

# ADHS-BTCD Tobacco Study

## Gap Analysis Report



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## Contents

<b>Executive Summary</b>	<b>1</b>
Environmental Scan .....	1
Partner Interview .....	2
Gap Analysis.....	4
Recommendations.....	5
<b>Introduction</b>	<b>7</b>
<b>Methods</b>	<b>8</b>
Environmental Scan.....	8
Partner Interview.....	8
Organization Types .....	8
Data Collection.....	9
<b>Results of the Environmental Scan</b>	<b>10</b>
Profiles of Data Sources.....	10
Major Data Collection Systems:.....	15
Conclusions.....	20
<b>Results From Partner Interview</b>	<b>21</b>
Data Currently Used.....	21
National and State Data Collection Systems .....	22
ASHLine Partner Interview.....	23
Internal Data Collection.....	23
How Data Are Currently Being Used.....	24
Strengths and Limitations of Data Currently Used.....	24
Strengths.....	24
Limitations.....	25
Ideas to Enhance the Tobacco Data Environment.....	25
New Data Collection Methods.....	26
Improving Use of Current Data Collection Systems.....	26
Improving Access to Data .....	27
Finding More Localized Data.....	27
Improving the Ability to Analyze Data and Report Results.....	27
Improving the Content of Tobacco-Related Data.....	28
Needed Training and Technical Assistance .....	29
Summary of Results.....	31

<b>Gap Analysis</b>	<b>33</b>
Gap 1 – Localization of Tobacco Data	33
Literature Review	33
Summary of GAP 1	36
Desired Outcomes	36
Gap 2 – Standardization of the Content of Tobacco Data	36
Literature review	37
Summary of Gap 2	37
Desired Outcomes	38
Gap 3 – Accessibility of Tobacco Data	38
Literature review	38
Summary of Gap 3	39
Desired Outcomes	39
Gap 4 – Training and Technical Assistance	39
Literature review	40
Summary of Gap 4	40
Desired Outcomes	40
<b>RECOMMENDATIONS FOR ADDRESSING DATA GAPS</b>	<b>41</b>
Data Collection Tool	41
Centralized Database	42
Training and Technical Assistance	42
<b>REFERENCES</b>	<b>43</b>
<b>Appendix A: Interview Protocols</b>	<b>A-1</b>
<b>Appendix B: Profile of Data Sources</b>	<b>A-4</b>
<b>Appendix C: Example Of Data Source Estimates</b>	<b>A-12</b>

## Tables

Table 1. Description of Findings, Tobacco Measures	11
Table 2. Data Sources and Other Resources Currently Used by Tobacco Partners	21
Table B-1. Profile of Data Sources	A-4
Table C-1. Comparison of Similar Tobacco Estimates From BRFSS, NSDUH, YRBS, and AYTS	A-12

### Common abbreviations found in this report

ADHS	Arizona Department of Health Services
AYS	Arizona Youth Survey
AYTS	Arizona Youth Tobacco Survey
BRFSS	Behavioral Risk Factor Surveillance System
BTCD	Bureau of Tobacco and Chronic Disease
CDC	Centers for Disease Control and Prevention
FDA	Food and Drug Administration
MTF	Monitoring the Future
NATS	National Adult Tobacco Survey
NSDUH	National Survey on Drug Use and Health
NYTS	National Youth Tobacco Survey
OSH	Office on Smoking and Health (CDC)
PPP	Pima Prevention Partnership
RWJF	Robert Wood Johnson Foundation
SAMHSA	Substance Abuse and Mental Health Services Administration
T/TA	training/technical assistance
TUS	Tobacco Use Supplement-Current Population Survey
YRBSS	Youth Risk Behavior Surveillance System



## Executive Summary

RTI International is working on behalf of the Arizona Department of Health Services' Bureau of Tobacco and Chronic Disease (ADHS-BTCD) to identify existing tobacco-related data and data needs. RTI interviewed ADHS-BTCD's partnering organizations by telephone and conducted an environmental scan of existing public use datasets. This report describes the results obtained from the environmental scan and the partner telephone interviews, and it discusses recommendations for addressing the identified data gaps.

### Environmental Scan

Twenty-three data sources were examined and included in this report. Data sources included national data sources such as the National Adult Tobacco Survey (NATS), the National Youth Tobacco Survey (NYTS), the National Survey on Drug Use and Health (NSDUH), and Monitoring the Future (MTF). RTI identified data sources that specifically targeted Arizona residents. Arizona tobacco-related data sources included the Arizona Youth Risk Behavioral Survey (YRBS), Arizona Youth Survey (AYS), Arizona Health Survey, and the Behavioral Risk Factor Surveillance System (BRFSS). Additionally, RTI looked at nonsurvey forms of data such as the Arizona's statewide quitline program (Arizona Smokers Helpline [ASHLine]) and the statewide tobacco compliance check program led by the Arizona Attorney General's Office (Counter Strike).

#### Characteristics Found During Environmental Scan



Geographical Coverage



Frequency of Data



Tobacco Content



E-cigarettes, Other Tobacco Products

The following are overall characteristics of the tobacco-related data sources found during the environmental scan:

- Geographical coverage
  - Although many large and robust data collection systems (e.g., NSDUH, AYS, and BRFSS) are available, very few provide localized (i.e., county-, city-, or neighborhood-level) data. Even for those that do, data collection methods, the ability to add new items to existing surveys, or both provide challenges.
- Frequency of data
  - Many national data collection systems are very robust and collected frequently, but researchers may have to wait for new estimates (generally 1–2 years after data collection has ended) and usually only national- and state-level estimates are available.

- Local data from sources such as ASHLine, vital records, and Counter Strike are collected year-round and available upon request.
- National and state surveys typically are collected annually or biennially. These data collection efforts generally require complex data analysis, and thus the dissemination of results may take a significant amount of time.
- Tobacco content
  - Most of the data collection systems include some tobacco/cigarette prevalence data. National-, state-, and county-level data are available; however, data sources vary in capturing other forms of tobacco-related data. Many sources try to include other forms of tobacco besides cigarettes, although these questions may be lumped into a “smokeless tobacco” category without providing much insight into current tobacco issues. Adding new items to these surveys tends to take considerable time and money.
  - E-cigarettes and other noncigarette tobacco products are being recognized as an emergent issue that has very little data. Many of the surveys discussed in this report have added these products into their current data collection instrument or intend to during the next wave of collection.

## Partner Interview

RTI interviewed 20 ADHS-BTCD tobacco partner organizations about the current tobacco-related data they use and explored what type of data are needed. Fifteen of the interviews were with county health organizations (1 from each of Arizona’s 15 counties), 3 were with the Arizona branch of national health organizations (e.g., American Heart Association), and 2 were with contracted service providers (ASHLine and Pima Prevention Partnership [PPP]).

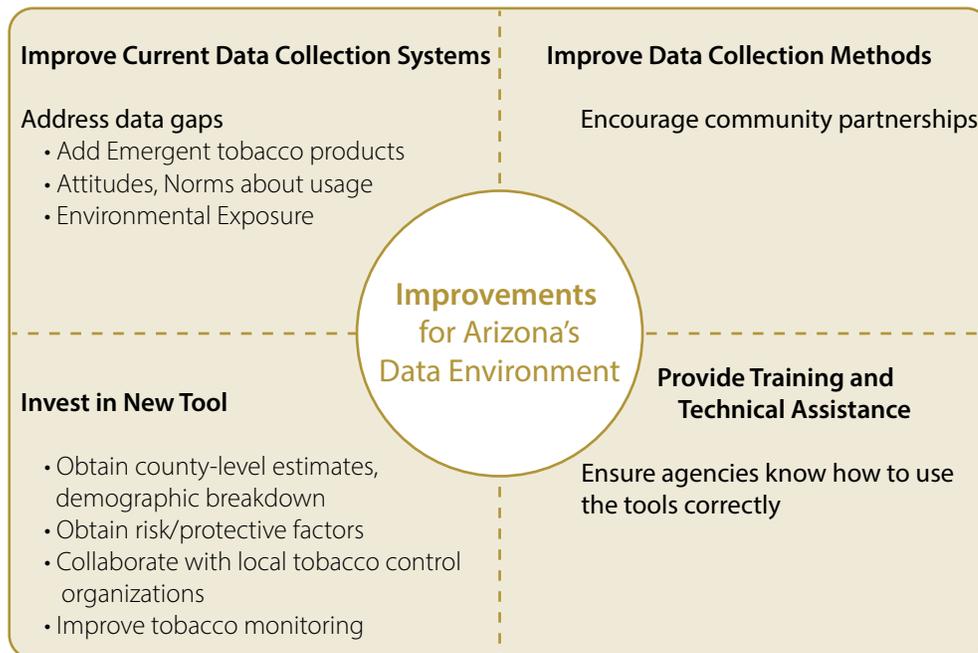


The following are some of the main findings from the partner interviews:

- Data used and data needed
  - The partners interviewed had a general familiarity with major data collection systems such as BRFSS, AYTS/NYTS, NATS, AYS, and YRBS. Many partners used only data provided by ADHS-BTCD or conducted a general online search to find new estimates for their state/county. Fewer than half of the partners reported that they consistently use data sources besides what is provided by ADHS-BTCD.
  - Many partners felt they did not know enough about the existing data collection systems to suggest a new data collection tool as a replacement or supplement. Rather, many partners just provided suggestions on how to improve the current systems, requested more assistance with understanding how to use each of the systems, or both.
  - The greatest data needs reported by the various partners were more localized data (county-, city-, or neighborhood-level), data on emerging tobacco issues such as e-cigarettes, and greater transparency in how data are collected and how to use them.
  - Several partners mentioned needing more assistance with developing local surveys, interpreting

data, understanding current data definitions/differences, and using results from data to inform programming decisions.

- Enhancing the tobacco data environment: The partners suggested a variety of ways to improve the existing environment of tobacco data.
  - Identify data collection methods most appropriate for the targeted population. Adults and those in more rural communities may have more difficulty with Web-based surveys. Low-income communities may have inconsistent telephone access.
  - Have access to data that are representative of the community and updated frequently.
  - Have more clarity in how the tobacco-related data are measured, collected, and analyzed.
  - Expand the content of tobacco-related data beyond cigarette use: More data are needed on other tobacco use, including emerging nicotine delivery systems (such as e-cigarettes and dissolvable tobacco). In addition to understanding the extent to which the population is using these products, partners want to know who specifically is using them (e.g., age groups, gender), how they are used as a cessation method, what perceived risks are associated with these products, and where they are purchased, as well as information about related behaviors and attitudes that are not currently measured.



## Gap Analysis

On the basis of the results of the environmental scan, partner interviews, and a literature review, four primary gaps were identified in the current tobacco data collection systems: (1) Localization of Tobacco Data, (2) Standardization of the Content of Tobacco Data, (3) Accessibility of Tobacco Data, and (4) Training and Technical Assistance (T/TA). For each gap, specific needs to bridge the gap were identified as well as expected outcomes if the gap is closed.

### The Gaps



Localization of Tobacco Data



Standardization of Content of Tobacco Data



Accessibility of Tobacco Data



Training and Technical Assistance (T/TA)

**For Gap 1, Localization of Tobacco Data**, data need to be available on the county level for all counties and on more localized levels for Pima and Maricopa counties. Data should also be representative of all citizens residing in the survey area, including certain special populations.

**For Gap 2, Standardization of the Content of Tobacco Data**, surveys need to have consistent language and definitions, a single focus on tobacco use, items asking about use of individual emerging and alternative tobacco products, and items asking about risk and protective factors for tobacco use and cessation.

**For Gap 3, Accessibility of Tobacco Data**, data need to be collected at least annually, capable of being integrated with other data collection systems, and capable of being easily queried and summarized.

**For Gap 4, Training and Technical Assistance, T/TA** should include a structured T/TA plan, training for partners on obtaining data from major data collection systems on tobacco use, assistance for partners on deciding which data source is most appropriate, data-driven planning, and assistance in using the data to report program outcomes.

## Recommendations

On the basis of the examination of the environmental scan and the partner interviews, RTI recommends the following to improve the tobacco data environment for the state of Arizona.

- Improve current data collection systems.
  - Several data collection systems (both national and local) are in place throughout the state. Although these systems vary in data collection methods, populations targeted, and sample size, many of them collect only basic, yet similar, tobacco use questions. A cost-effective and less laborious solution to addressing current data gaps would be to work with the various data systems to improve the quantity and quality of tobacco-related data collected.
  - Some initial improvements may include adding items on
    - Emergent tobacco issues (e.g., e-cigarettes and dissolvable tobacco);
    - Attitudes; peer, parental, and social norms regarding use; and motivations to use or quit tobacco use; and
    - Environmental exposure (e.g., secondhand smoke); media advertisement; and purchasing behaviors.
  - Additionally, there may be opportunities to improve data collection for these systems.
    - Encourage greater community participation in surveys, including reaching out to school districts to participate in school-based surveys.
    - Decide whether new methods for collecting data are needed. For instance, many partners suggested moving away from paper-and-pencil surveys in school or among youth, whereas older adults and residents in rural communities may have more difficulty with Web-based or telephone surveys.
- Develop a new data collection tool.
  - Many of the gaps that are unable to be solved by improving current data collection systems may be addressed in a new data collection tool. In addition to the suggestions listed above, a new data collection tool should provide strong county-level estimates, various demographic breakdowns (especially by age groups), and any important risk or protective factors related to tobacco use. Annual data collection is optimal with the results publicly published within a reasonable time frame (e.g., less than a year after data collection ends).
  - Collaborate frequently with local tobacco control organizations to determine what needs are not being met with the current data available and what elements are needed in the new data collection to improve tobacco control efforts.
  - The new data collection tool should improve tobacco monitoring and evaluation. There are many ways to develop a new tool. The next step for development is to discuss and determine capabilities available, top priorities, and overall goals of the tool.
- Create a centralized database.
  - Partners and ADHS need an easily accessible way to collect all data from the new tool and possibly from existing data collection systems.

- A centralized database should be designed to be easily queried so that counties can obtain timely, specific tobacco data that can be used in program evaluation and proposal development.
- Provide T/TA to partnering organizations.
  - If improvements to the current tobacco data environment are sought through modifying current systems or creating a new data collection tool, partnering organizations and other tobacco control agencies need assistance in understanding how to use tobacco-related data to support program activities.



