

Suicide Surveillance Data Toolkit For GLS Grantees

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Contents

EXECUTIVE SUMMARY	5
I. WEB-BASED INJURY STATISTICS QUERY AND REPORTING SYSTEM (WISQARS) FATAL INJURY OVERVIEW	6
II. WEB-BASED INJURY STATISTICS QUERY AND REPORTING SYSTEM (WISQARS) NON-FATAL INJURY OVERVIEW	8
III. HEALTHCARE COST AND UTILIZATION PROJECT (HCUP) OVERVIEW	9
IV. WIDE-RANGING ONLINE DATA FOR EPIDEMIOLOGIC RESEARCH (WONDER) OVERVIEW	11

WEB-BASED INJURY STATISTICS QUERY AND REPORTING SYSTEM (WISQARS) FATAL INJURY

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II. STATE STATISTICS	ERROR! BOOKMARK NOT DEFINED.
A. FATAL INJURY REPORTS	ERROR! BOOKMARK NOT DEFINED.
B. LEADING CAUSES OF DEATH	ERROR! BOOKMARK NOT DEFINED.
C. FATAL INJURY MAPPING	ERROR! BOOKMARK NOT DEFINED.
D. FATAL INJURY MAPS 2004-2010	ERROR! BOOKMARK NOT DEFINED.
E. COST OF INJURY REPORTS 2010	ERROR! BOOKMARK NOT DEFINED.
F. YEARS OF POTENTIAL LIFE LOST (YPLL)	ERROR! BOOKMARK NOT DEFINED.

WEB-BASED INJURY STATISTICS QUERY AND REPORTING SYSTEM (WISQARS) NONFATAL INJURY

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HEALTHCARE COST AND UTILIZATION PROJECT (HCUP)

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II. NATIONAL STATISTICS AND TRENDS	ERROR! BOOKMARK NOT DEFINED.
A. NATIONAL STATISTICS	ERROR! BOOKMARK NOT DEFINED.
B. RANK ORDER	ERROR! BOOKMARK NOT DEFINED.
C. TRENDS	ERROR! BOOKMARK NOT DEFINED.
D. LENGTH OF STAY AND CHARGES	ERROR! BOOKMARK NOT DEFINED.
III. STATE STATISTICS AND TRENDS	ERROR! BOOKMARK NOT DEFINED.
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C. TRENDS	ERROR! BOOKMARK NOT DEFINED.
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WIDE-RANGING ONLINE DATA FOR EPIDEMIOLOGIC RESEARCH (WONDER)

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II. COMMUNITY HEALTH STATUS INDICATORS	ERROR! BOOKMARK NOT DEFINED.
III. UNDERLYING CAUSE OF DEATH	ERROR! BOOKMARK NOT DEFINED.
IV. YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM	ERROR! BOOKMARK NOT DEFINED.

APPENDIX A: ICD-10 & ICD-9 CODES

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I. ICD-10 CODES	ERROR! BOOKMARK NOT DEFINED.
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II. ICD-9 CODES

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APPENDIX B: WISQARS FATAL INJURY

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I. OVERVIEW

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II. WISQARS FATAL INJURY REPORTS

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A. COST OF INJURY REPORTS 2010

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B. FATAL INJURY MAPS 2004-2010

