

# State Special Emphasis Report

Instructions for Traumatic  
Brain Injury Data



National Center for Injury Prevention and Control  
Division of Injury Response





# **State Special Emphasis Report:** Instructions for Traumatic Brain Injury Data

**U.S. Department of Health and Human Services**

Centers for Disease Control and Prevention  
National Center for Injury Prevention and Control  
Division of Injury Response

Atlanta, Georgia  
May 2012

*State Injury Special Emphasis Report: Instructions for Preparing Traumatic Brain Injury Data* is a publication of the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention (CDC).

### **Suggested citation:**

Jones CD, Thomas KE, Johnson RL. State injury special emphasis report: instructions for preparing traumatic brain injury data. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2012.

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## **Acknowledgements**

The editors wish to acknowledge the many years of Injury Indicator data submission by our state partners which has enabled the continued advancement of the Injury Indicator reach to include this more in-depth presentation of traumatic brain injury data. Also the editors extend a special thank-you to Kavitha Muthuswamy and Kelly Sarmiento, both from the National Center for Injury Prevention and Control, for their creation of the report template.

## FOREWORD

The National Center for Injury Prevention and Control (NCIPC) of the Centers for Disease Control and Prevention (CDC) is pleased to provide this document to guide states in preparing a special emphasis report on traumatic brain injury (TBI).

In a continued effort to expand TBI surveillance capacity through the Core Violence and Injury Prevention Program, NCIPC expanded the Injury Indicators for the 2010 data year to include more details on the external causes of injury for TBI-related deaths, hospitalizations, and emergency department (ED) visits. The TBI Special Emphasis Report template is a tool produced by NCIPC for state health department injury and violence prevention programs and their partners to facilitate use of the Injury Indicator TBI data and to move it into action.

The Special Emphasis Report is built upon the Injury Indicator consensus driven product and as such is in alignment with the TBI Injury Indicators. This methodology is based on recommendations developed by working groups representing the Safe States Alliance; the Council of State and Territorial Epidemiologists (CSTE); the CDC and NCIPC; the Society for Advancement of Violence and Injury Research (SAVIR); and individual state partners. States will need to be familiar with the State Injury Indicators: Instructions for Preparing 2010 Data<sup>1</sup> document and use it as a reference.

## ABBREVIATIONS

<b>CDC</b>	Centers for Disease Control and Prevention
<b>ED</b>	Emergency Department
<b>ICD-10</b>	International Classification of Diseases – Tenth Revision
<b>ICD-9-CM</b>	International Classification of Diseases – Ninth Revision – Clinical Modification
<b>NCHS</b>	National Center for Health Statistics
<b>NCIPC</b>	National Center for Injury Prevention and Control
<b>TBI</b>	Traumatic Brain Injury





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## What is an Injury Special Emphasis Report?

*Injury Special Emphasis Reports will be developed and used by state health department injury and violence prevention programs and their partners to move injury data into action. They are intended to focus on subsets of a state's injury data in order to highlight the prevention needs related to specific causes or population subgroups. The reports provide detailed information for the focus area. The unified content and design of the reports result in the recognition and use of injury data.*

## BACKGROUND AND PURPOSE

In 2005, TBI surveillance was expanded by leveraging TBI funding with the funding for the Core Violence and Injury Prevention Program to further support state health department surveillance capacity. Aligning the two sources of surveillance funding resulted in an increase in the number of states funded to produce and submit state-level TBI-related hospitalization and death data annually. Voluntary submission of data by states that were not federally funded by the Core Violence and Injury Prevention Program was encouraged for inclusion in the State Injury Indicators Report. By 2010, 30 states funded by CDC and 11 additional states submitted state-level TBI data from death certificate and hospital discharge records for inclusion in the State Injury Indicators Report. These periodic reports provided state-level rates of TBI-related deaths and hospitalizations by age group and gender.

An internal evaluation of annual TBI reporting was conducted to provide information on how to improve the format of the report and make it compatible with the goals and objectives of the new funding cycle, and to recommend methods on how to increase TBI data dissemination. The evaluation found that annual TBI data reporting has value on both state and national levels because state health departments were producing annual TBI data reports and disseminating these data reports in their state. The evaluation recommended improving the value of the reporting system by establishing clear guidance on reporting and developing a systematic reporting process.

This manual provides straightforward information to encourage all states and U.S. territories, regardless of their epidemiologic infrastructure and capabilities, to produce TBI data and to move it into action. Companion tools will be provided to assist states in creating a brief, meaningful TBI data report.