## Introduction

Commercial tobacco use leads to almost 500,000 deaths annually within the United States and almost 7,000 deaths annually in Arizona alone. The mission of the Arizona Department of Health Services' Bureau of Tobacco and Chronic Disease (ADHS-BTCD) is to build individual, organizational, and community capacities to reduce the impact of commercial tobacco abuse and to improve the health of Arizonans.

The purpose of the ADHS-BTCD Tobacco Study Gap Analysis is to identify existing tobacco-related data sources, to better understand the tobacco-related data being used by ADHS-BTCD partnering organizations, and to ascertain any additional data needs of partners. To that end, RTI International has developed a gap analysis report, which presents the findings gathered from an environmental scan, telephone interviews with Arizona state partners, and a literature review of current data collection methods. This report reviews the gaps between what current, tobacco-related data are available and what are needed in the state. This report also proposes new tools to capture key indicators in the future.





## Methods

### Environmental Scan

RTI conducted an environmental scan of existing sources of data from national, state, and local data collection efforts. As part of the scan, RTI identified existing public use datasets that included tobacco-related indicators and ongoing tobacco-related studies. The environmental scan involved Internet searches using broad search terms such as “public use datasets” and “tobacco studies” in addition to data source names and other information obtained from partner interviews. Staff also searched well-known Web sites of data collection organizations, such as the Centers for Disease Control and Prevention (CDC), the Robert Wood Johnson Foundation (RWJF), and Arizona’s state and county health departments. Results from the environmental scan are described in Section 3.

### Partner Interview

RTI staff conducted telephone interviews with ADHS partners in July and August 2014. ADHS-BTCD staff provided contact information for 20 partners. The purposes of these interviews were to determine tobacco-related data currently or previously used by Arizona state partners, to identify any tobacco-related data needed by the partnering organizations, to help develop ideas for potential new forms of tobacco-related data collection, and to identify any needed training or technical assistance (T/TA) in the use of tobacco-related data.

RTI developed a telephone interview protocol and alternative data collection tool, which were approved for use by ADHS-BTCD in July 2014 (Appendix A). **The interview protocol was organized into three topical areas: Tobacco Data Currently Used, Data Needs, and Training or Technical Assistance Needs.** All partner interviews were able to be completed on the telephone. Results from the partner interviews are described in Section 4.

#### Interview Topical Areas

tobacco data  
currently used

data needs

training/technical  
assistance needs

### Organization Types

The types of tobacco control work performed by the partnering organizations varied.

**County Health Organizations/Community Health Center:** Fourteen of the partners were local county health organizations that worked under ADHS-BTCD to support county and statewide tobacco control programming (e.g., youth coalitions). One partner was a local community health center implementing similar tobacco control programming.

**National Health Organizations:** Three partners were state branches of national health organizations: the American Heart Association, American Lung Association, and American Cancer Society/Cancer Action Network.

**ADHS-BTCD Contract Organizations:** The last two organizations were partners of ADHS-BTCD contracted to provide services. The Arizona Smokers Hotline (ASHLine) provides statewide tobacco cessation services, and Pima Prevention Partnership (PPP) provides TA.

## Data Collection

Before each interview, RTI asked interviewees to complete and submit a table of sources that their organizations currently use for tobacco-related data. Two RTI project staff members conducted each interview—one led the interview, and the other took notes. RTI audio-recorded the interviews, with the interviewees' permission, to ensure that all pertinent information was captured from the call. Call lengths varied from 15 minutes to over 60 minutes; the average length was about 45 minutes. RTI transcribed and analyzed the data obtained from the partner interviews. Summary results were reviewed against each interview to ensure that the results were fully representative. The results are presented in this report.

### Profile Includes

name of the data source	agency responsible for data collection	data collection method or format
tobacco data being measured	years of data available	the selection and composition of the sample
response rates	smallest unit of analysis	areas of coverage
	how to access/request the data	

Using information gained from the environmental scan and partner interviews, **RTI developed a detailed profile of existing tobacco-related data sources** with descriptions of the data collected by each source. The profile was designed to include the name of the data source, the agency responsible for data collection, the data collection method or format, the tobacco data being measured, years of data available, the selection and composition of the sample, response rates, smallest unit of analysis, areas of coverage, and how to access or request the data. Additional information could be added. The profile of existing tobacco-related data sources was used for analysis and is reported in this gap analysis report (Table 1 and Appendix B).



## Results of the Environmental Scan

RTI conducted an extensive review of publicly available tobacco data and identified 23 distinct data sources available to Arizona partners. Information about the data collection, samples, and accessibility of data for each of these 23 sources is available in Appendix B. Of particular interest is the how frequently data are collected for each data source, the most recent year for which data are available, and the smallest geographic unit for which data are available (e.g., national, state, or county level). Most of the data are collected annually, and only 7 have 2014 data available.

### Profiles of Data Sources

Table 1 presents the type of tobacco content measured by each source. The tobacco indicators are classified into four categories: Consumption/use, Perception/social norms, Environmental/policies, and Cessation. Consumption/use refers to items that capture measures such as lifetime or most recent use of tobacco products. Perception/social norms items gauge the respondents' beliefs and attitudes about an issue (e.g., perceived risk in smoking a cigarette). Environmental/policies items measure community, cultural, or legislative factors that may affect tobacco use. An example of an environmental/policy measure may be smoke-free housing laws in the state. Cessation items are indicators that capture any data related to the reduction or termination of tobacco use. Most of the surveys included measures on consumption and cessation. A smaller number of surveys asked about tobacco policy measures and perception/social norms measures.

#### Tobacco Indicators



**Table 1. Description of Findings, Tobacco Measures**

Below each category are examples of the types of questions found in the surveys.

Data Source	Number of Item(s)	Consumption/Use	Perception/Social Norms	Environmental/Policies	Cessation
Arizona Health Survey	6	<ul style="list-style-type: none"> <li>• Lifetime: at least 100 cigarettes</li> <li>• Age of onset</li> <li>• Last time smoked</li> <li>• Average smoked per day</li> </ul>	None	None	Discussed cessation with doctor
Arizona Youth Survey (AYS)	19	<ul style="list-style-type: none"> <li>• Lifetime</li> <li>• 30-day</li> </ul>	<ul style="list-style-type: none"> <li>• Reasons for not smoking</li> <li>• Discussion with parents about danger of smoking</li> <li>• Sibling, peer, &amp; neighborhood norms</li> <li>• Number of time offered cigarettes</li> <li>• Perceived health risk of smoking</li> </ul>	None	None
Arizona Youth Tobacco Survey (YTS)	69	<ul style="list-style-type: none"> <li>• Lifetime</li> <li>• Age of onset</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge</li> <li>• Attitudes</li> <li>• Beliefs (e.g., reasons for smoking)</li> <li>• Influence of family, friends, and media</li> </ul>	<ul style="list-style-type: none"> <li>• Access to tobacco</li> <li>• Media and social norms</li> <li>• School and community interventions</li> <li>• Environmental exposure to smoke</li> </ul>	Cessation attempts
Arizona Vital Statistics	1	Cause of death	None	None	None
ASHLine (see interview for questions; not found online)	N/A	<ul style="list-style-type: none"> <li>• History of smoking</li> <li>• Current smoking</li> </ul>	None	<ul style="list-style-type: none"> <li>• Exposure to secondhand smoke</li> <li>• Smoking in home</li> </ul>	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Cessation referrals</li> <li>• Cessation enrollments</li> <li>• Coaching calls</li> <li>• 7-month quit rate</li> </ul>
Behavioral Risk Factor Surveillance System (BRFSS), BRFSS—Arizona state module, Selected Metropolitan/ Micropolitan Area Risk Trends (SMART) BRFSS	5	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Lifetime: at least 100 cigarettes</li> <li>• Current smoking</li> <li>• Frequency</li> <li>• Use of emergent tobacco products</li> </ul>	None	None	Cessation 1 day or longer in the past year
CDC Wonder	Varies	• N/A	N/A	N/A	N/A
Counter Strike	1	None	None	Illegal purchase of tobacco products	None

Data Source	Number of Item(s)	Consumption/Use	Perception/Social Norms	Environmental/Policies	Cessation
Health Information National Trends Survey (HINTS)	12	<ul style="list-style-type: none"> <li>• Lifetime: at least 100 cigarettes</li> <li>• Current smoking</li> <li>• 30-day</li> <li>• Frequency</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic cigarettes (e-cigarettes) are less harmful</li> <li>• Hookah pipe is less harmful</li> <li>• Food and Drug Administration (FDA) regulation of tobacco products</li> </ul>	None	<ul style="list-style-type: none"> <li>• Cessation 1 day or longer in the past year</li> <li>• Cessation reduced harm</li> <li>• Cessation intention in next 6 months</li> </ul>
Monitoring the Future (MTF)— CDC	82	<ul style="list-style-type: none"> <li>• 30-day: smokeless tobacco</li> <li>• Past 12 months: small cigars, tobacco using a hookah, smokeless tobacco</li> </ul>	<p>Cigarettes:</p> <ul style="list-style-type: none"> <li>• Perceived risk in one pack a day</li> <li>• Attitudes and beliefs</li> </ul> <p>Smokeless tobacco:</p> <ul style="list-style-type: none"> <li>• Risk in using regularly</li> <li>• Disapproval of using regularly</li> </ul> <p>Small cigars and tobacco using a hookah:</p> <ul style="list-style-type: none"> <li>• Disapproval of use</li> </ul>	<p>Availability:</p> <ul style="list-style-type: none"> <li>• Cigarettes, smokeless tobacco</li> <li>• Small cigars and tobacco using a hookah</li> <li>• Exposure to media/marketing</li> </ul>	None
National Adult Tobacco Survey (NATS)	105	<p>Current use:</p> <ul style="list-style-type: none"> <li>• Cigarettes, cigars, cigarillos or small cigars, alternative tobacco products</li> </ul>	None	<ul style="list-style-type: none"> <li>• Policies about use</li> <li>• Opinions about smoking regulation</li> </ul>	<ul style="list-style-type: none"> <li>• Discussed cessation with doctor</li> </ul>
National Health Interview Survey (NHIS)	6	<p>Lifetime:</p> <ul style="list-style-type: none"> <li>• Tobacco other than cigarettes, smokeless tobacco</li> </ul> <p>Current use:</p> <ul style="list-style-type: none"> <li>• Tobacco other than cigarettes, smokeless tobacco</li> </ul> <p>Last year used tobacco</p>	None	None	<p>Cessation attempt in past 12 months</p>
National Survey on Drug Use and Health (NSDUH)	43	<ul style="list-style-type: none"> <li>• Lifetime: at least 100 cigarettes</li> <li>• Age of onset</li> <li>• Current use</li> <li>• 30-day</li> <li>• Plan to use</li> <li>• Type of tobacco product used</li> </ul>	<p>Cigarettes</p> <ul style="list-style-type: none"> <li>• Perceived risk of physical harm</li> <li>• Harm in other ways when smoke one or more packs of cigarettes per day</li> <li>• Ease in accessing tobacco</li> </ul>	None	None

Data Source	Number of Item(s)	Consumption/Use	Perception/Social Norms	Environmental/Policies	Cessation
National Survey of Parents and Youth (NSPY), 1998–2004	Varies	<ul style="list-style-type: none"> <li>• Lifetime</li> <li>• Age of onset</li> <li>• Current use</li> <li>• Frequency</li> </ul>	<ul style="list-style-type: none"> <li>• Not tobacco-specific, substance use–related attitudes and media exposure</li> <li>• Discussion with parents about tobacco</li> <li>• Parental attitudes</li> </ul>	None	None
National Youth Tobacco Survey (NYTS)	45-50	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Prevalence of tobacco use</li> <li>• Use of smokeless tobacco, cigarillos, pipe tobacco, flavored tobacco products</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge</li> <li>• Attitudes</li> <li>• Beliefs about health risk</li> <li>• Health risks of e-cigarettes</li> </ul>	<ul style="list-style-type: none"> <li>• Access to tobacco, media and advertising</li> <li>• Secondhand smoke</li> <li>• Environmental exposure</li> </ul>	Cessation attempts
Population Assessment Tobacco and Health Study (PATH)	Unknown	<ul style="list-style-type: none"> <li>• Tobacco use</li> <li>• Use of different tobacco products</li> <li>• Use of two or more tobacco products</li> <li>• Use with peers</li> </ul>	<ul style="list-style-type: none"> <li>• Attitudes</li> <li>• Beliefs</li> </ul>	None	None
Pregnancy Risk Assessment Monitoring System (PRAMS)	5	<ul style="list-style-type: none"> <li>• Past 2 years</li> <li>• Number of cigarettes smoked on an average day                             <ul style="list-style-type: none"> <li>• in 3 months before pregnancy</li> <li>• in last 3 months of pregnancy</li> <li>• currently</li> </ul> </li> </ul>	None	Rules at home about smoking	None
Smoke-Free Arizona	Varies	N/A	N/A	<ul style="list-style-type: none"> <li>• Tobacco laws</li> <li>• Economic impact</li> </ul>	N/A
State Tobacco Activities Tracking and Evaluation System (STATE)	Varies	N/A	N/A	<ul style="list-style-type: none"> <li>• Tobacco control activities,</li> <li>• Health consequences and costs</li> </ul>	<ul style="list-style-type: none"> <li>• Cessation activities</li> </ul>
Tobacco Use Supplement to the Current Population Survey (TUS-CPS)		<ul style="list-style-type: none"> <li>• Age of onset</li> <li>• Current use</li> <li>• 30-day</li> <li>• Use of cigar/cigarillos, pipe/ hookah, smokeless tobacco</li> <li>• Cigar, pipe, and smokeless tobacco in the past 30 days</li> <li>• Nicotine dependence</li> </ul>	N/A	<ul style="list-style-type: none"> <li>• Workplace smoking policies</li> <li>• Smoking rules in home</li> </ul>	<ul style="list-style-type: none"> <li>• Cessation attempts in the past 12 months</li> <li>• Medical advice to quit</li> </ul>

Data Source	Number of Item(s)	Consumption/Use	Perception/Social Norms	Environmental/Policies	Cessation
Youth Risk Behavior Surveillance System (YRBSS)	10	<ul style="list-style-type: none"> <li>• Lifetime</li> <li>• Age of onset</li> <li>• 30-day</li> <li>• Frequency</li> <li>• Smoked on school property</li> <li>• Smokeless tobacco or cigar use</li> </ul>	N/A	N/A	Cessation attempts

Note. CDC, Centers for Disease Control and Prevention.

