frequency of restaurant patronage would not change; and
- c) restaurants should experience no adverse economic impact.

Appendix: All Questions by Demographics

Restaurant Survey:

An Investigation of Smoking Policies Among Davidson County Eating Establishments

SMOKE-FREE
Nashville

A Study Conducted at the Request of Smoke-Free Nashville by the
Division of Health Care Services Evaluation
Bureau of Health Assessment and Evaluation
Metropolitan Health Department of Nashville and Davidson County
311 23rd Avenue, North
Nashville, TN 37203

Restaurant Survey:

An Investigation of Smoking Policies among Davidson County Eating Establishments

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Executive Summary

The Division of Health Care Services Evaluation of the Metropolitan Health Department of Nashville and Davidson County in collaboration with Smoke-Free Nashville conducted a study to identify the existing smoking policies among Davidson County eating establishments.

Smoke-Free Nashville is a coalition of individuals representing not-for-profit organizations and commercial businesses devoted to promoting programs, actions, and policies that reduce death and disease caused by tobacco use. There exists a strong interest in reducing the harmful effects of exposure to tobacco smoke on employees and patrons in restaurants.

To determine current restaurant policies, and attitudes about smoke-free policies, mail and telephone surveys were conducted with eating establishments during the months of October and November 1998. Responses were received from 705 restaurants that resulted in a 58% response rate. The specific objectives were to:

- a) identify the demographic characteristics of smoke-free restaurants and restaurants that are not smoke free,
- b) determine if and how smokers are segregated from non-smokers in restaurants that are not smoke-free, and
- c) identify reasons for not having implemented smoke-free policies.

Key Findings

1. Over one-third of respondents (37%) reported having a smoke-free policy.
2. Smoking policies differed significantly based on type of establishment (e.g., fast food, sit-down, or bars/coffee houses), seating capacity (e.g. small or large) and planning district.

Eighty-eight percent of bars/coffee houses and 78% of sit-down restaurants permit smoking compared 37% of fast food restaurants.

In terms of seating capacity, significantly fewer smaller establishments allow smoking compared to larger establishments. Forty-seven percent of eating establishments with seating capacity of 50 or less allow smoking compared to 86% having seating capacity of 200 or more.

Significant differences were also found by planning district. Seventy-four percent of establishments in planning district 5 (East Nashville/Inglewood) allow smoking compared to 47% in planning district 8 (North Nashville).

3. Of the 63% of establishments that permit smoking, 40% said they do not segregate smokers from non-smokers.
4. Of the 63% of establishments that permit smoking, 84% said they were not interested in implementing a smoke-free policy and the primary reason cited was that customers prefer to be able to smoke.

5. Twenty-four percent of respondents said they have received customer feedback regarding their smoking policy. Fifty-seven percent said feedback favored a smoke-free policy while 28% said feedback favored a policy that allowed smoking.
6. Of the smoke-free restaurants (37%), 78% indicated an interest to be included in a publication listing smoke-free restaurants in Nashville.

Restaurant Survey:

An Investigation of Smoking Policies among Davidson County Eating Establishments

INTRODUCTION

Smoking is the number one preventable cause of death and disability in the United States according to the U.S. Department of Health and Human Services (DHHS). The Surgeon General has concluded that tobacco smoke causes cancer and is an important risk factor in heart disease. Ample research has shown that smoking and Environmental Tobacco Smoke (ETS) is dangerous. The health risks from inhaling tobacco smoke are not limited to the smoker but also include those who inhale ETS. Non-smokers exposed to ETS are at risk for lung cancer and heart disease. Exposure to ETS has been associated with cervical cancer, stroke and low birth-weight babies (cited from the Environmental Protection Agency (EPA)).

The EPA estimates that ETS causes about 53,000 deaths a year: 37,000 from heart disease; 3,700 from lung cancer and 12,000 from other cancers. The EPA has classified ETS as a Class A Carcinogen. The National Institute for Occupational Safety and Health (NIOSH), recommends that workers should not be exposed involuntarily to tobacco smoke and that tobacco smoke be eliminated from the workplace.

With the consideration that ETS is harmful and should not be inhaled, there are other beneficial factors to consider when eliminating ETS. According to the Office on Smoking and Health, instituting smoke-free work environments can reduce costs for cleaning and maintaining facilities/equipment and improve employee morale.