# METHODS

## Instructions for Creating and Using a TBI-Specific Vital Statistics Data Set

The TBI-specific death indicators should be calculated based on first creating a TBI-related injury death subset. This is done using the instructions for the TBI-related fatality indicator in the State Injury Indicators: Instructions for Preparing 2010 Data<sup>1</sup> and outlined below:

- First, limit deaths to those with an injury underlying cause of death (V01–Y36, Y85–Y87, Y89, \*U01–\*U03).
- Then select deaths with any of the TBI ICD-10<sup>2</sup> codes in any field of the multiple cause of death file:
  - S01.0–S01.9, S02.0, S02.1, S02.3, S02.7–S02.9, S04.0, S06.0–S06.9, S07.0, S07.1, S07.8, S07.9, S09.7–S09.9, T01.0, T02.0, T04.0, T06.0, T90.1, T90.2, T90.4, T90.5, T90.8, T90.9.
- The TBI-related injury fatalities indicator should be the same as the TBI indicator in the Overall State Injury Indicator Death spreadsheet.
- For the other TBI-related indicators, use the underlying cause of death ICD-10 codes specified in the Injury Indicator Instructions and below:
  - Unintentional fall-related fatalities: W00–W19
  - Firearm-related fatalities: W32–W34, X72–X74, X93–X95, Y22–Y24, Y35.0, \*U01.4
  - Homicides: X85–Y09, Y87.1, \*U01, \*U02
  - Motor vehicle traffic fatalities: V02–V04(.1, .9), V09.2, V12–V14(.3–.9), V19(.4–.6), V20–V28(.3–.9), V29–V79(.4–.9), V80(.3–.5), V81.1, V82.1, V83–V86 (.0–.3), V87(.0–.8), V89.2
  - Suicides: X60–X84, Y87.0, \*U03
- Deaths should be age-adjusted to the 2000 standard using the NCHS population distribution (page 54 of the Injury Indicator Instructions).

## Instructions for Creating and Using a TBI-Specific Injury Hospitalizations Data Set

The TBI-specific hospitalization indicators should be calculated based on first creating a TBI-related injury hospitalization subset. This is done using the instructions for the TBI-related hospital discharge indicator in the State Injury Indicators: Instructions for Preparing 2010 Data<sup>1</sup> and outlined below:

- First, create an injury hospitalization subset (a primary diagnosis of 800–909.2, 909.4, 909.9, 910–994.9, 995.5–995.59, or 995.80–995.85).
- Then select hospitalizations with any of the following TBI ICD-9-CM<sup>3</sup> codes in any diagnosis field: 800.00–801.99, 803.00–804.99, 850.0–854.19, 950.1–950.3, 959.01, or 995.55.
- The TBI-related injury hospitalization indicator should be the same as the TBI indicator in the Overall State Injury Indicator Hospital Discharge spreadsheet.
- For the other TBI-related indicators, use the external-cause-of-injury codes specified in the Injury Indicator Instructions and below. Search for external-cause-of-injury codes as instructed in the Injury Indicator Instructions (pages 6–7).

- Unintentional fall-related hospitalizations: E880–E886, E888
  - Firearm-related hospitalizations: E922.0–E922.3, E922.8, E922.9, E955.0–E955.4, E965.0–E965.4, E985.0–E985.4, E970, E979.4
  - Assault-related hospitalizations: E960–E969, E979, E999.1
  - Motor vehicle traffic hospitalizations: E810–E819
  - Suicide attempt hospitalizations: E950–E959
- Hospitalizations should be age-adjusted to the 2000 standard using the NCHS population distribution (page 54 of the Injury Indicator Instructions).
  - The percentage of TBI-specific injury hospitalizations with external cause coding and those with only an unspecified external cause of injury should be calculated as instructed in the TBI-specific hospitalization spreadsheet.

### **Instructions for Creating and Using a TBI-Specific Emergency Department Data Set**


These indicators should be calculated based on first creating a TBI-related injury emergency department visit subset. This is done using the instructions for the TBI-related emergency department indicator in the State Injury Indicators: Instructions for Preparing 2010 Data<sup>1</sup> and outlined below:

- First, create an injury emergency department visit subset (a primary diagnosis of 800–909.2, 909.4, 909.9, 910–994.9, 995.5–995.59, or 995.80–995.85 OR a valid external cause of injury).
- Then select emergency department visits with any of the following TBI ICD-9-CM<sup>3</sup> codes in any diagnosis field: 800.00–801.99, 803.00–804.99, 850.0–854.19, 950.1–950.3, 959.01, or 995.55.
- The TBI-related injury emergency department visit indicator should be the same as the TBI indicator in the Overall State Injury Indicator Emergency Department Visit spreadsheet.
- For the other TBI-related indicators, use the external-cause-of-injury codes specified in the Injury Indicator Instructions and below (the same ICD-9-CM<sup>3</sup> codes as for hospitalizations). Search for external-cause-of-injury codes as instructed in the Injury Indicator Instructions (page 9).
  - Unintentional fall-related emergency department visits: E880–E886, E888
  - Firearm-related emergency department visits: E922.0–E922.3, E922.8, E922.9, E955.0–E955.4, E965.0–E965.4, E985.0–E985.4, E970, E979.4
  - Assault-related emergency department visits: E960–E969, E979, E999.1
  - Motor vehicle traffic emergency department visits: E810–E819
  - Suicide attempt emergency department visits: E950–E959
- Emergency department visits should be age-adjusted to the 2000 standard using the NCHS population distribution (page 54 of the Injury Indicator Instructions).
- The percentage of TBI-specific injury emergency department visits with external cause coding and those with only an unspecified external cause of injury should be calculated as instructed in the TBI-specific emergency department visit spreadsheet.