## Major Data Collection Systems:

Of the 23 data sources, **12 were identified as major data collection systems**, resulting in a large amount of information related to tobacco use in Arizona. As detailed below, each system has distinct strengths and weaknesses that may lend themselves to use by the partners.

The Arizona Department of Education conducts the **Arizona Youth Survey (AYS)** every 2 years with 8th-, 10th-, and 12th-grade students in Arizona. The AYS instrument has questions similar to those of the MTF survey, and the AYS compares MTF results as national percentages for many substance abuse and risk behaviors. Similarly, the AYS is part of a collection of eight states from which data are combined into one dataset, weighted, and reported as one Bach Harrison (BH) Norm score.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Results from the BH Norm and MTF provide helpful comparisons between Arizona youth and their nationwide counterparts.</li> <li>• The AYS attempts to sample youth in each county proportionally. For example, Maricopa County comprises 64% of students in 8th, 10th, and 12th grade, so the AYS aims for 64% of the sample to be from Maricopa County.</li> <li>• The AYS publishes one overall report biennially, plus a report for each of Arizona's 15 counties, which are easily understandable and provide advice about using results for tobacco control work.</li> <li>• The AYS has a large sample size.</li> </ul>	<ul style="list-style-type: none"> <li>• Many times, tobacco is grouped with other substances, such as alcohol.</li> <li>• Each school or school district has to opt in, which may lead to selection bias if schools not agreeing to participate are different from those that do participate.</li> </ul>

Overall	AYS is a good data collection system for understanding youth risk and protective behaviors. The system provides both county-level data and national estimate proxy data. The data system, however, has a limited number of tobacco-related items and they are all cigarette/smokeless tobacco questions. This data system would not be ideal for tracking in-depth tobacco behaviors for Arizona youth.
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The CDC–Arizona Department of Education conducts the **Arizona Youth Tobacco Survey (AYTS)** biennially in public and charter middle schools (grades 6–8) in Arizona.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The AYTS is modeled from a standard CDC-recommended core questionnaire, so its results can be compared with those from the National Youth Tobacco Survey (NYTS) and other states administering the YTS.</li> <li>• A wide variety of tobacco questions are included; e-cigarettes are being added to the state instrument.</li> </ul>	<ul style="list-style-type: none"> <li>• The AYTS provides only state-level estimates.</li> <li>• Data and reports from multiple years are difficult to access; only 2005 and 2013 reports are currently available on Tobacco-Free Arizona's Web site.</li> <li>• Methodology and other aspects of data collection may vary from state to state.</li> </ul>

Overall	The AYTS is a good source of data to understand in-depth tobacco behaviors for 6th- to 8th-grade Arizona students in public and charter schools. However, the lack of county estimates makes it difficult to use for more targeted programming.
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**ASHLine** is Arizona’s statewide quitline provider. ASHLine provides cessation counseling and conducts an ongoing data collection system that covers Arizona smokers who want to quit smoking.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Monthly, quarterly, and annual reports are posted on the ADHS Tobacco-Free Arizona Web site (<a href="http://azdhs.gov/tobaccofreeaz/reports/">http://azdhs.gov/tobaccofreeaz/reports/</a>).</li> </ul>	<ul style="list-style-type: none"> <li>• Not all data reported are broken down by county; not all data are readily available.</li> </ul>

**Overall** The variety of data collected and frequency of data reporting provides a good monitoring system of tobacco behaviors within the state. The data source can be helpful for understanding recent tobacco behaviors (e.g., emergent tobacco use, alternative cessation methods, and sources of referrals). More information is needed about how to access more county- and state-level data.

CDC conducts the **Behavioral Risk Factor Surveillance System (BRFSS)** annually across the United States. The **BRFSS Arizona state module** is an optional module that the state of Arizona uses during its BRFSS survey administration.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The survey is conducted annually and estimates are available within 1 year. Full datasets, survey instruments, and reports are readily available on CDC and ADHS Web sites.</li> <li>• A growing number of the population primarily relies on cell phone rather than on landline telephone (Brick et al., 2007). Starting in 2011, the sampling frame was expanded to include households with a cell phone only in addition to those with landline phones.</li> <li>• County-specific estimates are available (as long as there are more than 50 respondents in a county).</li> <li>• ADHS-BTCD is in the process of adding e-cigarettes to the state instrument.</li> </ul>	<ul style="list-style-type: none"> <li>• A limited number of tobacco-related items are included.</li> <li>• States can add additional questions to the survey; however, adding questions can be costly. The results of state-added questions may not be comparable to data from other states.</li> <li>• Because of methodology changes, researchers must be cautious comparing current results with data collected before 2011.</li> </ul>

**Overall** This is a great data source to gauge national, state, and local health behaviors for adults 18 years and older. The limited number of tobacco-related items and the difficulty in adding more items to the survey does not make BRFSS the ideal system for measuring in-depth tobacco behaviors (especially for monitoring new behaviors). Data are available on a timely basis (often quarterly), which provides more opportunity to map changing health behaviors in real time.

The Arizona Attorney General’s Office collects **Counter Strike** data year-round on the illegal purchases of tobacco products in retail facilities across the state of Arizona.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Ongoing data collection provides real-time data on results from tobacco compliance checks.</li> <li>• Data, which are retail facility specific, are reportedly easy to access and can be aggregated by county and city.</li> </ul>	<ul style="list-style-type: none"> <li>• Generally only two checks are conducted per county per year.</li> <li>• Compliance check data are only for those inspected (e.g., number of tobacco retailers that failed compliance checks of total number of retailer compliance checks). Even with a general percentage of those complied, without a registry the extent of the illegal tobacco sales may not be fully understood.</li> </ul>

CDC and the University of Michigan conduct **Monitoring the Future (MTF)** annually.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Methodology has remained consistent over the past 30 years, so it is a great data source to look at trends over time (Delnevo &amp; Bauer, 2009).</li> <li>• MTF is one of the federal government’s largest and primary tools for tracking youth substance use (other than the National Survey on Drug Use and Health [NSDUH]).</li> <li>• An additional study on young adults and adults aged 35 to 55 years is available online at <a href="http://www.monitoringthefuture.org//pubs/monographs/mtf-vol2_2013.pdf">http://www.monitoringthefuture.org//pubs/monographs/mtf-vol2_2013.pdf</a>.</li> </ul>	<ul style="list-style-type: none"> <li>• MTF does not include high school dropouts or students who were absent from school on the day of data collection.</li> <li>• The percentage of respondents by each state was not available; therefore, the extent to which MTF represents Arizona youth is difficult to determine.</li> <li>• No questions regarding e-cigarettes are included.</li> </ul>

Overall	The survey is a great source for understanding the changing trends of youth behaviors, but it is not appropriate as a state tobacco tracking data system. MTF may be the most helpful just as a tool to compare local/state data (such as AYS) or to identify changing trends nationally.
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CDC’s Office on Smoking and Health (OSH) collects data biennially from the **National Adult Tobacco Survey (NATS)**, which is a national landline and cell phone survey of U.S. adults aged 18 years or older.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The survey is designed to monitor key tobacco-related indicators in a nationally representative sample of adult respondents.</li> <li>• Detailed information regarding methodology, as well as datasets, codebooks, and reports, is available on the NATS homepage.</li> </ul>	<ul style="list-style-type: none"> <li>• The survey provides only national and state estimates.</li> <li>• The methodologies using listed landlines, unlisted landlines, and cell phones are quite different from those of other adult tobacco-related data sources, which would make finding a comparative source with localized data more difficult.</li> </ul>

**Overall** Lack of localized data prevents this system from being the primary system for tracking tobacco use behaviors within the state of Arizona.

The Substance Abuse and Mental Health Services Administration (SAMHSA) sponsors the **National Survey of Drug Use and Health (NSDUH)**. The sample is equally distributed among three age groups: 12 to 17 years, 18 to 25 years, and 26 years or older.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Data collection occurs annually and results are published within 1–2 years after data collection ends (depending on the type of estimate). An online data querying system provides access to data that are not typically included in annual reports, such as confidence intervals for significance testing.</li> <li>• SAMHSA regularly publishes short reports and briefs to understand how to use and interpret data and to see emergent trends across the country and within special populations.</li> </ul>	<ul style="list-style-type: none"> <li>• Only a limited number of tobacco-related items are readily available without special request.</li> <li>• Does not provide any county- or city-specific data other than for Maricopa County and Pima County (substate estimates). Because substate estimates rely on combined years, new estimates are less frequent than state or national estimates. The next substate estimates (2012–2014) will likely be available in 2016.</li> <li>• States do not have the option to add or modify questions for this data collection system.</li> </ul>

**Overall** A good source to monitor tobacco use and other health behaviors for the population 12 years or older, but lack of county data and the small sample size for Arizona (n = 900, or 300 per age group) may not provide enough data to inform local tobacco control efforts.

CDC’s OSH and state departments collect data annually from the **National Youth Tobacco Survey**.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The NYTS provides a national benchmark for youth tobacco use.</li> <li>• It includes an extensive list of tobacco-related items on the questionnaire.</li> <li>• Since 2011, data collection has occurred annually.</li> </ul>	<ul style="list-style-type: none"> <li>• Only national and state estimates are provided (no localized data).</li> </ul>

**Overall** Great data collection system for the monitoring and evaluation of national and state tobacco efforts, but lack of localized data prevents this system from being the primary system for tracking tobacco use behaviors within the state of Arizona.

The U.S. Census Bureau collects data approximately every 4 years from the **Tobacco Use Supplement to the Current Population Survey (TUS-CPS)** for the U.S. Department of Labor.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Results can be linked with economic, social, and health insurance data from the March Annual Social and Economic (ASEC) Supplement, with the National Longitudinal Mortality Study (NLMS), and with other CPS supplements.</li> <li>• The supplement covers varied tobacco-related measures, including emerging products (dissolvable tobacco only during the main 2010–2011 wave, and e-cigarettes only during the May 2011 follow-up).</li> <li>• Website has a database of publications using TUS-CPS that may be helpful to conceptualize data use and research ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Data collection occurs every 3–4 years.</li> <li>• Data estimates are not readily available and require advanced data analysis skills and software (e.g., SAS), although the data sets are available to download on the TUS-CPS official home page.</li> <li>• Some data were created via proxy measures. Research has shown that the accuracy of proxy measures may differ depending on the population, so data users should use caution when using non-self-reported data from this survey.</li> </ul>

Overall	<p>This data source allows monitoring of national and state tobacco behaviors and month-to-month and year-to-year comparisons of tobacco use behaviors. Future waves of data collections plan to add an emerging tobacco product section. However, the ability to generate estimates for smaller areas is based on the area’s sample size. Therefore, it is unclear which county- or city-level estimates are available for Arizona. Additionally, long periods between data collection make this system not ideal as a primary tobacco monitoring and evaluation system for local and state tobacco control.</p>
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CDC collects data biennially from the **Youth Risk Behavior Surveillance System (YRBSS)**, which includes national, state, territorial, tribal, and local school-based surveys targeting 9th- to 12th-grade students.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The YRBSS shares methodology with the Youth Tobacco Survey, making results comparable to those of the AYTS, the NYTS, and other states administering the YRBSS.</li> <li>• States can modify the questionnaire by adding or deleting items.</li> <li>• Arizona is in the process of adding e-cigarettes to the state instrument.</li> <li>• National and state estimates can be queried via CDC’s Youth Online portal.</li> </ul>	<ul style="list-style-type: none"> <li>• The YRBSS does not include data on dropouts. There are attempts to obtain data from youth who were absent on the day of data collection, although complete coverage is unlikely.</li> <li>• Only state-level estimates are provided.</li> </ul>

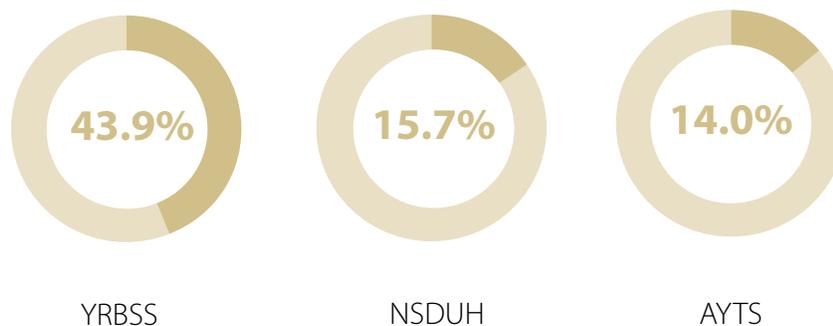
Overall	<p>Similar to the other risk behavior systems, the YRBSS collects a variety of health behavior data (including tobacco) that may be helpful for understanding general youth issues. However, to be a good primary monitoring and evaluation system for tobacco use, the YRBSS would need to increase the amount of tobacco content and provide more localized estimates.</p>
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## Conclusions

The data sources listed above and in Appendix B provide an overview of the various tobacco-related data sources available. There are a host of other surveys and systems; however, this environmental scan focused on systems either that were most used in national and state tobacco monitoring and evaluation or that provided valuable tobacco-related data for Arizona. The results from this environmental scan indicate numerous available surveys, each having its own strengths and limitations. Many of the tobacco surveys focused on current and lifetime use of cigarette/smokeless tobacco and cessation attempts. Selected sources also measured social norms, purchasing behaviors, and exposure to tobacco.

In general, the major data collection systems such as the AYS, AYTS, BRFSS, NSDUH, NYTS, TUS-CPS, and YRBSS covered most of these areas for tobacco use. However, the depth of these questions, methodology, frequency of data collection, and targeted population varied, as did the definitions of terms used. For example, Appendix C shows how differently general categories such as “Lifetime Use” and “Current Use” differ across these systems. The youth lifetime cigarette use estimates for the YRBSS, NSDUH, and AYTS differ significantly (43.9% in YRBSS, 15.7% in NSDUH, and 14.0% for AYTS). The main reasons for this may be the differences age groups and data collection methods between the surveys. Although data related to “youth lifetime cigarette use” can be gathered from all three data sources, it is important to determine who the sample is and how data were collected before using and comparing data.