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C. FATAL INJURY REPORTS

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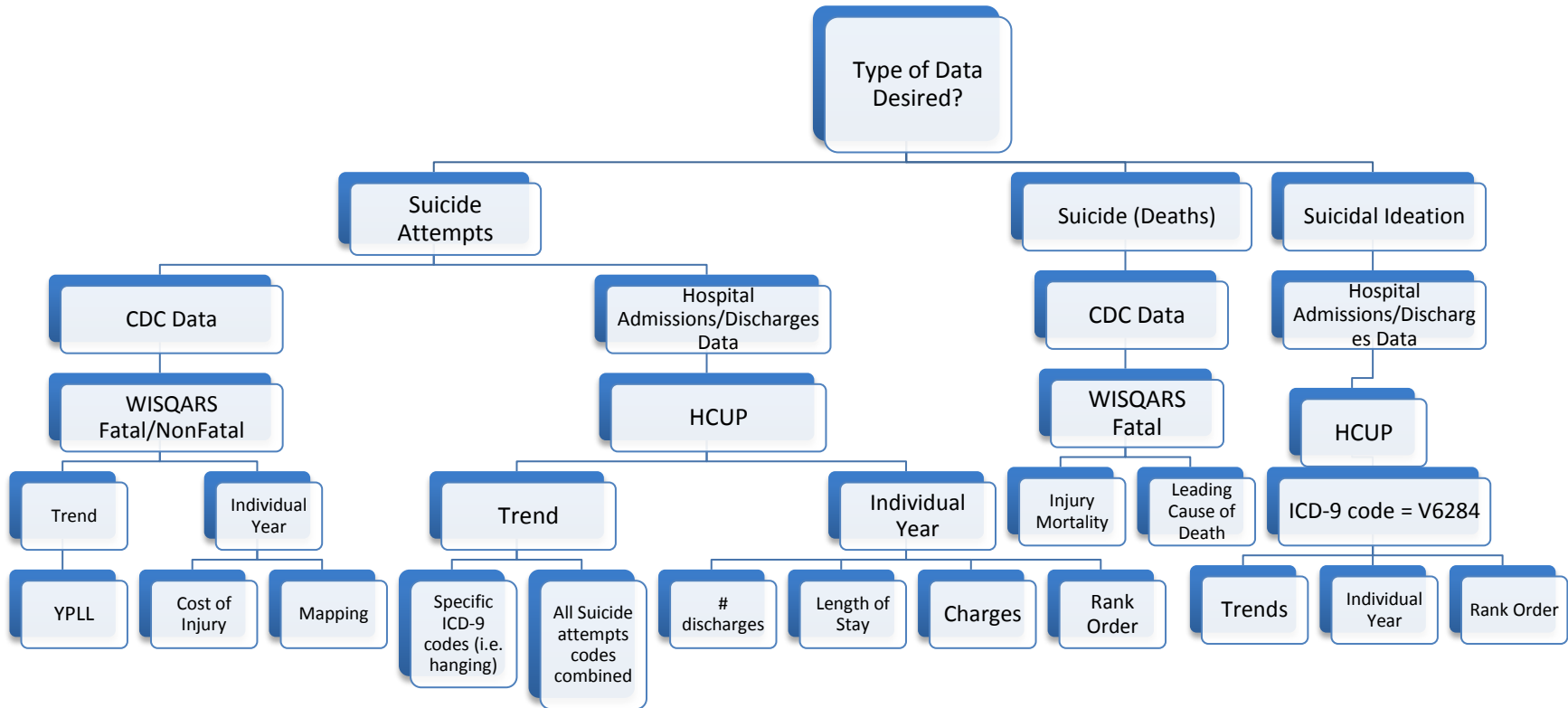
D. LEADING CAUSES OF DEATH

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E. YEARS OF POTENTIAL LIFE LOST (YPLL)

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Use this chart to help you determine which data system will answer your suicide-related questions and what kinds of information you can find in those systems!



Executive Summary

This document is designed to ensure that you are able to access relevant data to help plan your programs, understand unique needs of different areas of your state, and eventually demonstrate impact of your work on suicide attempts, suicide deaths, and other related outcomes.

In this first version, we've focused on national-level systems that collect data on suicide attempts, deaths, and other related outcomes. Next year, we'll create a toolkit for tribes and will expand this toolkit to include other system-level data systems (e.g., Death in Custody Reporting System,¹) and population-level data systems (e.g., Behavioral Risk Factor Survey System²).

Information in this document is arranged in three pieces:

Executive Summary: Gives you highlights of each system and outline what you can and cannot get from each system;

Specific System How-To: These sections—starting on page 15—will show you step-by-step instructions about how to access relevant data in the systems. These sections also include relevant information (including ICD-9 and ICD-10 codes) that will help you more easily access the data.

Appendices: We've already pulled some of the most recent year's data for your state for each of the systems and included them for you! This will help you use the data more quickly and will also give you something to check against when you start using the how-to instructions. If you get to the end of the how-to instructions for a system and see the same data we pulled for you...then you know you've done it correctly!