# APPENDIX A: Special Emphasis Report: Traumatic Brain Injury template

This is a screenshot of the report template to be customized by individual states. The actual template is found in an accompanying file.


<STATE NAME>  
Special Emphasis Report: Traumatic Brain Injury <DATA YEAR>

### Understanding TBI

Traumatic brain injury (TBI) is a serious public health problem and in the United States. A TBI is caused by a bump, blow, jolt, or penetration to the head that disrupts the normal function of the brain. Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability.

### Impact and Magnitude of TBI

During <Data Year>, a TBI was sustained by <total #> of people in <State>. Among those injured, <#> (<rate> per 100,000) died where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions, another <#> (<rate> per 100,000), were hospitalized with a TBI alone or in combination with other injuries or conditions, and an additional <#> (<rate> per 100,000) were treated and released from emergency departments with a TBI alone or in combination with other injuries or conditions. An unknown number of individuals sustained injuries that were treated in other settings or went untreated.

### Causes of TBI

Cause of injury varies across the three levels of severity. <Cause> was the leading cause of injury among those who died where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions. <Cause> was the leading cause of injury among those who were hospitalized with a TBI alone or in combination with other injuries or conditions. And, <cause> was the leading cause of injury among those who were treated and released from emergency departments with a TBI alone or in combination with other injuries or conditions.

**Notes:** Firearm-related injuries were reported but excluded from the etiology graphic due to overlap with multiple categories (e.g., homicide/assault, suicide). Firearms were related with <%> of deaths, <%> of hospitalizations, and <%> of emergency department visits. Completeness of external-cause coding for TBI-related cases can impact the accuracy of the cause classifications for hospitalizations and emergency department visits.

#### Deaths

#### Emergency Department Visits

#### Hospitalizations

**Figure 1: Percentage of Annual TBI-Related Deaths, Hospitalizations, and Emergency Department Visits, by External Cause, in <State>, <Data Year>**


  

Category	0-14 Yrs	15-24 Yrs	25-44 Yrs	45-64 Yrs	65+ Yrs
Deaths	10	25	15	20	30
Hospitalizations	25	10	25	20	20
Emergency Department Visits	20	10	20	10	40

Percentage

**Figure 2: Percentage of Annual TBI-Related Deaths,\* Hospitalizations,\*\* and Emergency Department Visits,\*\* by Age, in <State>, <Data Year>**

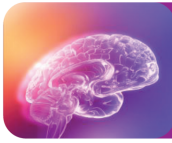
State Health  
Department  
LOGO



CENTERS FOR DISEASE  
CONTROL AND PREVENTION

\*TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions  
 \*\* TBI alone or in combination with other injuries or conditions

Cooperative Agreement 11-1101



<STATE NAME>

Special Emphasis Report: Traumatic Brain Injury <DATA YEAR>

### TBI by Gender

Men were more likely to sustain a traumatic brain injury than women. The magnitude of this difference was greatest among those who <died, were hospitalized or those treated and released from emergency departments>. Men accounted for <%> (<rate> per 100,000) of deaths where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions, <%> (<rate> per 100,000) of hospitalizations for TBI alone or in combination with other injuries or conditions and <%> (<rate> per 100,000) of emergency department visits for TBI alone or in combination with other injuries or conditions.

<Optional: additional state-specific comments>



### TBI Prevention Strategies

CDC's National Center for Injury Prevention and Control (Injury Center) is committed to protecting people against preventable TBI by putting science into action.