There is a growing concern that patrons and employees of restaurants and bars may be exposed to high levels of ETS. Among restaurant employees, this exposure has been linked to increased risk of lung cancer.^{1,2}

As of August 1996, 191 cities, towns, and counties had enacted ordinances regarding smoke-free restaurants.³ In opposition to these ordinances, the restaurant and tobacco industries have argued that smoke-free policies will result in economic hardship.⁴

Several studies conducted with restaurateurs have found that the primary reasons cited for not implementing smoke-free policies included fear of losing business, laying off employees and difficulty with enforcing smoke-free policies.⁵⁻⁸

However, research has demonstrated that smoke-free restaurants have not experienced economic losses. A Flagstaff, Arizona study conducted in 1997 compared restaurant sales before and after the "enactment of the no-smoking ordinance." The researchers found no evidence that prohibiting smoking in Flagstaff restaurants affected restaurant sales.⁹

The purpose of this study was to determine current smoking policies and restaurateur's attitudes about smoke free policies among eating establishments of Davidson County. The specific objectives were to:

- a) identify the demographic characteristics of smoke-free restaurants and restaurants that are not smoke free,
- b) determine if and how smokers are segregated from non-smokers in restaurants that are not smoke-free, and
- c) identify reasons for not having implemented smoke-free policies.

METHODOLOGY

Sample: The population of 1,750 eating establishments in Davidson County was obtained from Custom Data Processing, Chicago, Illinois. Eating establishments included "sit-down" restaurants, "fast food" restaurants, bars/coffee shops, business cafeterias. Schools, churches, nursing homes and caterers were excluded.

Methods: The study was conducted in October and November, 1998. The survey process included a mail methodology with a telephone interview follow-up. All eating establishments were mailed a survey with a postage paid reply envelope. For establishments that did not return the survey, telephone interviews were conducted by trained interviewers. Interviews were conducted Monday through Friday between 1:00 p.m. and 5:00 p.m. Seven hundred and five interviews were completed resulting in a response rate of 58%. All restaurants that were no longer in service were excluded from the response rate calculations. (See Table 1.) This yields a + or - 4% margin of error for questionnaire responses. The adjusted response rates by type of eating establishment are also shown in Table 1. Bars/Coffee houses had the highest adjusted response rate (62%) followed by sit-down restaurants (61%).

Table 1: Adjusted Response Rates

Overall	58%
Fast Food	52%
Sit-down	61%
Bar/Coffee Houses	62%
Business Cafeteria	53%

RESPONDENT CHARACTERISTICS

Table 2 shows the characteristics of those establishments that responded to the survey. More than half (54%) were “sit down” restaurants while over one-third (35%) were “fast food” restaurants. Nine percent were bars/coffee houses while the remaining establishments were business cafeterias.

Seating capacity among eating establishments varied. Thirty-three percent of respondents reported a seating capacity of zero to 50 while another one-third could accommodate 51 to 100 patrons. Thirty-four percent of responding establishments said they have seating for more than 100 patrons.

Table 2 also shows the planning district in which each responding establishment is located. Among respondents, the largest percentage of establishments are in planning districts 10 (21%), 14 (15%), and 9 (12%). Nine percent are located in planning district 4 while another nine percent are located in district 11.