This document is a work in progress and we will update it periodically with additional systems, more information, clarifications, etc. If you have questions or additions, please email Chelsea Booth, Ph.D., Public Health Advisor at SAMHSA and Government Project Officer (GPO) for the Garrett Lee Smith State/Tribal Suicide Prevention Program. Her email address is chelsea.booth@samhsa.hhs.gov. You can also check in with your SAMHSA GPO and Prevention Specialist from SPRC with questions.

¹ This system comes out of the U.S. Department of Justice and collects death records from all 50 states' prison systems and approximately 2,800 local jail jurisdictions. The system also collects information on deaths that occur during arrests. The system began collecting specific information on manner of death by suicide in 2008.

² This system is sponsored by the CDC and collects information on mental illness and stigma.

I. Web-based Injury Statistics Query and Reporting System (WISQARS) Fatal Injury Overview

WISQARS™ (Web-based Injury Statistics Query and Reporting System, pronounced "whiskers") Fatal is an interactive database system that provides injury-related mortality data useful for research and for making informed public health decisions. WISQARS offers five types of reports: mortality reports, leading causes of death reports, years of potential life lost reports (YPLL), fatal injury mapping reports, and cost of injury reports.

The system is available at <http://www.cdc.gov/injury/wisqars/fatal.html>.

What information can I get from WISQARS Fatal Injury Database?

You can get 5 different kinds of reports from this system:

- Injury mortality reports: Provides number of injury deaths and death rates for specific external causes of injuries;
- Leading causes of death reports: Provides the number of injury related deaths relative to the number of other leading causes of death in the United States and/or individual states;
- Years of potential life lost (YPLL) reports: Compares premature mortality (early death) among various causes of death;
- Fatal injury mapping reports: State level comparisons of injury and/or mortality rates;
- Cost of injury reports: Produces reports that estimate the costs of injuries (both fatal and nonfatal).

You can also get statistics for a specific population. The information you pull is based on census region/state:

- Race (white, black, American Indian/Alaskan Native, Asian and Pacific Islander, and 'other');³
- Sex;
- Hispanic Origin.

Finally, you can get statistics for a specific age range for Mortality Reports and Leading Causes of Death Reports that produce information on mechanism/cause and manner/intent of death:

- Mechanism/cause : the way in which an injury occurs (i.e., motor vehicle accident or firearm wound);
- Manner/intent: the circumstance that lead to an injury or death (i.e., self-inflicted or accidental).

³ Race information is not available in cost of injury reports.

FOR EXAMPLE: You could pull data for your state, all suicide deaths, and have them divided out by age, race, and age group. You would be able to answer the following questions:

- How many girls between 13 and 19 years old die by suicide in my state?
- What are the three most common methods of suicide death for black, non-Hispanic, boys between 13 and 20 in my state?
- In 2013 in my state, for Hispanic children between 13 and 19, what was the most common method of suicide death?

What can't I get from WISQARS Fatal Injury?

Although WISQARS Fatal Injury Reporting System provides a great deal of information, it does have some limitations. These are examples of some data not available from this system:

- Reports for data prior to 1981;
- Hispanic origin data prior to 1990;
- User-defined age groups prior to 1990;
- Reports using causes of death codes not already defined;
- Non-injury data, except what is available on leading causes of death reports;
- County-level data.

Questions WISQARS Fatal Injury can answer:

- How many people between the ages of 10 and 24 died from suicide between the years 2002 and 2013? What is the death rate (per 100,000) during these years?
- In 2010, how did suicide rank among other leading causes of injury death?
- In 2009, how did suicide rank among all leading causes of death?
- How do suicide death rates (per 100,000) vary across the United States?
- How do suicide death rates (per 100,000) vary among counties in a certain state?
- What is the average lifetime cost of suicide deaths for ages 25-64?
- What are the years of potential life lost (YPLL) in 2010 for suicide deaths, for individuals ages 25-64?