### Youth Lifetime Cigarette Use Estimates



**No one survey identified is currently able to meet the needs of localized tobacco tracking within the state.** To determine which data collection system is most appropriate to use for a given purpose, tobacco control staff need to first identify the population of interest, the depth of tobacco information needed, the need for trend data, the need for local data sufficiency of state or national estimates, and the availability and frequency of new data. As tobacco use changes within the state and nationally, it is important to periodically review existing data collection systems to determine whether the chosen system is able to adequately monitor and evaluate tobacco control efforts.



## Results From Partner Interview

### Data Currently Used

The 20 interviewees identified various methods for accessing tobacco-related data. The most commonly reported method for accessing data was from ADHS-BTCD via the ADHS dashboard portal. Some interviewees reported data provided by ADHS-BTCD as the sole source of data used for their tobacco control activities. The interviewees also reported conducting a general online search using search engines (e.g., Google) or visiting health Web sites (e.g., CDC's Web site) for data. Health Web sites provide mechanisms for querying reports and tables, which can be used easily by partners to obtain national, state, or other estimates. Additionally, interviewees reported obtaining data from local, state, and national reports and tobacco control Web sites (e.g., Americans for Nonsmokers' Rights). For some local data sources (e.g., Counter Strike data collected by the Arizona Attorney General's Office), many interviewees reported calling the data source directly to obtain data.

Of the 23 data sources identified in the environmental scan, 10 were mentioned in partner interviews specifically: (1) Arizona Smoker's Helpline (ASHLine), (2) Arizona Vital Statistics, (3) AYS, (4) AYTS, (5) BRFSS, (6) Counter Strike data (Arizona Attorney General's Office), (7) NATS, (8) NYTS, (9) State Tobacco Activity Tracking Evaluation (STATE), and (10) Youth Risk Behavioral Surveillance System (YRBSS).

Per state requirements, county partner organizations must report data to ASHLine, Arizona Living Well Institute/Stanford Chronic Disease Self-Management, and ADHS-BTCD. Some partners reported developing databases to maintain these data for internal use. Interviewees also searched online for programming information such as webinars and evidence-based practices. Table 2 shows the top tobacco data sources and resources used by the ADHS-BTCD partners that were not previously presented in the environmental scan (Appendix B or Table 1).

**Table 2. Data Sources and Other Resources Currently Used by Tobacco Partners**

Data Sources or Resources	Notes
Arizona Department of Health Services (ADHS) Dashboard	Website that provides data on tobacco prevalence and community health indicators
ADHS-Bureau of Tobacco and Chronic Disease (BTCD) Annual Report	State health report that provides information about smoking in the state, health outcomes, and policy changes
American Cancer Association	National data and some state data on cancer incidents and death rates
American Lung Association	Annual quit report includes the number of states fully funding their smoking cessation programs; has comparable state data
Americans for Nonsmokers' Rights	National lobby organization promoting nonsmokers' rights, taking on the tobacco industry at all levels of government, protecting nonsmokers from exposure to secondhand smoke, and preventing tobacco addiction among youth

Data Sources or Resources	Notes
Arizona Health Matters	Dashboard reporting selected indicators from the Behavioral Risk Factor Surveillance System (BRFSS), Arizona Youth Survey (AYS), and other public data sources; helpful for writing grants and finding basic tobacco and health estimates at the county level
Arizona Living Well Institute/Stanford Chronic Disease Self-Management Data	Data on program attendees; data available on Web site and available by county
Centers for Disease Control and Prevention (CDC)	National public health organization; Web site houses information and data from various data collection systems; is also used for finding community guides and community practice ideas
U.S. Food and Drug Administration (FDA) compliance checks	Federal tobacco merchant compliance program; collects and maintains compliance check data
Kaiser Family Foundation	Health policy Web site that reports health data from sources such as BRFSS and Medicaid treatment coverage data from the American Lung Association
National Association of Convenience Stores	Uses licensing data, revenue from tobacco products, and amount of products bought per month; national data, not local; includes information on how tobacco rates drop with tax increases
National Cancer Institute (NCI)	National health organization focusing on the cause, prevention, diagnosis, and treatment of cancer; provides state cancer profiles
Navajo County Status Assessment	Local county health assessment
Navajo Health Disparities Profiles	Local county health profile
Robert Wood Johnson Foundation (RWJF)	County health rankings
Synar data	Compliance check data
Tobacco-Free Arizona	Reports state and local tobacco information, including data reports
World Health Organization	National data; compared with other countries
World Health Organization	National data; compared with other countries

## National and State Data Collection Systems

As mentioned previously, most partners interviewed reported using one or more data collection systems that include tobacco-related questions. The most frequent systems reported were the NYTS, AYTS, AYS, YRBSS, and BRFSS. **Decisions to use certain datasets varied by partners.** Some partners used data systems that were endorsed by ADHS-BTCD or other partners, whereas others chose systems on the basis of factors such as the perceived strength of data collection methods, the specificity of the data to their community (e.g., state-level or county-level data), the type of tobacco-related data available, the frequency of obtaining updated data, and the ease of obtaining data.

## ASHLine Partner Interview

During the partner interview, the representative from ASHLine provided detailed information regarding the various data collected through ASHLine program activities. All quitline program services and data collection occur over the telephone. Data collection is ongoing, with reports posted in monthly, quarterly, and annual formats. Some focus groups have been conducted to refine the treatment model and market to specific populations (e.g., youth and low-income populations). Raw quantitative data are provided to CDC's National Quitline Data Warehouse.

The most frequent systems reported were NYTS, AYTS, AYS, YRBSS, and BRFSS.

ASHLine data collection consists of the following:

- Referrals/intake:
  - person/organization making the referrals
  - number of referrals in each county (counties can go to the Web site and find county information)
  - contact information of the person referred
  - how long the person referred has been a smoker
  - health screener to determine the level of nicotine dependence, if other family members smoke, and where smoking is allowed in the home
- Process data while receiving services:
  - documents the services received by the client: number of calls, number of reported relapses, quit dates, and any additional clinical notes
- Follow-up surveys:
  - client surveys at 7 and 13 months after enrollment to measure client satisfaction with services and personal coaches and to measure quit success

## Internal Data Collection

To support program activities and identify community needs, several partners mentioned implementing surveys within their community. Generally, the partners developed and implemented these surveys to supplement results from larger data collection systems that would inform current needs and attitudes in their community. The following are examples:

- **Pinal County** administered a survey to measure increased knowledge from a 10-session tobacco prevention course. The survey was mainly administered to middle school students. The results for the survey were available to analyze by class, school, and some race/ethnicity categories.
- Partners at **Maricopa County** worked with the epidemiology department and the Mayo Clinic to look at the relationship between asthma clusters and multiunit housing not designated as smoke-free. The partners also looked at emergency department admissions and discharges to support analysis.
- **Mohave County** conducted focus interviews with key stakeholders to support youth coalitions and administered a special needs assessment survey.
- **Graham County** implemented a short survey for youth to decide what policy to change, and these data were used to help pass smoke-free laws.
- **Yuma County** administered surveys at community events about opinions toward smoke-free parks. They also administered an e-cigarette survey to freshman students at three local high schools.

## How Data Are Currently Being Used

The data sources used by the partners were primarily used

- for supporting the overall ADHS-BTCD and local county activities,
- for making community health presentations, and
- for writing grants.

### Data Sources Used

To support the overall ADHS-BTCD and local county activities

For community health presentations

For grant writing

Most county health partners reported using the data for program presentations to youth groups and to local physicians to promote ASHLine referrals. Meanwhile, national health organizations, such as the American Cancer Association, American Lung Association, and American Heart Association, used data primarily to promote smoke-free legislation and policies. For example, the American Cancer Association/Cancer Action Network used BRFSS data to generate models and estimate the impact of tobacco tax on prevalence rates and health care costs. Similarly, ASHLine has analyzed its internal data and has published in peer-reviewed journals. As noted in the following sections, **most partners interviewed expressed the need for more opportunities to analyze and present data in their community to further their tobacco control work.**

## Strengths and Limitations of Data Currently Used

### Strengths

RTI asked ADHS-BTCD partnering organizations to identify strengths in the data sources they currently used.

1. The **BRFSS** data provided by ADHS-BTCD has been well vetted, and partners felt comfortable with the survey's validity. Also, BRFSS data are collected frequently, so trend data are easy to obtain.
2. For **AYTS**, partners liked the additional tobacco questions on the survey and felt that this survey generally had more depth than BRFSS.
3. Partners liked the risk and protective factor questions included on the **AYS**.
4. Although a dashboard rather than a data source, many partners reported using the Arizona **Health Matters Web site**, which provides helpful county-level data (AYS and BRFSS) that can be used to make program/policy decisions and can help to persuade leaders and others in the community to change policy.

For local nonsurvey data, most partners appreciated the ease of accessing the Arizona Attorney General's Office's **Counter Strike** data. Staff can call the Attorney General's Office and request data by telephone. Partners could easily aggregate the data as needed.

A strength of the data collected internally for **ASHLine** is that it is based on evaluation, client feedback, and the identified program needs, and it is modified as needed. The purpose of the state's tobacco cessation program data collection is to identify what is and what is not contributing to program success (e.g., tobacco cessation).

## Limitations

RTI also asked partners to discuss any limitations they experienced with any of the data sources they currently use. For most of the data collection systems (e.g., the YRBSS, AYTS, and AYS), there were concerns that the data were not updated as frequently as needed. Interviewees expressed frustration at trying to measure program success, for example, over the past year when the most recent data estimates were 2–3 years old. Partners reported the following limitations of specific data sources:

- **AYTS:** There were some concerns about the small sample size of AYTS and how well it represented the youth in each county. Also, nearly a third of respondents do not provide detailed information as to where they get their tobacco. Either respondents are unclear about the question/answer choices or there are additional sources of tobacco that are not covered in the survey.
- **AYS:** A frequently mentioned limitation to AYS was the opt-in requirement for participation by schools. Many interviewees were concerned at how under- or overrepresented certain school districts were because schools or school districts were required to volunteer in order to take part in the data collection. There were questions of whether students in schools that participate differed from students in schools that did not participate.
- **BRFSS:** Several interviewees voiced concerns about how the changing data collection method (recently incorporating cell phones) skewed data. They mentioned that the data had to be recalculated, and they still were not confident about how comparable the recent data are to previous years' data. Also, it is expensive to add additional questions to the survey, indirectly making it difficult to measure emerging issues.
- **Arizona Vital Statistics/Cancer Registries:** There were some discussions from partners that vital statistics records and death certificates were inconsistent in how they record tobacco use and tobacco-related mortality/morbidity. Obtaining accurate cases is dependent on many factors, including diagnosis coding, registry notification by physicians, indication of tobacco use on the actual records, and the quality of the system in place to query records.
- **ASHLine:** Data collection for both process and outcomes data is completed by multiple people (e.g., the physicians completing the referral forms, the intake team, the coaches, and the follow-up survey team). There may be issues with the standardization of data collection, although there is periodic training to reduce this problem. Several partners mentioned that the respondents may be swayed by how the interviewer asks the question or may have difficulty understanding the questions.

Other data issues not specific to a particular source included not having access to electronic health records, needing more data for hypothesis testing, experiencing difficulty finding appropriate data to use, and experiencing difficulty finding data to create program benchmarks or compare with those of other counties on tobacco achievements.

## Ideas to Enhance the Tobacco Data Environment

The second component of the partner interview was focused on gathering ideas from each of the partnering organizations on how to improve current data sources, feedback, or both on how to develop a new tobacco data collection tool for Arizona.

## New Data Collection Methods

Partners explained that **some residents, especially those in remote and rural areas, have inconsistent telephone access**. Inconsistent telephone access may include not having a landline telephone at home or having a cell phone with routine service disruptions due to financial strains. Therefore, these residents are disproportionately underrepresented in telephone-based data collection systems (e.g., the BRFSS). Partners voiced similar ideas regarding Web-based data collection systems; lower-income households may have less access to the Internet. Interviewees suggested a data collection that relied on alternate methods for surveying this population. Specifically, some proposed that in-person, face-to-face data collection is the best method for accurately sampling the population. Others suggested mail surveys because it may be difficult to get people in the same location or be able to find a good time for on-the-spot interviewing. One partner commented that data collection systems need to move beyond lengthy paper-and-pencil surveys.

Appropriate data collection methods may depend on the population. **Youth may benefit from Internet-based surveys**, because they have more familiarity with the Internet and technology. Systems need to make sure that appropriate privacy safeguards are in place if Internet-based surveys are used. For surveying youth, some partners suggested going directly to the schools for data collection, whereas older adults may benefit most from in-person or paper surveys. For general population surveying, some partners suggested going into the community (e.g., recruiting from local health centers).

Partners also commented that annual or biennial data collection works well. They also noted that surveys should be available in as many of the regional languages as possible. Many surveys are administered in English and occasionally Spanish. Surveys in Arizona should also try to include Native American languages. Language barriers may further limit participation.

## Improving Use of Current Data Collection Systems

Rather than major changes to the data collection methods or instruments, many of the partners interviewed requested more transparency in how each of the data collection systems work and general information on how to conduct a local survey. With more knowledge about data collection systems, interviewees felt they would have a better understanding of how to appropriately use the data. Partners also desired to have clearer definitions of survey questions and explanation of terms in surveys. For example, one partner noted difficulty in understanding if “cigarette use” meant one puff of a cigarette or a whole cigarette. As shown in Appendix C, tobacco/cigarette use questions vary and, subsequently, the estimate varies by data collection system. In the BRFSS, lifetime cigarette use is defined as “smoked at least 100 cigarettes in entire life,” whereas NSDUH defines lifetime cigarette use as “ever smoked part or all of a cigarette.” Additionally, many partners requested more information about how systems analyzed the data and more information on how to decide which indicators to present.

**With more knowledge about data collection systems, interviewees felt they would have a better understanding of how to appropriately use the data.**

Similarly, partners discussed the need for clarity in how to use data reported for the RWJF county health rankings. One partner expressed frustration in not understanding how to calculate the “Years of Potential Life Lost” (YPLL), which factored into county health rankings. The RWJF Web site provided minimal information on how YPLL was calculated. The partner did not understand how this estimate was calculated and therefore had difficulty determining the best approach for reducing the county’s YPLL.

## Improving Access to Data

Many interviewees commented that the process for accessing data was not difficult. **Most issues discussed were due to waiting for updated data and knowing when they are available.** Also, partners would like a better way to view and query data. Examples of need included being able to query state and local vital statistics records (e.g., death certificates). Currently, individual death certificates cannot be queried via Arizona Vital Statistics. Multiple interviewees mentioned wanting a better portal for accessing ASHLine data. Partners felt that they were putting a lot of data into the system without getting anything back. Additionally, partners stated that the tobacco data that are updated regularly and provide good information often are only state-level data (not county or city specific).