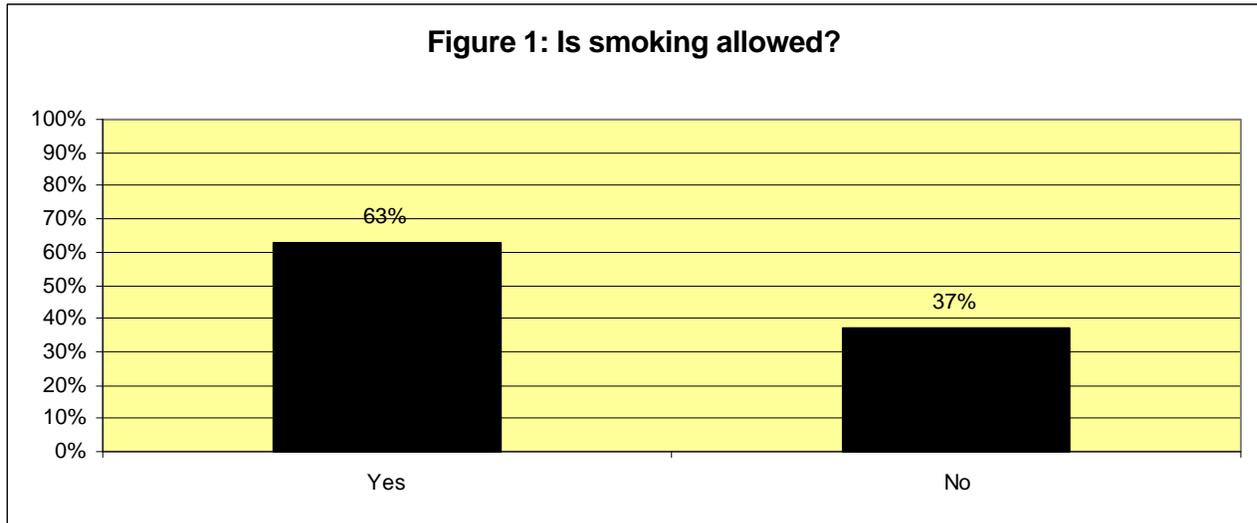
Table 2: Respondent Characteristics

Type of Establishment:	54% Sit-down restaurant 35% Fast food restaurant 9% Bar/Coffee shop 3% Business cafeteria
Seating Capacity:	33% 0-50 33% 51-100 13% 101-150 11% 151-200 10% Over 200
Planning District:	1% District 1 (Joelton) <1% District 2 (Bellshire/Union Hill) 2% District 3 (Bordeaux/Whites Creek) 9% District 4 (Madison/Goodlettsville) 5% District 5 (East Nashville/Inglewood) 4% District 6 (Bellevue) 6% District 7 (Belle Meade/West Meade) 4% District 8 (North Nashville) 12% District 9 (Downtown) 21% District 10 (Forest Hills/Oak Hill) 9% District 11 (Berry Hill/Edgehill) 6% District 12 (Tusculum/Crieve Hall) 7% District 13 (Priest Lake/Antioch) 15% District 14 (Donelson/Hermitage)

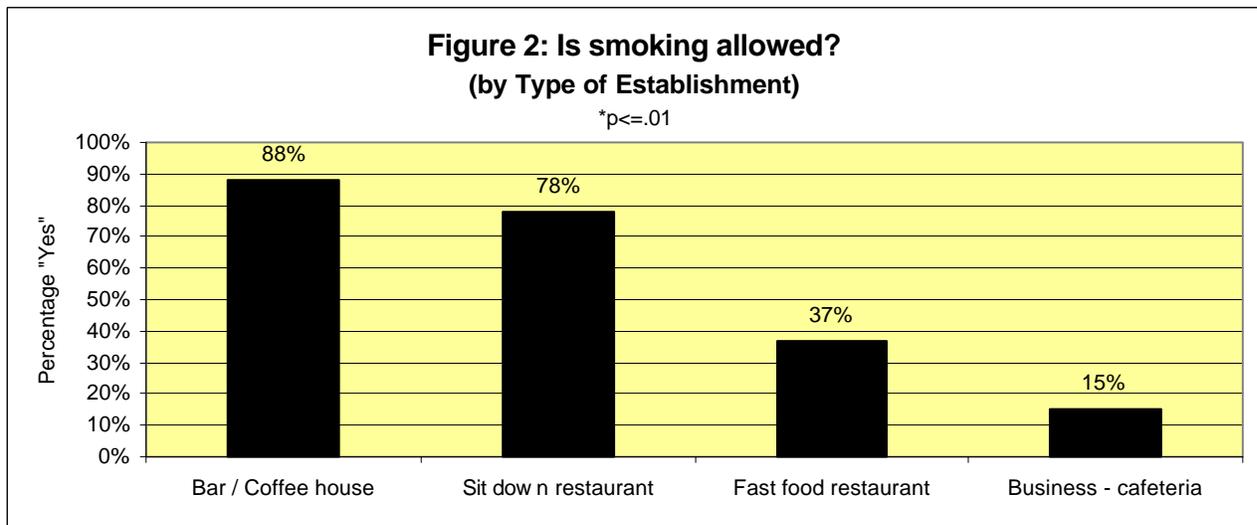
RESULTS

Is Smoking Allowed?