II. Web-based Injury Statistics Query and Reporting System (WISQARS) Non-Fatal Injury Overview

WISQARS™ (Web-based Injury Statistics Query and Reporting System, pronounced "whiskers") Non-Fatal is an interactive database system that provides injury-related morbidity data useful for research and for making informed public health decisions.

WISQARS Non-Fatal offers five types of reports: Cost of Injury Reports 2010, Nonfatal Injury 2001-2013, Leading Causes of Nonfatal Injury 2001-2013, Nonfatal Injury 2000; and Leading Causes of Nonfatal Injury 2000.

Information in this system come from a national sample of emergency department visits via the National Electronic Injury Surveillance—All Injury Program (NEISS-AIP) operated jointly by the U.S. Consumer Product Safety Commission with the CDC's National Center for Injury Prevention and Control (NCIPC)

The system is available at <http://www.cdc.gov/injury/wisqars/nonfatal.html>.

What information can I get from WISQARS Non-Fatal Injury Database?

You can get 5 different kinds of reports from this system, but we'll only be looking at two in this toolkit:

- Nonfatal Injury 2001-2013: Provides number of nonfatal injuries treated in emergency departments.
- Leading Causes of Nonfatal Injury 2001-2013: Provides ranking of the leading causes of nonfatal injuries treated in emergency departments.

You can get statistics separated out by:

- Mechanism (cause);
- Geographical region/state;
- Race/ethnicity;
- Sex;
- Age.

What can't I get from WISQARS Non-Fatal Injury?

Although WISQARS Non-Fatal Injury Reporting System provides a great deal of information, it does have some limitations. These are examples of some data not available from this system:

- Suicide attempt only data. Suicide attempts cannot be differentiated from non-suicidal self-injury.
- Reliable short-term trend tracking. There are large confidence intervals around the estimates you get from this system and so data are not reliable indicators for

tracking trends over the short term since estimates vary a great deal from year to year.

What can I get from WISQARS Non-Fatal Injury?

- National data on nonfatal injuries that can be compared across demographic groups (e.g., race or ethnicity) and by mechanism (cause);
- National cost data. Cost data in WISQARS Non-Fatal Injury includes medical costs (treatment and rehabilitation) and work-loss costs (e.g., lost wages, benefits, self-reported household services).

III. Healthcare Cost and Utilization Project (HCUP) Overview

The Healthcare Cost and Utilization Project (HCUP, pronounced “H-Cup”) includes several healthcare databases that enable you to look at data on a wide range of issues, including cost and quality of health services, medical practice patterns, access to health care, and outcomes of treatments. The Agency for Healthcare Research and Quality (AHRQ) works with state, industry (including hospital association and private data organizations), and federal partners to collect these data for the HCUP databases. HCUP includes the largest collection of longitudinal (over-time) hospital care data in the US and some data are available from 1988 forward.

HCUPnet is a free, online query system that allows individuals guided access to HCUP data for both national and state specific requests. You may also be able to get data in a more timely manner by working with your state to get data that feed into these HCUP databases. But HCUPnet is a good first step to determine whether the data will help you answer your questions.

Detailed information can be accessed at www.hcup-us.ahrq.gov.

What information can I get from HCUP?

There are six databases that make up HCUP and each will provide different kinds of information:

- **NIS** (National Inpatient Sample): Initiated in 1988, it has separate datasets for each year and each year includes approximately 7 million cases. Those 7 million represent a 20% random sample from all inpatient discharges for a given year.⁴
 - All ages and races are represented in this sample.
- **KID** (Kid’s Inpatient Sample): Introduced in 1997, this dataset is a national sample of pediatric discharges.

⁴ Inpatient discharges include all patients who were admitted (except those admitted via the emergency room) and discharged from the same community hospital.

- Available data is for ages 0-17 only.
- **NEDS** (Nationwide Emergency Department Sample): Introduced in 2006, this database provides national estimates for Emergency Department visits.
 - Includes all admission and discharge data for Emergency Departments only.
 - No age or other demographic restrictions.
- **SID** (State Inpatient Databases): Started in 1995, these databases contain state specific data for all HCUP participating states.
 - Similar to NIS but give you state level data.
- **SASD** (State Ambulatory Surgery and Services Databases): Initiated in 1997, this database compiles data on ambulatory and outpatient services at hospital owned facilities.
 - Contains data for all outpatient surgeries at hospital and/or nonhospital owned outpatient surgery centers in a given state.
- **SEDD** (State Emergency Department Databases): Introduced in 1999, this dataset is made up of data from hospital-affiliated Emergency Departments for visits that DID NOT lead to hospitalization.