Some partners suggested ideas to improve data received from ADHS-BTCD. Partners felt that only a few estimates were being reported from the various data collection systems used (e.g., YRBSS, BRFSS, AYTS). Partners were unaware of the total number of tobacco items on these instruments and for how many of those items data are available. Partners requested having more data than what has been vetted and endorsed by ADHS.

## Finding More Localized Data

**Nearly all of the partners interviewed expressed the need for more localized data.** Smaller and more rural counties tended to state that they would be content with county-level data. Meanwhile, larger counties such as Maricopa and Pima would benefit from even more localized data (e.g., by ZIP code, by neighborhood, or by city).

## Improving the Ability to Analyze Data and Report Results

Many partners mentioned the need for more consistent definitions and explanation of data collection methods (e.g., a standardized and clear definition of a “quit rate” that can be compared across counties and over time). Greater understanding would provide the partners greater efficacy in determining successes and continued challenges in their community. In addition, partners would have a better sense of the parameters of the data (e.g., generalizable to similarly aged youth in public schools).

**Nearly all of the partners interviewed expressed the need for more localized data**

During the interview, RTI asked partners how they would use data if a new data collection systems were created or if data were improved on the basis of their suggestions. Responses included using more localized data to target specific populations and areas in the community, provide data to legislators to support programming and funding, and conduct hypothesis testing to identify risk and protective factors. Data could be used to correspond to objectives listed in state or county action plans to help identify accomplishments and needed focus.

Interviewees stated that they would like to be able to compare their counties with other counties in Arizona. More standardized data across the state can help counties identify which counties are good comparisons. One partner suggested creating a profile of the typical tobacco user in a particular community (e.g., on the basis of race, gender, socioeconomic status, and type of tobacco used).

## Improving the Content of Tobacco-Related Data

In each interview, partnering organizations were asked what additional tobacco-related content should be added to current data systems or to a new system. In general, **partners mentioned a wide variety of new tobacco-related data that would be helpful to have available.**

<b>Helpful Content</b>	Types of tobacco	Data about users	Laws/Policies
	Cessation	Health consequences	Improving overall wellness
	Programming	Perception and attitudes	Purchasing

- **Types of tobacco:** Partners requested more data on general tobacco consumption such as questions that expanded beyond “yes/no” cigarette prevalence use. The majority of interviewees mentioned the need for more data on emergent tobacco use and nicotine delivery systems (e.g., e-cigarettes, smokeless tobacco, dissolvable tobacco) and understanding the role of ceremonial tobacco.
- **Data about users:** Partners requested more data on age of initiation for various tobacco products, tobacco use during pregnancy (e.g., use, cessation attempts, services available), those with mental health/behavioral health issues, college students, those involved in the criminal justice system, and homeless individuals. Many partners mentioned that the Arizona branch of the U.S. Department of Veterans Affairs requests any veterans to be referred to them for tobacco cessation. However, partners stated that they would also like to have data on the extent of the problem within this population. Interviewees also mentioned that it would be beneficial to have tobacco data for other populations, including young adults (aged 25 years or younger), Native Americans, Hispanics, and low-income communities. One partner suggested truck drivers as a high-tobacco-using, yet rarely studied, population. In general, most partners just requested more detailed data by age, gender, and other basic demographics (e.g., race/ethnicity, socioeconomic status).
- **Laws/Policies:** Interviewees stated that they needed standardized data on tribal laws influencing tobacco use and purchase, tobacco-free legislative enforcements and other efforts, and the impact of tobacco legislation.
- **Cessation:** More data are needed on motivations to quit (e.g., psychological and health needs), cessations treatment and medications used (e.g., type, how they are accessed, dosage), methods people are using to quit (including if using emergent tobacco products as cessation tools), and an accurate and standardized quit rate. Also, a couple of partners asked for data to understand how to improve participation in ASHLine services.
- **Health consequences:** To promote community-based tobacco control programming to promote tobacco-free policies, many partners stated that they needed more information on health consequences from tobacco use. Specifically, partners mentioned needing data on the “reality of tobacco use,” which may include better vital statistics data on tobacco-related mortality, short- and

long-term health consequences of use, and knowledge of the chemicals found in various tobacco products.

- **Improving overall wellness:** Some partners desired a stronger connection between tobacco prevention/cessation and improvements in overall health well-being and the reduction of chronic disease. These partners suggested data that describe motivations to get the population engaged in improving their health overall and identifying the stages of change for chronic disease self-management.
- **Programming:** Many partners mentioned needing more data to help identify appropriate programming/curricula for their community. Partners requested information on evidence-based practices that worked in similar communities.
- **Perception and attitudes:** In addition to data on tobacco use, most partners discussed the need for data on factors that influence use such as self, family, and community attitudes toward tobacco use. Partners mentioned examples such as adults' perceptions on youth smoking, influence of media on youth use, parental influence (how tobacco affects them economically) and behaviors (e.g., smoking in the car), and the extent to which teachers and administrators perceive tobacco to be a problem in their schools.
- **Purchasing:** Interviewees also expressed interest in having more information on tobacco purchasing behaviors. Partners mentioned the need for data on youth purchasing behaviors (e.g., what, where, and how they purchase tobacco), tobacco retailer density, and the proximity of the retailers to schools and other facilities where youth congregate. Also, one partner mentioned wanting data on where youth are using tobacco (e.g., school property, public parks, libraries, home) and how often.

Some partners commented that they would like to see increased focus on chronic disease rather than so much attention to tobacco. One partner stated that ADHS-BTCD is focused primarily on data to support tobacco ad campaigns through youth coalitions. The partner would like to see the data used for other activities such as for overall chronic disease prevention and intervention.

## Needed Training and Technical Assistance

The third and last part of the interview focused on any T/TA the partners felt they or others at their organization needed regarding using tobacco-related data. The most common T/TA need was to have a better understanding of each data collection system, including clearer definitions of what the items measured, how each system collects data, any limitations to using the data, and how data are analyzed. The following are specific T/TA needs partners mentioned during the interview:

- **ASHLine:** Several interviewees mentioned needing support in activities related to ASHLine. Specifically, interviewees wanted more tips for promoting ASHLine and increasing referrals in the community. Many of the partners mentioned ASHLine promotion as a major activity in their daily work. However, some felt that they needed new ways to reach and motivate their community to sign up. Another opportunity for assistance was to provide updated training on entering data and reporting client referrals. Additionally, partners wanted more assistance with using ASHLine data (e.g., trends in service use and quit rates). Some interviewees remarked that data are often presented to them without opportunities for asking questions and understanding how to use the ASHLine data in their own work.

**The most common T/TA need was to have a better understanding of each data collection system**

### Data Collection System Needs



what the items  
measured



how each  
system  
collects data



limitations to  
using the data



how data  
are analyzed

- **Understanding the data:** In general, many partners felt they needed more information about the various datasets and data collection systems that were available. Throughout most of the interviews, a majority of the partners discussed the need to better understand the existing data they use as well as discover new data collection systems and how to use them. Partners wanted information on how the data were collected, who was sampled, how data were analyzed, and what ways were appropriate for interpreting and using the data in their work. Other needs included hypothesis testing and making other causal inferences. Additionally, partners wanted assistance in determining which data collection systems were more appropriate than others in certain situations.
- **Data collection methods:** In addition to learning how to use existing data collection systems, many partners wanted to learn how to develop and implement a new survey. Some partners commented that they wanted to learn how to determine measures to include, word items on the survey, develop a sampling frame, collect data, and analyze and interpret the data.
- **Using data for choosing and evaluating evidence-based programming:** Many of the partners stated they needed help with using data to inform future programming and curricula. For example, a few partners mentioned wanting to use the data to choose the most appropriate interventions and evidence-based prevention programs for their communities. Partners felt that program models are often selected without iterative review of the data. One partner suggested having a collection of speakers or presenters on topics available statewide for community presentation as well as a list of endorsed and vetted curricula to use. There is also a need to connect curricula that are currently being used with outcome data to determine whether outcomes are being achieved or if program alterations are needed.
- **Improving current T/TA:** Many of the partners stated that they appreciated the current T/TA they were receiving. Throughout interviews, partners reported feeling that they could easily talk to ADHS-BTCD and other partners (e.g., PPP) if they needed assistance. However, some partners had suggestions such as encouraging more team-building exercises and having partners talk more as a group about their successes and challenges. The partners felt that there was much to learn from each other that has not been tapped into under the current structure of the ADHS-BTCD partner meetings and T/TA. Several partners discussed the need to collaborate frequently and change the meetings from one-way communication to a workgroup environment. Some partners requested more opportunities to attend networking events and conferences, both to learn what other communities and states are doing and to keep up with emerging issues and interventions.
- **Current requirements:** Many partners suggested having training available to teach new staff how to collect and report data for current activities (such as ASHLine referrals and monthly calls to ADHS-BTCD). Additionally, partners expressed interest in finding data needed to address the issues

in the community or in high-risk areas that are part of the state or county action plan. For example, partners wanted to be able to identify the state needs and how each county's needs compare.

Increased familiarity with the data would aid in report writing and completing the periodic reports to ADHS-BTCD.

- **Delivery of T/TA:** Overall, the interviewees recognized that in-person trainings were optimal, but they are both costly and difficult to organize. Most partners encourage webinars or videoconferences, as they allow staff to ask questions in real time and to participate from various work sites. Telephone calls were generally not suggested, as interviewees preferred a method that facilitates group discussion. They also noted that they would like for meeting information to be easily accessible afterward, such as having notes posted online. Lastly, they noted that they would prefer a series of meetings rather than one long training session.

## Summary of Results

The following are some of the main findings from the 20 partner interviews

- **Data used and data needed**
  - **The partners interviewed had a general familiarity with major data collection systems** such as the BRFSS, AYTS/NYTS, NATS, AYS, and YRBSS. Despite this, fewer than half of the partners reported that they consistently use data sources outside of what is provided by ADHS-BTCD and many noted that they conducted a general online search to find new estimates for their state or county.
  - **Tobacco-related data were used in a variety of ways.** In most instances, county health organizations used the tobacco data for their community work and for grant writing. National health organizations such as the American Lung Association used tobacco-related data to inform policy recommendations and statewide initiatives. ASHLine primarily used data collected in house to report outcomes and refine their service model.
  - **Many partners were unsure of what would be needed in a new data collection tool to replace or supplement existing data collection systems.** Rather, many partners provided suggestions on how to improve the current systems, requested more assistance with understanding how to use each of the systems, or both.
  - The **greatest data needs** reported by the various partners were
    - more localized data (county, city, or neighborhood level),
    - data on emerging tobacco issues such as e-cigarettes, and
    - more information about how data are collected and how to use them.
  - **Several partners mentioned needing more assistance with developing local surveys, interpreting data, understanding current data definitions/differences, and using results from data to inform programming decisions.** Some partners had experience with conducting surveys but still wanted more training in designing and implementing surveys.

- **Enhancing the tobacco data environment:** The partners suggested several ways to improve the existing environment of tobacco data through modifying existing data collection systems, and some had ideas about components of a new data collection tool. The following were some suggestions:
  - **Utilize data collection methods that are most appropriate for the targeted population.** Adults and those in more rural communities may have more difficulty with Web-based surveys. Low-income communities may have inconsistent telephone access.
  - **Increase access to data that are representative of the community and updated frequently.** For example, local data, rather than state or national data estimates, are needed to help inform the needs of a particular community.
  - **Provide more clarity in how the tobacco-related data are measured, collected, and analyzed.** More T/TA is needed to better inform the partners in the use of tobacco-related data.
  - **Expand the content of tobacco-related data being measured beyond cigarette use to include emerging nicotine delivery systems** (e.g., e-cigarettes, dissolvable tobacco). In addition to understanding the extent to which the population is using these products, partners want to know who specifically is using them (e.g., age groups, gender), how they are used as a cessation method, what perceived risks are associated with these products, and where they are purchased, as well as information about other behaviors and attitudes that are not currently measured.



## Gap Analysis

RTI staff analyzed gaps between existing and needed tools and resources by synthesizing data from the environmental scan, comments from the partner interviews, and conversations with staff at ADHS-BTCD. The following section outlines limitations in existing data sources as well as recommendations for addressing data gaps.

### Gap 1 – Localization of Tobacco Data

The environmental scan, partner interviews, and contact with ADHS-BTCD made clear that current data do not provide enough information about tobacco use on a local level. Of the 23 data collection systems identified in the environmental scan, 2 contain broad-based, county-level data—the Arizona Health Survey and the AYS, which contain 6 and 19 items related to tobacco, respectively. Neither are tobacco-specific surveys. Another 4 data collection tools contain limited county-level data: ASHLine, NSDUH (Pima and Maricopa counties only), TUS-CPS, and the BRFSS. Finally, 2 data collection systems provide county-level data about tobacco policy implementation, but not individual tobacco use: Counter Strike and Smoke-Free Arizona.

Consistently throughout partner interviews, county partners noted a need for localized data to provide information about their unique county characteristics for planning and programming purposes. Given that the majority of Arizona’s population is concentrated in Pima and Maricopa counties, these two counties also would like data at an even more localized level, such as ZIP code- or census tract-level data. Partners also mentioned the unique challenges in their localities specific to ensuring that county-level data are representative of their general and special populations. Specifically, they had concerns about residents having inconsistent telephone access for telephone-based surveys or Internet access for Web-based data collection. Some partners proposed face-to-face data collection or mailed surveys. On the other hand, partners noted that telephone- and Web-based surveys would work well for youth who often have access to these media. Partners also mentioned the importance of having surveys that were appropriate for Spanish-speaking residents as well as for Native Americans who may speak other dialects. Given different populations with different needs, a literature review on collecting localized data from rural and urban communities was conducted.

### Literature Review

Numerous surveys have captured information on tobacco use in the United States. Newburn, Remington, and Peppard (2003) point out that many of them have not been conducted on a localized level, despite the importance of local data for understanding historic trends and influencing local programming. The need for better localized public health surveillance data appears to be an issue for most local health departments (Castrucci, Rhoades, Leider, & Hearne, 2014). Localized data allow for improved allocation of funds on the basis of population needs for tobacco prevention efforts (Newburn et al., 2003). Local data should be collected using the method best suited for a particular community. Traditionally, organizations have used in-person, mail, or telephone outreach to collect tobacco habits of U.S. citizens. However, as technology presents new options for survey methodology and as population behaviors change, it is important to periodically review existing methods to determine whether new data collection approaches and new information are needed to ensure the representativeness of the sample collected.