Respondents were asked if smoking is allowed in their establishments. Figure 1 shows that the majority (63%) said smoking is permitted while 37% said they have a “smoke-free” policy.



Significant differences in smoking policies were found between the types of establishments. Figure 2 shows that the majority of bars/coffee shops (88%) and “sit down” restaurants (78%) allow smoking. This is in contrast to 37% of “fast food” restaurants and 15% of business cafeterias that permit smoking.



Significant differences were also found by seating capacity. Figure 3 shows that smaller establishments are more likely to have “smoke-free” policies than larger establishments. Forty-seven percent of establishments with seating capacity of 50 or less permit smoking compared to 86% with seating capacity of more than 200.

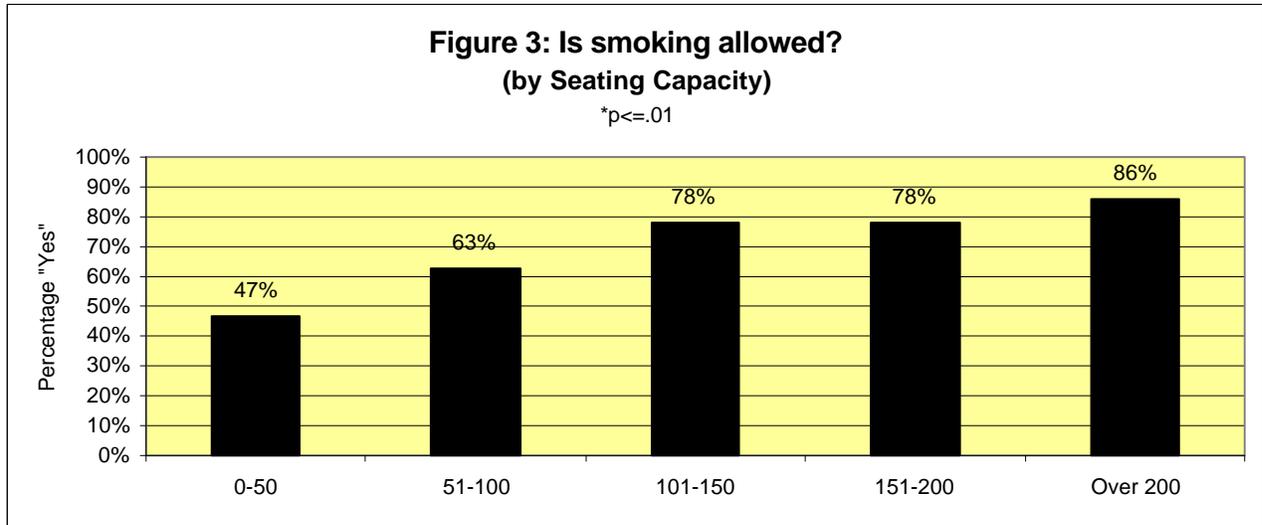
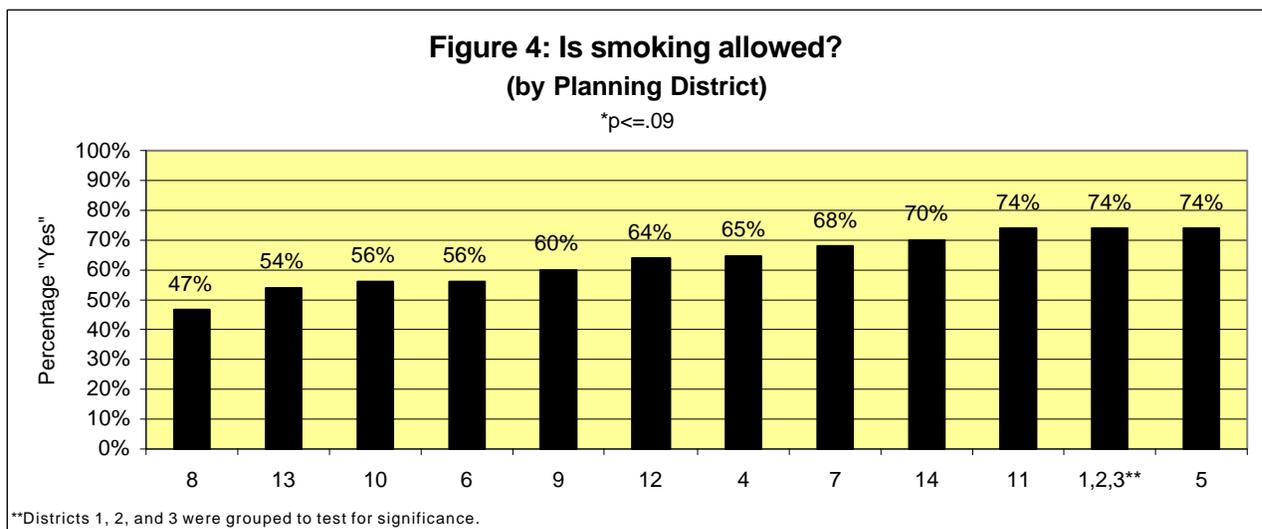
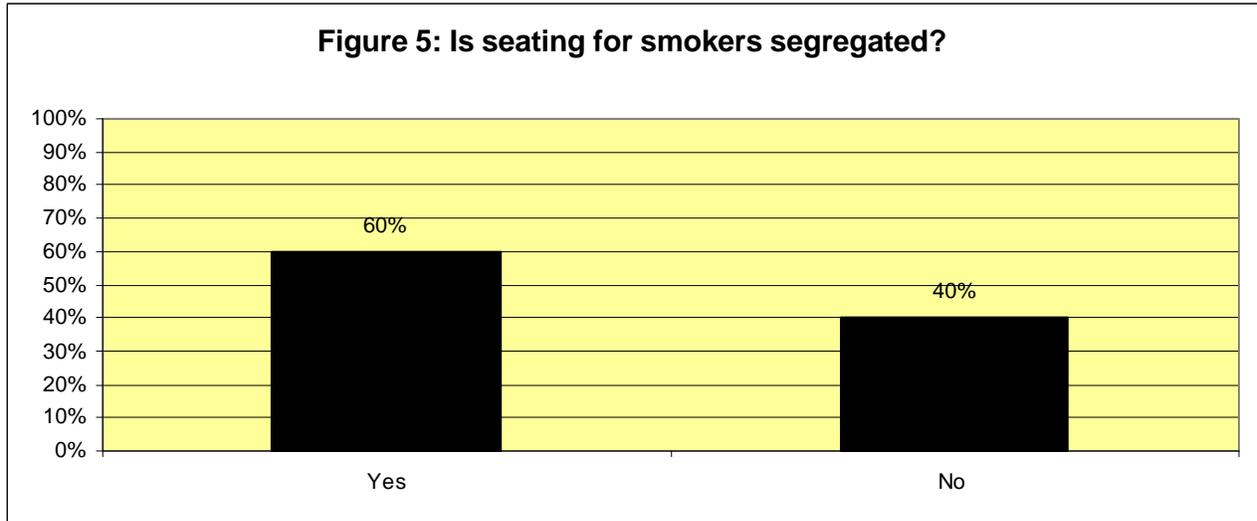