You can get statistics from the various databases for specific populations based on:

- Race;
- Age groups (predetermined);⁵
- Gender;
- Insurance type used;
- Income level (based on patient's ZIP code);
- Primary and secondary diagnoses or procedures.

What can't I get from HCUP?

While there is much information that can be gained from HCUP, there are limitations. Some examples of information that cannot be extracted from HCUP are:

- Specific mental health statistics prior to 1995 (2005 if you are using the Clinical Classification System);
- Data for every individual state (while 46 contribute data, statistics are only available for 37 states in the NIS dataset);
- Data on suicide deaths.

⁵ You cannot create custom age ranges using HCUPnet (like 10-24 years old) the way you can in WISQARS. If you need to get data in a customized age range, you'll need to either pay for a dataset from HCUP or find your state contact and try to get the information that way.

Questions HCUP can answer:

- How many people, over the age of 18, were hospitalized for suicide attempts and suicidal ideation in 2012 in the United States?
- How many people were hospitalized for suicidal ideation in the United States in 2012?
- Were suicide attempts and ideation among the Top 10 reasons for hospitalization nationally in 2012?
- Has the rate of suicide attempts that lead to hospitalization increased in the US from 2007-2012?
- In 2012, what was the average cost and length of stay associated with suicide attempts?
- How many people in **[Your State]** in 2013 were hospitalized for suicidal ideation and suicide attempts?
- How many people in **[Your State]** in 2013 were hospitalized for self-inflicted cutting/piercing?
- How does suicide rank among the other causes of hospitalization in **[Your State]** in 2013?
- Has the number of people hospitalized for suicide attempts increased from 2009-2013 in **[Your State]**?
- What was the average length of stay and charges associated with suicide attempts in **[Your State]** in 2013?

IV. **Wide-ranging Online Data for Epidemiologic Research (WONDER)** **Overview**

WONDER (Wide-ranging Online Data for Epidemiologic Research) is another source of data from the CDC that includes access to a wide range of information that could be very useful to your work. We don't highlight all databases in WONDER here—there are 23 separate databases—but we encourage you to look at the other systems to see if there's additional information that could be helpful.

With CDC WONDER you can:

- Access statistical research data published by CDC, as well as reference materials, reports and guidelines on health-related topics;
- Query numeric data sets on CDC's computers, via "fill-in-the blank" web pages. Public-use data sets about mortality (deaths), cancer incidence, HIV and AIDS, tuberculosis, vaccinations, natality (births), census data and many other topics are available for query, and the requested data are readily summarized and analyzed, with dynamically calculated statistics, charts and maps.

The data is ready for use in desktop applications such as word processors, spreadsheet programs, or statistical and geographic analysis packages. File formats available include plain text (ASCII), web pages (HTML), and spreadsheet files (Tab Separated Values). While you can do more complicated analyses of these data, accessing data is relatively easy and requires no special computer expertise.”⁶

V. Examples

This toolkit uses concrete examples to both introduce you to the systems and help you answer important questions. We’ve gathered all examples from the toolkit into the chart below:

EX	QUESTION	Page	Notes
WISQARS Fatal – Fatal Injury Reports			
1	How many people between the ages of 10 and 24 die by suicide between 2002 and 2013 in [Your State] ?	17	
1	What is the death rate per 100,000 between 2002 and 2013 for both individual years and cumulate?	17	
WISQARS Fatal – Leading Causes of Death Reports			
2	In 2010, how did suicide rank among the leading causes of injury death in those between 10 and 24 years old in [Your State] ?	21	
2A	What percentage of the deaths in the 10 to 24 year age group was caused by suicide?	24	
3	In 2010, how did suicide death rank among all leading causes of death in [Your State] ?	26	
3A	What percentage of the 2010 deaths were caused by suicide in [Your State] ?	28	
WISQARS Fatal – Fatal Injury Mapping (National & State)			
4	How do suicide death rates vary across the United States?	29	Creates a map.
5	How do suicide death rates among 10 to 24 year olds vary across counties in [Your State] ?	31	Creates a map.