One emergent issue that affects many data collection methods, including existing and new instruments, is **wireless substitution** (Dal Grande & Taylor, 2010; Delnevo & Bauer, 2009). Wireless substitution refers to the transition many American homes have made from having telephone landlines to having only wireless telephone lines, or cell phones. Some national data collection tools survey participants on their cell phones, but they often suffer from lower response rates due to participants' concerns about battery life, charges on their wireless phone plans, and security and privacy (Dal Grande & Taylor, 2010). When cell phone users are reached, participants are more likely to be male, younger, lower income, minorities, smokers, unemployed, and not married (Dal Grande & Taylor, 2010; Delnevo & Bauer, 2009). Given the different characteristics of cell-phone-only participants, it is important to note that one data collection method may not fit all participants.

An alternative to telephone-based surveys is **Web-based surveys**, which do not require the presence of the researcher and can be cost-effective. Over the years, Web surveys have become increasingly popular (Porter & Whitcomb, 2003), although participants have similar concerns as those completing cell-phone surveys, such as costs of data usage, security, and confidentiality (Herbert, Loxton, Bateson, Weisberg, & Lucke, 2013). Samples of Web-based surveys can differ from the general population. For example, women are more likely to complete Web surveys (Rhodes, Bowie, & Hergenrather, 2003). Web-based surveys also allow for the quick implementation of updates to questionnaires or of brief surveys about emerging issues, such as alternative tobacco products like e-cigarettes or hookahs. In 2009, randomly selected students at eight North Carolina universities were sent an e-mail asking them to participate in the Web-based e-cigarette survey (41% response rate). Another study, among first-time e-cigarette purchasers who provided e-mail addresses to e-cigarette companies, sent 5,000 customers an e-mail invitation, and only 222 participated (4.5% response rate).

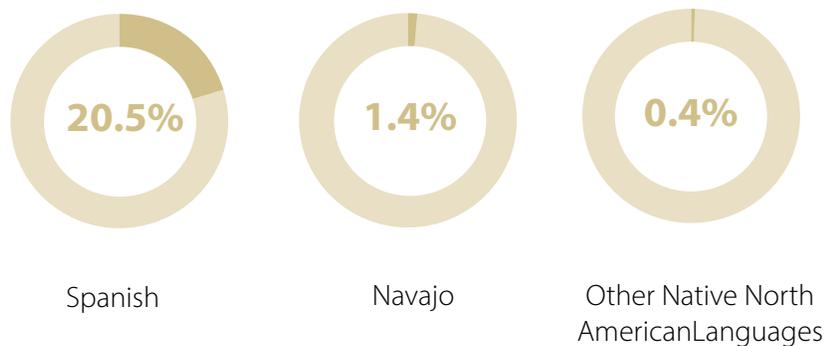
Research has also investigated specific ways to **reach rural populations**, who report disproportionately high levels of tobacco use compared with residents in other areas (Rayens, Hahn, & Hedgecock, 2008). Miyamoto, Henderson, Young, Ward, and Santillan (2013) found that local health clinics can serve as a hub for data collection, which is where rural residents often seek treatment for tobacco dependence (Rayens et al., 2008). In spite of this, rural participants in research cited travel and transportation to and from clinics as a barrier to participation (Miyamoto et al., 2013), which may make home visits a good option for this population.

Given the distinct needs of different populations, including rural and urban, old and young, and low and high income, it may seem advisable to combine efforts by using a **multifaceted approach**, but there are significant problems with these methods (Galea & Tracy, 2007). Several studies have tried to combine efforts with mailings being attempted for some participants and telephone-based surveying attempted for others, but levels of health risk behaviors, including smoking, differed on the basis of survey type even after demographic differences were controlled for (Link & Mokdad, 2005). This suggests that modes of data collection influence the data findings, making comparisons between modes ill advised. Another technique involves multistep methods in which mailings (or other methods) are followed by telephone calls (or other methods) if initial requests for participation are not accepted. This may increase response rates, but nonresponse bias, or the representativeness of the sample, does not improve (Beebe et al., 2012). One recommendation is to use a standard mode of data collection such as face-to-face or telephone interviews and offer a Web-based option for those who prefer it (Galea & Tracy, 2007).

The **setting of data collection is also a factor**. Literature suggests that differences in survey completion at home and at school are particularly important among youth and can skew reported rates of tobacco use (Delnevo & Bauer, 2009; Fan et al., 2002; Gfroerer, Wright, & Kopstein, 1997). Youth completing household surveys show lower levels of tobacco use than those surveyed at school. These youth may be less willing to participate or accurately respond to questions about risk behaviors, possibly because a parent is present (Gfroerer et al., 1997). Some work using automated telephone interviewing (i.e., the respondents answer by pressing numbers on a telephone keypad) suggests that youth may be more likely to report smoking through this method (as long as privacy and security are assured; Currihan, Nyman, Turner, & Biener, 2004).

**Language is also a key issue** mentioned by partners in partner interviews and in the literature. Although some surveys, such as the NSDUH, are available in Spanish, many are not. In Arizona, as many as 20.5% of residents speak Spanish, 1.4% speak Navajo, and 0.4% speak other Native North American languages (U.S. Census Bureau, 2013). A study by O’Hegarty and colleagues (2010) in Texas found that Hispanic/Latino adults were underrepresented because of language barriers and fluid living conditions, but that strategic, targeted methods and face-to-face interviews increased response rates to 80%. Engaging Native American communities in research and data collection can also have unique challenges (Baldwin, 1998; Mail, Conner, & Conner, 2006; Weaver, 1997). Literature recommends that researchers collaborate with community leaders in minority communities to build survey instruments and facilitate data collection (Baldwin, 1998; Miyamoto et al., 2013; Rayens et al., 2008; Weaver, 1997).

### Languages Spoken by Arizona Residents



Surveying **special populations** such as rural residents, Native Americans, and low-income groups is essential to ensuring the accuracy of tobacco-related data (Passey & Bonevski, 2014), especially given that their rates of smoking can be so high. For example, Menominee County, which is entirely within a Native American Indian reservation, has the highest rate of smoking in the state of Wisconsin (Newburn et al., 2003). Unfortunately, similar data are hard to find for the state of Arizona

## Summary of GAP 1

Environmental scans, partner interviews, and a literature review yielded important information about the dearth of localized tobacco-related data in Arizona.

Arizona needs tobacco use data that are

1. Available at the county level for all counties and at the ZIP code or census tract level for Pima and Maricopa counties; and
2. Representative of all citizens residing in the survey area, including these special populations:
  - a. youth,
  - b. rural residents,
  - c. low-income residents,
  - d. Spanish-language speakers, and
  - e. Native Americans.

## Desired Outcomes

Closing Gap 1 will allow counties and ADHS to

### Desired Outcomes

Accurately assess county-level tobacco use by ensuring that all residents, including those in special population, are surveyed.

Compare counties and localities to one another on tobacco use.

Use data-driven decision-making to identify unique prevention and intervention needs for each county.

## Gap 2 – Standardization of the Content of Tobacco Data

Analyses of both the environmental scan and the partner interviews revealed several gaps related to consistency of what tobacco content is covered in tobacco data collection systems. Specifically, the environmental scan noted that many data collection systems, including the 12 major data collection systems, asked incongruent questions about tobacco use. Although many surveys asked items related to consumption, including lifetime use, current use, past-30-day use, frequency of use, and age of onset of use, these are often asked in disparate ways. Moreover, questions about consumption often group tobacco products differently. Some surveys group all nicotine products together; some separate smoked and smokeless tobacco; and others are specific regarding the differences among cigarettes, cigarillos, hookahs, e-cigarettes, and smokeless tobacco. Much of this variation could be due to differences between multitopic and tobacco-focused surveys, which often have more specific items than multitopic surveys.

Partner interviews mirrored these concerns from the environmental scan. There was a concern about the lack of standardization of data across measures, making it very difficult to use multiple data sources in a practical way. Partners noted they desired to have standardized definitions of things such as quit rates so that they can compare rates across measures and between counties. Moreover, they also

noted that more information needs to be collected about use of emergent tobacco products, such as e-cigarettes and dissolvable tobacco. These markets change quickly and data instruments often struggle to include all possible tobacco products. Data collection tools often group these alternative tobacco products together, making it impossible to get estimates of use of specific types of products. The literature has provided some guidance about making sure that data collection remains consistent and includes newly emerging tobacco products to improve standardization.

## Literature review

Recent examination of needs in tobacco research suggests that standardization of surveys is needed, especially around **how questions are asked about emerging tobacco products** (Delnevo & Bauer, 2009). Data suggest that use of these products is becoming increasingly common (Dutra & Glantz, 2014), indicating a need for more rigorous study of their use. A significant amount of research on emerging tobacco products involves the use of brief, focused, geographically limited surveys, rather than nationally representative or even statewide surveys (Barnett, Forrest, Porter, & Curbow, 2014; Enofe, Berg, & Nehl, 2014). Questions about emerging and alternative tobacco products should be standardized to allow comparison across instruments and between localities and states.

Estimates from **tobacco-specific surveys (such as NATS and the AYTS) often differ from those of multitopic surveys (e.g., BRFSS, YRBSS, NSDUH)** (Delnevo & Bauer, 2009). The reason for this could be tobacco-specific survey introductions or wording of questions (Cowling, Johnson, Holbrook, Warnecke, & Tang, 2003; Delnevo & Bauer, 2009). Cowling and colleagues (2003) also found that women are more likely than men to underreport their tobacco use on tobacco-specific surveys, which the researchers attributed to stigma against smoking. To get in-depth information about tobacco use, a tobacco-specific instrument may be the best option, but instructions and questions should be worded carefully to minimize social desirability response bias.

Many tobacco data collection tools examine only tobacco consumption, cessation attempts, or both, but **risk and protective factors for tobacco use should also be included**. Risk and protective factors for tobacco use onset are typically limited to use in youth measures, but they have importance throughout the lifespan. Baker and colleagues (2011) point to the risk and protective factors that may relate to cessation or even preparing for cessation (on the basis of the transtheoretical model). Many of these factors are not surveyed on large-scale data collection tools (Baker et al., 2011).

## Summary of Gap 2

The content of tobacco surveys needs to have improved standardization characterized by

- consistent language and definitions across surveys;
- single focus on tobacco use;
- items asking about use of individual emerging and alternative tobacco products, rather than categories or groups of products; and
- items asking about risk and protective factors for tobacco use and cessation.

## Desired Outcomes

Closing Gap 2 will allow counties and ADHS to

### Desired Outcomes

Better compare in-depth tobacco topics

Identify the emerging tobacco products with the most widespread use to target for prevention and intervention.

Choose appropriate evidence-based programs based on identified risk and protective factors.

## Gap 3 – Accessibility of Tobacco Data

The environmental scan indicated that many data collection systems collect valuable tobacco data, but partner interviews highlight the need to improve the accessibility of those data. Partners expressed that data should be available quickly after they are collected and they should be easy to search or query. This includes the ability to obtain tobacco use data separated by age, gender, race/ethnicity, and socioeconomic status. Partners admitted that they often were unsure of how to judge the methodology behind a survey. For example, some had questions about the opt-in option and possible response bias in the AYS or about the recent addition of cell phone respondents on the BRFSS. Several partners mentioned that they would like the data they use to be evaluated and endorsed by ADHS.

### Literature review

The CDC's guidelines for creating surveillance systems provide direction to better understand the attributes of accessible tobacco data collection tools. According to the CDC, successful surveillance systems are characterized by (1) simplicity; (2) flexibility—the ability to adapt to changing needs or be integrated with other systems; (3) data quality—valid and complete data; (4) acceptability—individuals, organizations, or both are willing to participate in the data collection; (5) sensitivity—the ability of a survey to detect the problem and increases or decreases over time; (6) representativeness—the ability to accurately describe prevalence and distribution in the population; (7) timeliness—the speed with which data are collected, disseminated, and analyzed; and (8) stability—the reliability and availability of data (German et al., 2001). In regard to accessibility of data, the CDC's guidelines suggesting flexibility, timeliness, and stability are particularly important.

In the area of timeliness, some research suggests that yearly data collection may be too infrequent, especially for detecting moderate, short-term effects of cessation interventions (Baker et al., 2011). Most nationwide, or even statewide, data collection systems collect data on an annual or biennial schedule (see Appendix B). **Timeliness of data appears to be an issue for a number of local health departments** seeking localized chronic illness data (Castrucci et al., 2014). Some local health departments have turned to sources such as hospital discharge data, emergency medical service data, and electronic medical records data for more timely, localized information (Castrucci et al., 2014; Samoff et al., 2012). These outlets may have limited or less-valid data available on tobacco use than on other public health concerns.

Collecting data in a timely and localized fashion can be quite expensive, especially given the unique data collection needs of an entire state. One example of an effective system used to collect tobacco data occurred through Ohio State University in rural Appalachia, which utilized electronic data collection for field workers to collect data and make it easily accessible to the research staff (Borlawsky, Lele, Jensen, Hood, & Wewers, 2011). Specifically, data were collected using laptops with data collection software to collect face-to-face data, which were synchronized with a central database after the interview. The researchers noted that it was important to thoroughly train field staff who had limited computer literacy (Borlawsky et al., 2011).

A key need for making tobacco data accessible is the **creation of a clearinghouse to centralize tobacco data in one place** (Cruz, 2009). The clearinghouse could include assembling existing research findings, protocols, databases, and instruments that have been used to monitor and understand tobacco issues. There are some examples of local health departments integrating data from multiple data collection systems into a clearinghouse that is easy to query and easily creates reports across sources (Yi et al., 2008). Research also suggests that local health departments benefit from receiving data synthesized in systematic reviews, executive summaries, and statements of implications (Dobbins, Jack, Thomas, & Kothari, 2007).

### Summary of Gap 3

Data collection systems should allow for data that are more accessible to local partners. Data should be

- collected at least annually, if not more frequently;
- able to be integrated with other data collection systems; and
- able to be easily queried and summarized.

### Desired Outcomes

Closing Gap 3 will allow counties and ADHS to

#### Desired Outcomes

Track changes in tobacco data over time.