Figure 4 shows that significant differences in “smoke-free” policies were found between the planning districts. Districts 1, 2, and 3 were combined because very few restaurants were located in these areas. Significantly more restaurants in districts 5, 1, 2, 3, and 11 allowed smoking compared to restaurants in districts 8 and 13. Seventy-four percent of respondents in planning districts 5 and 11 as well as the combined group of districts 1, 2, and 3 allowed smoking. This is in comparison to establishments in planning districts 8 and 13 in which only 47% and 54% respectively, permit smoking.

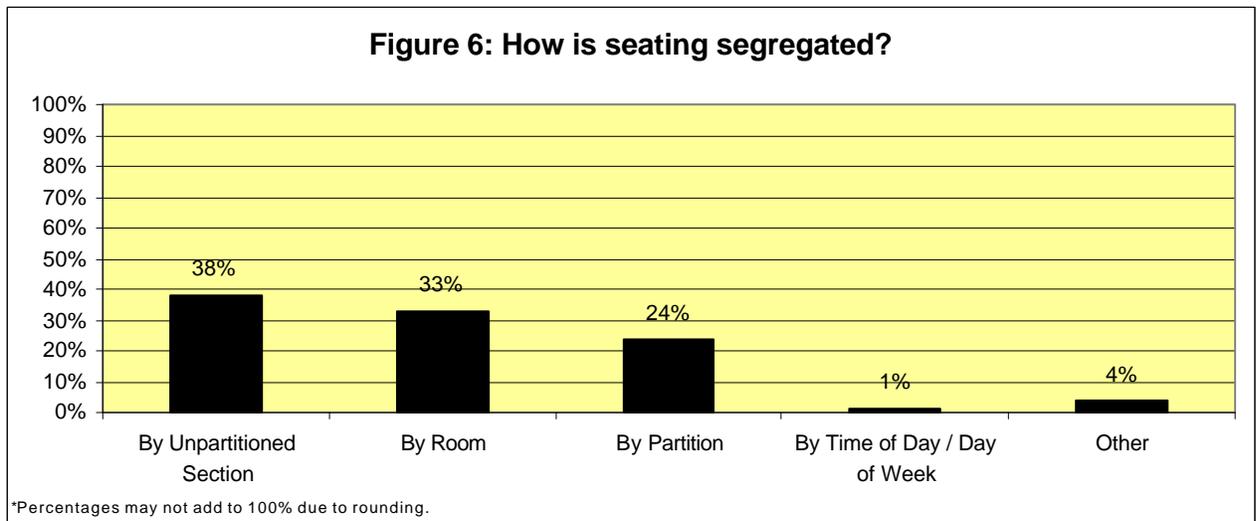


Segregation of Smokers

Establishments that allow smoking (63%) were asked if seating for smokers is segregated from non-smokers. Figure 5 shows that 60% said they do segregate smokers from non-smokers.

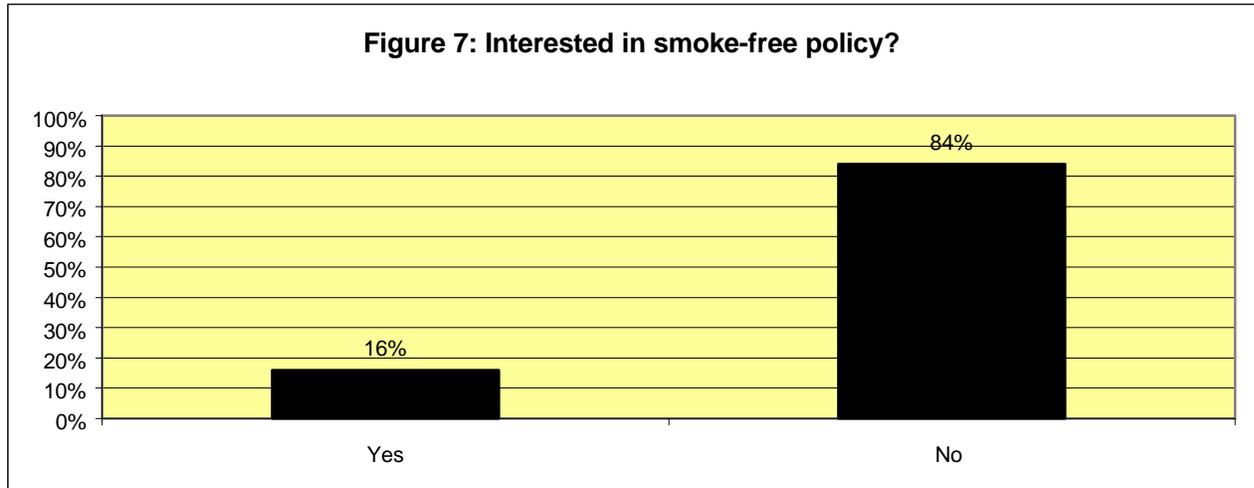


If respondents answered that they segregate smokers from non-smokers, they were also asked how they accomplish the segregation. Figure 6 shows that 38% segregate by invisible boundaries within a room. Thirty-three percent said they have separate rooms for smokers and 24% said partitions keep smokers and non-smokers separated. One percent said certain times of the day or day of the week are set aside for smoking. Four percent said other methods.