⁶ For more information on suicide related topics, please visit the Suicide Prevention Resource Center (SPRC) website. Factsheets are available that provide detailed descriptions of each database described in this toolkit.

WISQARS Fatal – Cost of Injury Reports 2010			
6	What is the total cost for all deaths and average lifetime medical costs per suicide death by firearm and by poisoning for ages 10 to 24 years in the state of [Your State]?	33	
WISQARS Fatal – Years of Potential Life Lost (YPLL)			
7	What are the years of potential life lost (YPLL) in 2010 for suicide deaths in the state of [Your State]?	37	
WISQARS Nonfatal – Nonfatal Injury 2001-2013			
8	How have rates and numbers of self-harm by individuals 10-24 years old changed between 2001 and 2013 across the U.S.?	40	
9	How many Hispanic girls between 10 to 24 years old have attempted suicide by poison between 2001 and 2013 in the U.S.?	43	
HCUP National Statistics			
10	How many people over the age of 18 were hospitalized for suicide attempts and suicidal ideation in 2012 in the U.S.?	50	By CCS
11	How many people were hospitalized for suicidal ideation in the U.S. in 2012?	54	BY ICD-9-CM
HCUP National Statistics –Rank Order			
12	Were suicide attempts and ideation among the Top 10 reasons for hospitalization nationally in 2012?	58	By CCS
13	Were suicide attempts and ideation among the Top 10 reasons for hospitalization nationally in 2012?	64	By ICD-9-CM
HCUP National Statistics – Trends			
14	Has the rate of suicide attempts leading to hospitalization increased in the U.S. from 2007 to 2012?	67	By CCS
15	Has the rate of suicide attempts leading to hospitalization increased in the U.S. from 2007 to 2012?	71	BY ICD-9-CM
HCUP National Statistics –Length of Stay and Charges			
16	In 2012, what was the average cost and length of stay associated with suicide attempts?	73	By CCS
17	In 2012, what was the average cost and length of stay associated with suicide attempts?	77	BY ICD-9-CM
HCUP State Statistics			
18	How many people in a state were hospitalized for suicidal ideation and suicide attempts in 2013?	80	By CCS
19	How many people in a state were hospitalized for self-inflicted cutting/piercing?	84	BY ICD-9-CM

HCUP State Statistics – Rank Order			
20	How does suicide rank among the other causes of hospitalization in a state in 2013?	88	By CCS
21	How does suicide rank among the other causes of hospitalization in a state in 2013?	92	BY ICD-9-CM
HCUP State Statistics – Trends			
22	Has the number of people in a state hospitalized for suicide attempts increased from 2009 to 2013?	93	By CCS
23	Has the number of people in a state hospitalized for suicide attempts increased from 2009 to 2013?	96	BY ICD-9-CM
HCUP State Statistics –Length of Stay and Charges			
24	What was the average length of stay and charges associated with suicide attempts in a state in 2013?	98	By CCS
25	What was the average length of stay and charges associated with suicide attempts in a state in 2013?	103	BY ICD-9-CM
WONDER – Community Health Status Indicators			
26	How does a county in [Your State] rank among all counties in the U.S. when looking at inadequate social support? ⁷	107	
WONDER – Underlying Cause of Death			
27	How many people between 10 and 24 years old attempted suicide in [Your State] ?	111	BY ICD-10 code

VI. Conclusion

The following sections are designed to walk you through getting access to data you need for planning purposes. The following sections are designed to walk you through getting access to data you need for planning purposes. If you have questions about how to use these data, please ask your GPO!

⁷ Other relevant indicators in this report include older adult depression, adult overall health status, primary care provider access, cost barrier to care, uninsured, poverty, unemployment, high housing costs, violent crime, housing stress, and limited access to healthy food.