Assess changes in tobacco data due to prevention and intervention programs.

Respond to funding announcements with up-to-date data about county-level needs.

## Gap 4 – Training and Technical Assistance

Interviews with partners indicated that some needs could be met using existing data with improved T/TA to help them answer their specific research questions. Partners expressed a desire for more guidance about how and when to use certain data collection systems, especially among new staff. They identified a need for training on definitions of tobacco questions asked on many surveys, including ASHLine. Moreover, they would like information about the methodology of certain surveys, including data collection and sampling information. They also want TA on how to interpret specific data findings and appropriately apply them in their work. TA in this area would give partners support in using data to choose evidence-based prevention programs. TA could also help partners be responsive to changing

community needs. Finally, partners noted that T/TA needs to be done in a convenient way, such as through webinar or videoconference, to maximize participation.

### Literature review

**T/TA has taken many forms** in the literature. A recent article identified three steps to TA—decision-making, implementation, and evaluation (Le, Anthony, Bronheim, Holland, & Perry, 2014). The entity providing TA works closely with the organization receiving it to decide what topics and content will be addressed. Direct TA is then provided and later evaluated, with both parties cooperating throughout the process. A review of research indicates that T/TA relates to important outcomes, including increased adoption of evidence-based programming, participant recruitment, and implementation fidelity (West, Clapp, Averill, & Cates, 2012). Research also indicates that TA helps local entities, specifically those engaged in substance use prevention, provide measurable changes in their community beyond those that would be provided without TA (Watson-Thompson, Woods, Schober, & Schultz, 2013).

Several T/TA models for tobacco use and control exist in the United States. The Tobacco Technical Assistance Consortium provides services to local health entities, including strategic planning assistance; speakers and trainers to present at workshops, conferences, and trainings; sustainability planning; needs assessment and evaluation; grant writing, educational product development; and assistance with policy proposals (Kelger & Redmon, 2006). The Tobacco Control Evaluation Center in California provided its 100 tobacco prevention centers with individualized TA, sample reports, how-to guides, evaluation tools, interactive training workshops, and webinars (Satterlund, Treiber, Kipke, Kwon, & Cassady, 2013). Their work resulted in an increase in requests for T/TA and in increased satisfaction with T/TA.

### Summary of Gap 4

T/TA should include

- a structured T/TA plan of decision-making, implementation, and evaluation decided on in collaboration with ADHS before beginning T/TA;
- training for partners on obtaining data on tobacco use from major data collection systems;
- assistance for partners in deciding which data sources are most appropriate for different data needs;
- data-driven planning: using the data to inform tobacco prevention and control efforts; and
- assistance using the data to report program outcomes.

### Desired Outcomes

Closing Gap 4 will allow counties and ADHS to

<p><b>Desired Outcomes</b></p>	<p>Develop skills to use tobacco data collection systems to answer research questions and inform program selection and evaluation.</p>	<p>Select and test evidence-based program for tobacco prevention and control.</p>	<p>Disseminate information about successful tobacco prevention and control efforts.</p>	<p>Create proposals to support additional programs.</p>
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## RECOMMENDATIONS FOR ADDRESSING DATA GAPS

The gap analysis identified four gaps to be addressed in tobacco data collection and utilization: (1) Localization of Tobacco Data, (2) Standardization of the Content of Tobacco Data, (3) Accessibility of Tobacco Data, and (4) Training and Technical Assistance (T/TA). To address these data gaps, ADHS should develop a new data collection tool in the state of Arizona and implement its usage with support in the form of T/TA. To date, no single data collection tool has been shown in the literature to be a model data collection tool for tobacco use. Every tool has strengths and limitations depending on how the data are collected (e.g., in person, by telephone, by mail). The needed tool could produce a high response rate and a low nonresponse bias and could be adapted to the changing face of tobacco use (e.g., alternative tobacco products, adult perceptions on tobacco use, motivations to quit, tobacco legislation).

### Data Collection Tool

RTI recommends creating a data collection tool that addresses many of the limitations listed throughout this report. To begin the process of developing a new data collection tool, the following questions need to be answered by ADHS-BTCD:

- **Tool creation:** Who will create the tool? Who will provide input?
- **Purpose of tool:** Will the tool be designed to become the **primary** tool for tobacco monitoring and evaluation or will the tool **supplement** data collected from other sources (e.g., the AYTS, BRFSS, Arizona Youth Risk Behavioral Survey [YRBS], AYS)?
- **Survey content:** Should the tool be a **single topic** or **multitopic** survey? Will it cover tobacco only, substance abuse (alcohol, tobacco, and other drugs), or general health behaviors?
- **Design:** Should the survey be **cross-sectional** or **longitudinal**? If longitudinal, what frequency of data collection waves should be used—annually or more frequently?
- **Method:** Is a **computer-assisted** survey, **telephone** survey, or **face-to-face** survey preferred? Who will collect the data?
- **Target population:** Will this tool be administered to the **general population**, to **adults only**, to **youth only**? Will there be any particular focus on special populations such as lesbians, gays, and bisexual or transgendered people; those with mental or behavioral health issues; or persons with low incomes?
- **Desired sample size:** Will the tool employ **equal sampling** across each county or **proportional sampling**?
- **Setting:** Where will the tool be administered (e.g., in **homes**, **schools**, **the community**, another setting)?
- **Non-self-report data:** Are there any opportunities to use other forms of data, including administrative health records, government/medical expenditures, or commercial data sources?
- **Self-report tobacco items:** What topics will be included? Risk and protective factors? Cessation?
- **Analysis:** On the basis of the capacities that are or will be available to collect and analyze data, how quickly will results be available? In what format will data be available (e.g., reports, cleaned datasets, querying system)?

## Centralized Database

In addition to the new data collection tool, support structures, including an accessible database, will be essential. Ideally, the data from the new survey tool would be entered into one central database that could quickly and easily produce data reports. Localities would benefit from a centralized system to look at available variables and easily request queries of specific data. Questions should be answered regarding the central clearinghouse or database:

- **Database purpose:** What is the main goal of the database? What level of detail is needed?
- **Database creation:** Who will create the database? Who will provide input?
- **Database management:** Who will manage the input and output of information into the database? How will data be cleaned and corrected? How often will the database be updated?
- **Accessibility of data:** Will county partners have direct access to raw data or just to reports and queries? What about the general public? How will county partners access data? Will data be Web based?
- **Queries and reports:** What variables can be searched and analyzed? On what levels can variables be grouped?
- **Other data collection systems:** Will data from other collection systems be available for comparison, or just those from the new tool?

## Training and Technical Assistance

In addition to access to data, partnering organizations need T/TA to understand how to use the data. Greater efficacy with the use of the various data collection systems may improve dialogue about community needs, tobacco control programming, and additional data needs. Additionally, RTI suggests that ADHS-BTCD identify opportunities to improve current data collection systems. These systems already have the infrastructure in place to collect data from diverse Arizona residents. Improvements may include adding or modifying existing items on the data collection instrument, assisting in outreach to improve response rates, modifying the data collection procedures, or expanding the sample size.

- **T/TA creation:** Who will provide T/TA? Who will receive T/TA? ADHS? County partners?
- **T/TA frequency:** Will T/TA be available as needed or on a predetermined schedule?
- **T/TA scope:** Will T/TA be limited to the data collection tool and database or extend beyond them? Can it support evidence-based program selection? Data-driven planning? Strategic development? Proposal development? Sustainability? Cultural competence?



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## Appendix A: Interview Protocols

RTI International is working on behalf of the Arizona Department of Health Services, Bureau of Tobacco and Chronic Disease (ADHS-BTCD), to collect information from tobacco partnering organizations to identify existing tobacco-related data and data needs. As a representative from your organization, please answer the following questions to help us (1) determine the tobacco-related data currently or previously used by your organization; (2) identify any tobacco-related data needed by your organization; (3) develop ideas for potential new forms of tobacco-related data collection; and (4) identify any needed technical assistance in the use of tobacco-related data. To help ensure we capture all your responses, this interview will be recorded. The audio-recordings will be deleted once analysis has been completed.

### 1. Tobacco Data Currently Used

- a. What is the focus of your organization's tobacco work?
  - i. [IF NOT DESCRIBED] What type of specific tobacco-focused activities does your organization do? PROBE: Collecting tobacco data, providing tobacco cessation services, or implementing tobacco prevention programming for youth.
  - ii. How long has your organization been conducting this tobacco-focused work?
- b. What type of tobacco-related data does your organization use? [Note: partner was encouraged to complete table of data sources used before interview, begin with those listed and probe for more data sources after]. PROBE: Data may include survey data, administrative data, or hospital or medical records.
  - i. The list you provided before the interview includes [LIST DATA SOURCES HERE]. Do you have any data sources to add to that list?
  - ii. [FOR EACH LISTED DATA SOURCE, THE INTERVIEWER WILL ASK THE FOLLOWING QUESTIONS AND VERIFY INFORMATION IN THE LIST [Note: *interview will have worksheet to compile information in a standardized format*]]
    1. Who collects data? (PROBE: Your organization or some other organization)?
    2. Is the data collected through this source qualitative (i.e., text or descriptive) or quantitative (i.e., numbers or estimates)?
    3. How were these data collected? PROBE: Were data collected through a mail survey, an in-person interview, or compliance checks? Some other way?
    4. What elements did this data source measure? PROBE: Tobacco consumption, cessation services offered, or adverse health effects?
    5. What was/is the sampling frame for the data collection?
      - a. What is the approximate sample size and targeted population?
      - b. Can you provide a general description of population (e.g., age, gender, and race/ethnicity)?
      - c. What are the geographical locations or area of coverage (e.g., national, statewide, metro areas, counties, cities, and neighborhoods)?
      - d. What are the general response rates (i.e., of the planned sample, how many organizations or individuals participated in the data collection)?

6. How often was/is this data collected? PROBE: Yearly, every other year, or another time frame?
7. What are the first and most recent years for which data are available from this data source?
8. What is the smallest geographic area that you can get estimates from this data source? PROBE: State level, county level, city or town level, zip codes, census tract, or neighborhood level?
9. How have these data been tested for consistency and accuracy (i.e., reliability and validity)?
10. What process do you need to follow to access or request these data?
- iii. How are these data used by your organization? PROBE: For planning purposes? To assess compliance with policies/laws? To share with local stakeholders? Monitoring and assessing established targets?
- iv. What were the deciding factors in using the data?
- v. What has been your experience in using the data? PROBE: Strengths compared to other sources or known limitations?
- vi. Can you provide us with examples of analyses or reports that used these data?
- vii. How has the data been used by other organizations?

## 2. Data Needs

- a. Think about the data sources listed in Question 1. How would you like to see these sources improved? PROBE: Greater coverage of area and/or special population, format of data, or availability of data?
- b. Other than the data sources you already mentioned, what additional tobacco-related data would you like to have to help your organization, your local jurisdiction, or the state better address tobacco-related issues? More specifically,
  - i. How do you think other organizations such as your local jurisdiction and state agencies would use these new improved data you mentioned in the previous question?
  - ii. How might your organization use these new data for research purposes?
  - iii. What method(s) of data collection would you suggest for the new data source? Suggested methods may include but are not limited to the type of data collected (qualitative or quantitative), how the data is collected (focus group data, administrative records, or Web survey), where the data is collected (rural or urban areas), and frequency of data collection (yearly or biennial).

## 3. Training or Technical Assistance Needs

- a. What training or technical assistance needs do you have with regards to using tobacco-related data to plan programming, conduct research, or address tobacco-related issues?
- b. What would your organization like to see as the outcome of the training or technical assistance on the use of tobacco-related data? For example, would your organization like to see more data-related community partnerships, new analyses/reports, or new ideas for programming and outreach?

- c. Other than what has been listed previously, what challenges has your organization faced or are you facing with regards to using tobacco-related data?
  - d. In what formats would you like to see the technical assistance provided? That is, would your organization prefer in-person training, Web conferences, phone calls, e-mail, a knowledge base, or something else?
4. **Information from Additional Organizations**
- a. What additional organizations do you know about that may be able to provide more information on existing tobacco-related data sources or tobacco data needs? Please tell us:
    - i. The name of organization
    - ii. The type of tobacco-focused work performed
    - iii. The name and position of a suggested contact person (along with a phone number, e-mail address, or both)
5. **Do you have any additional information to provide us at this time?**



## Appendix B: Profile of Data Sources

Table B-1. Profile of Data Sources

Data Source	Agency Collecting Data	Freq. of Data Collection (most recent year)	Areas of Coverage (localization of data)	Description of Sample (n = number of participants in most recent year)	Response Rates (in most recent year)	Method of Data Collection	Tobacco-specific or Multi-topic?	Description of Data	Accessing Data
Arizona Health Survey	St. Luke's Health Initiatives via Westat	Biennial (2010)	Arizona (county and state level)	List-assisted random digit dialing  Adults (18+), n = 8,214; Children 0-5 yr (parent-report), n = 2,148	Screener: • Adult 46% • Child 39%  Interview: • Adult 42% • Child 57%	Phone survey	Multi-topic	Indications of health status, e.g., health care access, health-related behaviors, & environmental factors	Online request <a href="http://www.arizonahealthsurvey.org/request-data/">http://www.arizonahealthsurvey.org/request-data/</a>
Arizona Vital Statistics	Arizona Department of Health Services (ADHS)	Ongoing (2014)	Arizona (person level)	All residents of Arizona	N/A	Administrative records	Multi-topic	Birth, death, marriage, and divorce records	Obtain from county health departments; fee required;  some information available here: <a href="http://www.azdhs.gov/plan/index.php">http://www.azdhs.gov/plan/index.php</a>
Arizona Youth Survey (AYS)	Arizona Criminal Justice Commission	Biennial (2012)	Arizona (county and state level)	Students in grades 8, 10, and 12,  n = 62,817	91%	School-based survey	Multi-topic	Similar to Monitoring the Future survey; 8 other states completing similar survey	Online reports <a href="http://www.azcjc.gov/ACJC.Web/sac/AYS.aspx">http://www.azcjc.gov/ACJC.Web/sac/AYS.aspx</a>