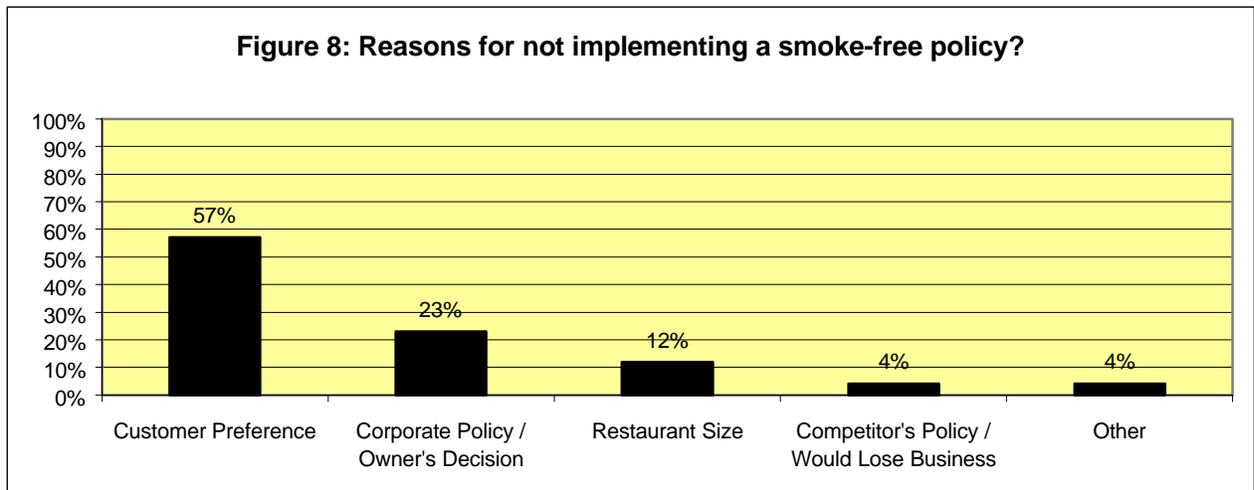


Interested in Going Smoke-Free?

Establishments that currently allow smoking (63%) were asked if they were interested in implementing a smoke-free policy. The majority (84%) said they were not interested while 16% were interested. (See Figure 7.)

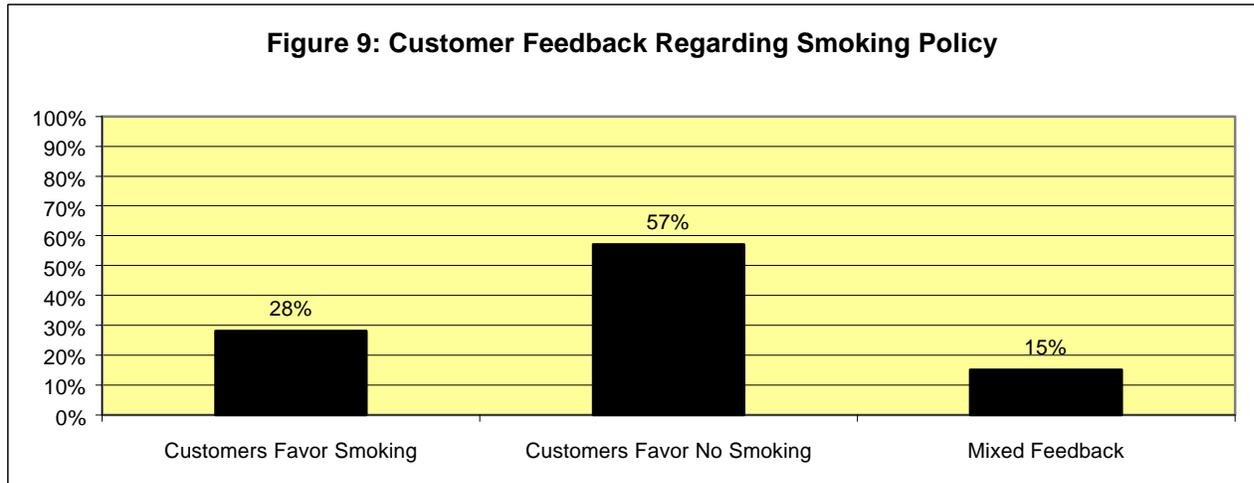


Those who were not interested in implementing a “smoke-free” policy were asked to explain their reasons. As seen in Figure 8, 57% said they were not interested because they said their customers preferred a “smoking” policy. Twenty-three percent had no interest due to corporate policy while 12% said that the size of their establishments enabled them to adequately accommodate both smokers and non-smokers. Four percent said they would lose business if they implemented a “smoke-free” policy.



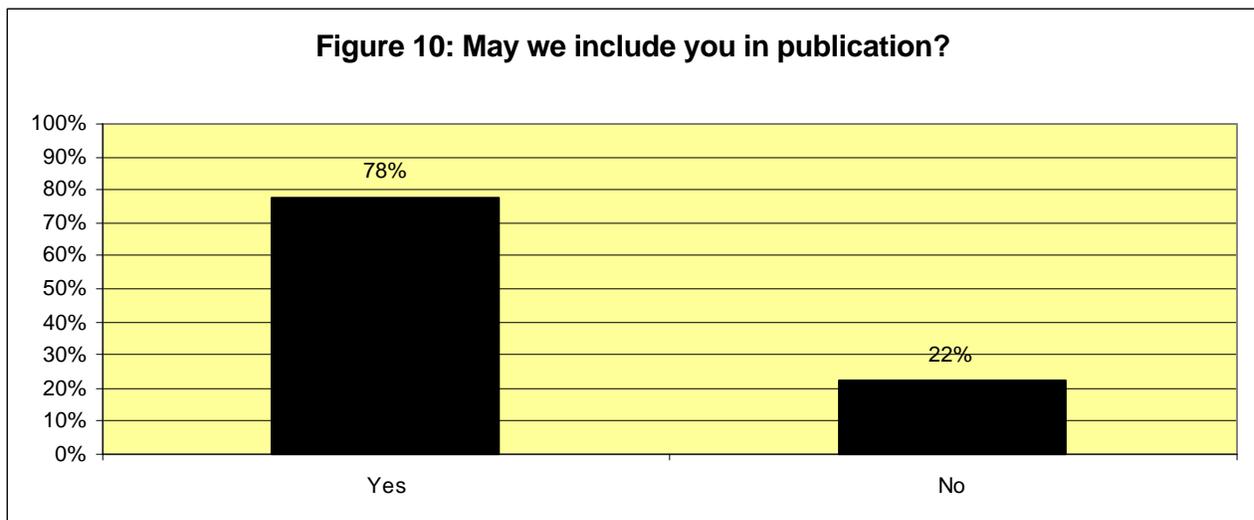
Customer Feedback

Respondents were asked if they have had any feedback from customers regarding smoking policies. Twenty-four percent said they have had feedback. Figure 9 shows that 57% said their feedback was in support of a “smoke-free” policy while 28% said feedback supported a “smoking” policy. Fifteen percent said customer feedback was mixed.



Smoke-Free Publication

Establishments who said they are smoke-free (37%) were asked if their name could be included in a publication listing smoke-free restaurants in Nashville. Over three-quarters (78%) gave their permission while 22% did not want their name included.



Conclusions

The primary purpose of this study was to identify the smoking policies among restaurants in Davidson County and restaurateurs' attitudes regarding smoke-free policies. Smoke-Free Nashville had estimated that only ten percent of eating establishments were "smoke-free". The results of this study surpassed estimates by showing that over one-third (37%) of eating establishments in Davidson County are actually smoke-free.

In support of previous research, most restaurateurs (84%) in Davidson County that allow smoking are not interested in implementing a smoke-free policy. Restaurateurs believe that their customers would not support a smoke-free policy. Feedback from customers, however, suggests that customers are more likely to support a smoke-free policy than not.

Based on the results of this study that showed that fewer sit-down restaurants (22%) were found to be smoke-free compared to fast-food restaurants (63%), education on the advantages of a smoke-free policy will be targeted to sit-down restaurants and those fast-food restaurants that currently allow smoking.

Of the smoke-free restaurants identified in the study (37%), most (78%) indicated an interest in being included in a publication identifying smoke-free restaurants in Nashville.

Smoke-Free Nashville is encouraged by these results and believes restaurant owners should protect the health of their employees and customers by eliminating smoking from their facilities. This information will be a useful tool when educating restaurants about a smoke-free policy.

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