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Arizona Youth Tobacco Survey (AYTS)	Centers for Disease Control (CDC) & Arizona Department of Education	Biennial (2013)	Arizona (state-level)	Multistage random sample; 18 public and 14 charter middle schools; students in grades 6–8; Sample: Public n = 1,209; Charter n = 412; Total n = 1621	Student response rates: Public - 88.6%; Charter - 78.8%; Total - 85.9%	School-based survey	Tobacco-specific	Arizona version of the National Youth Tobacco Survey	Online reports <a href="http://azdhs.gov/tobaccofreeaz/reports">http://azdhs.gov/tobaccofreeaz/reports</a>
ASHLine	Collaboration between ADHS Bureau of Tobacco and Chronic Disease (BTCD) and the University of Arizona	Ongoing (2014)	Arizona (person, county, and state level for some data)	Smokers in Arizona; 9,974 referrals (2014)	52% were reached (2014 Q3)	Administrative records and phone interview	Tobacco-specific	Demographics of cessation referrals, enrollments and coaching calls by county, and the overall 7-month quit rate	<a href="http://www.ASHLine.org/">http://www.ASHLine.org/</a>
Behavioral Risk Factor Surveillance System (BRFSS)	CDC; state health department	Annual (2013)	All 50 states, Puerto Rico, the U.S. Virgin islands, and Guam (state level)	U.S. civilian, noninstitutionalized population aged 18 years and older residing in households	Weighted response rates vary from 29.0% to 59.2% with a median of 45.9%	Computer-assisted telephone survey (CATI)	Multi-topic	A state-based system of phone health surveys	1995–2013 reports and data available online; online querying system by state, year, and subject: <a href="http://www.cdc.gov/brfss/index.htm">http://www.cdc.gov/brfss/index.htm</a>

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BRFSS—Arizona state module	CDC; state health departments	A state-based system of phone health surveys	Arizona (county and state level)	Randomly selected adults in Arizona participating in BRFSS Landlines n = 2,730 Cell phones n = 1,299	39.5% weighted response rate	Phone survey during BRFSS (see above)	Multi-topic	Optional modules are questions on specific topics (e.g., smokeless tobacco)	Online querying system (via main BRFSS Web site); monitoring reports: <a href="http://apps.nccd.cdc.gov/brfss/">http://apps.nccd.cdc.gov/brfss/</a>
Selected Metropolitan/Micropolitan Area Risk Trends of BRFSS (SMART)	CDC	Annual (2013)	United States (metropolitan/micropolitan level)	General U.S. population	N/A	Online database	Multi-topic	Uses BRFSS data to provide prevalence rates for selected conditions and behaviors for cities and their surrounding counties	Online database <a href="http://apps.nccd.cdc.gov/brfss-smart/index.asp">http://apps.nccd.cdc.gov/brfss-smart/index.asp</a>
CDC Wide-ranging Online Data for Epidemiologic Research (Wonder)	CDC	Ongoing (2014)	United States (county or regional level)	General U.S. population	N/A	Online databases	Multi-topic	Ad-hoc query system for analysis of public health data (including BRFSS, cancer data); reports available	Online databases: <a href="http://wonder.cdc.gov/">http://wonder.cdc.gov/</a>

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Counter Strike	Arizona Attorney General's Office	Ongoing (2014)	Arizona (county- and state-level)	Retail outlets in Arizona; approx. 2 tobacco merchants per county per year; over 23,000 retail inspections since 2002	N/A	Compliance checks	Tobacco-specific	Illegal purchases of tobacco in retail outlets	Available through Arizona Attorney General's Office by phone or at <a href="https://www.azag.gov/tobacco/counter-strike">https://www.azag.gov/tobacco/counter-strike</a>
Health Information National Trends Survey (HINTS)	National Cancer Institute (NCI)	Biennial (2013)	United States & Puerto Rico (national level, with some data available on state level)	Randomly selected, nationally representative sample; 18 years or older; n = 31,042	Weighted response rate was 35.19% (HINTS4 Cycle 3)	Mailed surveys	Multi-topic	Data about the American public's access to and use of cancer-related health information	HINTS Web site: <a href="http://hints.cancer.gov/">http://hints.cancer.gov/</a>
Monitoring the Future (MTF)	CDC via University of Michigan Research Center	Annual (2013)	48 contiguous states & D.C.: particular geographic areas; (national level)	Multistage random sampling; nationally representative sample; students in grades 8 (n = 15,233), 10 (n = 13,262), and 12 (n = 13,180)	8th = 90%, 10th = 88%, 12th = 82%	School-based survey, follow-up mail survey for subsample	Multi-topic	Substance use and demographic questions	Online reports 2006–2013: <a href="http://monitoringthefuture.org/">http://monitoringthefuture.org/</a>

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National Adult Tobacco Survey (NATS)	CDC's Office on Smoking and Health (OSH)	Biennial (2009-2010)	All 50 states & D.C. (national and state level)	Nationally and statewide representative sample; adults aged 18 years and older Landline – n = 110,634; Cell – n = 7,947; Total – n = 118,581	44.9% (2012-2013)	Landline and cell phone survey	Tobacco-specific	Measures tobacco use; sample design aims to provide national estimates for subgroups defined by gender, age, & race/ethnicity	2009–2010 report available online: <a href="http://www.cdc.gov/tobacco/data_statistics/surveys/nats/">http://www.cdc.gov/tobacco/data_statistics/surveys/nats/</a>
National Health Interview Survey (NHIS)	CDC	Ongoing (2014)	United States (national and census region level; some data available on state and metropolitan level)	U.S. resident, civilian, noninstitutionalized population; 18 years and older; n = 41,335 households and 104,520 persons;	Household response rate of 75.6% (2013)	Computer-assisted personal interviews (CAPI)	Multi-topic	Estimates of health indicators, health care utilization and access, and health-related behaviors	Online; National Center for Health Statistics releases NHIS public-use microdata files annually: <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
National Survey on Drug Use and Health (NSDUH)	Substance Abuse and Mental Health Services Admin. (SAMHSA); data collection and analysis conducted by RTI (through 2017)	Annual (2013)	All 50 states & D.C. (national, regional, and state level data; substate estimates for Pima and Maricopa counties, rural north, and rural south AZ)	Random sample individuals 12 and older; equally distributed between: 12-17, 18-25, & 26+ age groups; Only English and Spanish speakers; n= 68,309	Weighted screening response rate was 86.07% and the weighted interview response rate was 73.04% for persons	Computer-aided instruction (CAI) questionnaires	Multi-topic	Use of tobacco, alcohol, and illicit drug use	Online database to generate reports: <a href="https://nsduhweb.rti.org/respweb/homepage.cfm">https://nsduhweb.rti.org/respweb/homepage.cfm</a>

Table B-1. Profile of Data Sources

Data Source	Agency Collecting Data	Freq. of Data Collection (most recent year)	Areas of Coverage (localization of data)	Description of Sample (n = number of participants in most recent year)	Response Rates (in most recent year)	Method of Data Collection	Tobacco-specific or Multi-topic?	Description of Data	Accessing Data
National Survey of Parents and Youth (NSPY)	National Institute on Drug Abuse (NIDA) via Westat	Annual (1998-2004)	United States (national level)	Multistage, dual-frame probability; Youth aged 9–18 years and parents in the same households; n = 4,850–8,100 youth & 3,600–5,600 parents per round	Overall cross-sectional response rates ranged from 52.2% to 64.8% for youth and 50.3% to 62.7% for parents across 4 rounds.	CAPI	Multi-topic	Evaluation of effectiveness of the National Youth Anti-Drug Media Campaign	Online <a href="http://www.icpsr.umich.edu/icpsrweb/NAHDAP/studies/27868">http://www.icpsr.umich.edu/icpsrweb/NAHDAP/studies/27868</a>
National Youth Tobacco Survey (NYTS)	CDC's OSH; state departments of health plan	Biennial before 2011, annual since 2011 (2012)	All 50 states and D.C. (national and state level)	Middle school (grades 6–8) and high school (grades 9–12); 284 schools; n = 24,658	73.6%	School-based; paper-and-pencil survey	Tobacco-specific	Includes information on tobacco use and related behaviors and attitudes	Online <a href="http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/">http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/</a>
Population Assessment Tobacco and Health Study (PATH)	National Institutes of Health (NIH) via Westat & Food and Drug Admin. (FDA)	Annual (2011)	United States (national level)	12 years or older, both nonusers and users of tobacco;  Adults n = 32,000 Youth n = 14,000	39% for adults and 17% for youth	In-person household interviews and survey	Tobacco-specific	National longitudinal cohort study of tobacco use and how it affects people's health	Online <a href="https://pathstudyinfo.nih.gov/UI/HomeMobile.aspx">https://pathstudyinfo.nih.gov/UI/HomeMobile.aspx</a>

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Pregnancy Risk Assessment Monitoring System (PRAMS)	CDC and state health departments	Annual (2011)	40 states and New York City (Arizona does not participate); (state level)	Sample chosen from women who have had a live birth recently; annual sample sizes range from 1,000 to 3,400	In 2007–2011, the response rate was 65%	Survey—mail or by phone	Multi-topic	A surveillance project collecting data on maternal attitudes and experiences before, during, and after pregnancy	Online <a href="http://www.cdc.gov/prams/states.htm">http://www.cdc.gov/prams/states.htm</a>  <a href="http://www.cdc.gov/reproductivehealth/">http://www.cdc.gov/reproductivehealth/</a>
Smoke-Free Arizona	ADHS	Annual (2014)	Arizona (county and state level)	General population in Arizona	N/A	Online database	Tobacco-specific	Provides information regarding tobacco state laws & economic impact study	Online links by county: <a href="http://www.smokefreearizona.org/">http://www.smokefreearizona.org/</a>
State Tobacco Activities Tracking and Evaluation (STATE) System	CDC/ OSH	Annual (2014)	United States (national and state level)	General U.S. population	N/A	Interactive Web site	Tobacco-specific	Houses and displays current and historical state-level data on tobacco use prevention and control	Online reports: <a href="http://www.cdc.gov/tobacco/state_system/">http://www.cdc.gov/tobacco/state_system/</a>
Tobacco Use Supplement to the Current Population Survey (TUS-CPS)	U.S. Census Bureau for the U.S. Department of Labor	Every 3-4 years (2011)	United States (national and state level, with some county level data)	Civilian, noninstitutionalized population; interviews all eligible household members aged 18 years and older; n = 83,000	18.4%	In-person (CAPI) 36% Phone (CATI) 64%	Tobacco-specific	Tobacco questions within survey of employment and unemployment experience of the U.S. population	Online dataset: <a href="http://thedataweb.rm.census.gov/ftp/cps_ftp.html#cpssupps">http://thedataweb.rm.census.gov/ftp/cps_ftp.html#cpssupps</a>

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Data Source	Agency Collecting Data	Freq. of Data Collection (most recent year)	Areas of Coverage (localization of data)	Description of Sample (n = number of participants in most recent year)	Response Rates (in most recent year)	Method of Data Collection	Tobacco-specific or Multi- topic?	Description of Data	Accessing Data
Youth Risk Behavior Surveillance System (YRBSS)	CDC	Biennial (2013)	United States (national and state level)	Students in grades 9–12; 148 schools; n = 13,583	School response rate 77%, Student response rate 88%, Overall rate - 66%	School-based, paper-and-pencil survey	Multi-topic	Monitors 6 types of health-risk behaviors (violence, sex, alcohol/drugs, tobacco, diet, physical activity)	Online database: <a href="http://www.cdc.gov/HealthyYouth/yrb/index.htm">http://www.cdc.gov/HealthyYouth/yrb/index.htm</a>

## Appendix C: Example Of Data Source Estimates

**Table C-1. Comparison of Similar Tobacco Estimates From BRFSS, NSDUH, YRBS, and AYTS**

		Adult Use					Youth Use					
		BRFSS (18+)		NSDUH (18–25)		NSDUH (26+)	YRBS (9th-12th grade)		NSDUH (12-17)		AYTS (6th-8th grade)	
	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)
Current cigarette use	Currently smoke cigarettes (every day, some days, or not at all)	Arizona: Every day = 11.1; some days = 5.3; never smoked = 57.6	Cigarette use past month	30.6	Cigarette use past month	21.6	Cigarette use past month	Arizona=14.1; national=15.7	Cigarette use past month	15.7	Cigarette use past month	3.1
	How long since last smoked a cigarette, one or two puffs?	Current AZ adult smokers = 16.3; current national adult smokers = 19.0		39.5	Cigarette use past year	24.6			Cigarette use past year	10.3		
Other tobacco use	Current use of chewing tobacco/snuff(every day, some days, not at all)	Every day = 1.2; some day = 2.0; none = 96.8	Smokeless tobacco past month	5.8	Smokeless tobacco past month	3.1	Smokeless tobacco past month	Arizona= 6.6; national= 8.8	Smokeless tobacco past month	2.0	Smokeless tobacco past month	2.0
			Cigar use past month	10.0	Cigar use past month	4.1			Smokeless tobacco past year	4.1	Cigar/cigarillos use past month	3.0
		24.6		39.5	Cigarette use past year	4.1	Cigar use past month		Cigar use past month	2.3	Bidis/kreteks	3.0

**Table C-1. Comparison of Similar Tobacco Estimates From BRFSS, NSDUH, YRBS, and AYTS**

Adult Use						Youth Use					
BRFSS (18+)		NSDUH (18–25)		NSDUH (26+)		YRBS (9th-12th grade)		NSDUH (12-17)		AYTS (6th-8th grade)	
Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)	Specific Indicator (2013)	Estimate (2013)
		Cigar use past year	20.7	Cigar use past year	8.0			Cigar use past year	5.7	Current use of pipe/ hookah tobacco	4.0
Lifetime tobacco use	Smoked at least 100 cigarettes in entire life	Cigarette use lifetime	57.9	Cigarette use lifetime	68.1	Cigarette use lifetime	43.9 (41.1)	Cigarette use lifetime	15.7	Cigarette use lifetime	14.0
		Smokeless tobacco lifetime	20.3	Smokeless tobacco lifetime	18.5			Smokeless tobacco lifetime	6.0	Smokeless tobacco lifetime	8.0
		Cigar use lifetime	38.5	Cigar use lifetime	36.3			Cigar use lifetime	8.3	Cigar/ cigarillos use lifetime	10.0
										Pipe/ hookah lifetime	7.0
										Bidis/ kreteks	3.0

Note. BRFSS, Behavioral Risk Factor Surveillance System; NSDUH, National Household Survey on Drug Use and Health; YRBS, Arizona Youth Risk Behavioral Survey; AYTS, Arizona Youth Tobacco Survey.

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