- **State Injury Prevention Programs** - The Injury Center's Core Violence and Injury Prevention Program (Core VIPP) funds state health departments to estimate the impact of TBIs and define the groups most affected. [www.cdc.gov/injury](http://www.cdc.gov/injury)
- **Heads Up** – Injury Center campaigns with free tools for health care providers, school administrators, nurses, teachers, coaches, and parents to help them recognize and respond to a TBI. [www.cdc.gov/traumaticbraininjury](http://www.cdc.gov/traumaticbraininjury)
- **Motor Vehicle Safety** – Motor vehicle crashes are a leading cause of death, injury and TBI in the US. CDC's primary prevention focuses on child passenger safety, seat belt use and reducing impaired driving. [www.thecommunityguide.org/mvoi](http://www.thecommunityguide.org/mvoi) [www.cdc.gov/motorvehiclesafety](http://www.cdc.gov/motorvehiclesafety)

### <STATE> TBI Activities

Prevention

Surveillance

Partnerships

Accomplishments/Successes

Note: TBI-related cases were identified by first limiting the datasets to injury cases based on external cause of injury (deaths), primary diagnosis (hospitalizations), or both (emergency department visits). All fields were then searched for TBI diagnostic codes. Reference to any commercial entity or product or service on this page should not be construed as an endorsement by the Government of the company or its products or services.

STATE DEPARTMENT OF HEALTH  
State DPH Injury Prevention Program Website

Released <Month, year>



## **APPENDIX B: Instructions for using the *Special Emphasis Report: Traumatic Brain Injury* template**

The data publication template for the *Special Emphasis Report: Traumatic Brain Injury* is designed to be used in conjunction with the Traumatic Brain Injury Spreadsheets. The template is structured around a series of preformatted Excel generated graphics and text boxes. As state-specific data is entered, these boxes may need to be resized slightly to accommodate the individual state text.

All of the data to be presented in the template is found within the Traumatic Brain Injury Spreadsheets. In some cases data from two or more cells of a spreadsheet may need to be combined as it is transferred to the Excel tables found in the template.

The template is a formatted tool to help states quickly publish and disseminate state-specific traumatic brain injury data to support program initiatives. It is designed as a collaborative publication between CDC and state injury prevention programs to reflect the work across agencies to prevent TBIs.

### **Technical Requirements**

The template is provided in both Microsoft Word 2003 and 2010 to ensure access and compatibility across user systems. For those using Microsoft Word 2007, you may wish to use the MS Word 2003 template, or download a free Microsoft Office Compatibility Pack to exchange files between previous releases of MS Word (2007 and 2003). <http://office.microsoft.com/en-us/products/microsoft-office-compatibility-pack-for-word-Excel-and-powerpoint-HA010168676.aspx>.

The template can be used with previous versions of MS Word, but may need adjustments in formatting or saved as compatible file type (.doc). Save the completed document as a PDF for easier printing and electronic distribution. Please follow the guidelines below for easy use and to ensure consistent design.

### **Entering Data for Charts/Graphs in Microsoft Word 2010**

To enter data into the template pie charts and graphs:

- Click once onto the chart and the *Chart Tools* menu will appear on your toolbar.
- Right click on the chart and choose *Edit Data* from the menu.
- Enter data into the Excel sheet that opens.
- When complete, click **X** on the top right corner and the data will be automatically updated and saved.

## Entering Data for Charts/Graphs in Microsoft Word 2003

To enter data into the template pie charts and graphs:

- Click once onto the chart.
- Right click on the chart and choose *Chart Object* from the menu.
- Click on *Edit*
- The *Chart Tools* will open on the top toolbar, and the chart will be displayed as one page in an Excel Workbook.
- Click on the next worksheet to view or edit the data.
- When complete, click **X** on the top right corner and the data will be automatically updated and saved.

## Editing the Header

- To access the header in Word 2010, choose *Insert*, then *Header*, then *Edit Header*.
- In header, insert your state name in ALL CAPS, as indicated.
- Enter relevant information in <highlighted> sections and then remove highlighting and “< >” characters.
- Try to keep the font and formatting the same to avoid major shifts in spacing and layout.
- To ensure consistent design, keep only the 2 lines of text in the header. Use data year in the header, not the year the data is released.

## Adding Pages

- If you are including additional data points in your report, add extra pages to the template by inserting a new page. The new page will include the header.
- You may choose to add page numbers for additional pages.

## Design Layout, Colors and Images

- To ensure consistent overall design layout across all reports, please keep the original color palette, font, text and graphic placement.
- Please keep color of the header unchanged.
- Images in the document are from NCIPC’s library of licensed images. If you would like to add additional images (ex: to fill blank spaces if less text) or replace existing images, only use those licensed by CDC. You can download for FREE at CDC’s Public Health Image Library at <http://phil.cdc.gov/phil/home.asp>.

## Clearance

- The template has been cleared by CDC.
- Before distribution or posting on websites, be sure to obtain appropriate clearance from your state health department and injury prevention program. This includes applicable clearance of content and use of logos.

## Logo

- The CDC logo is included in the templates. Do not adjust the placement of the logos.
- For uniform design, place the state health department logo in the designated area.
- Only state health department logos can be placed on this document. If other partner logos and local/county health department logos are added, then the CDC logo must be removed.
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## Section 508 Implementation and Compliance

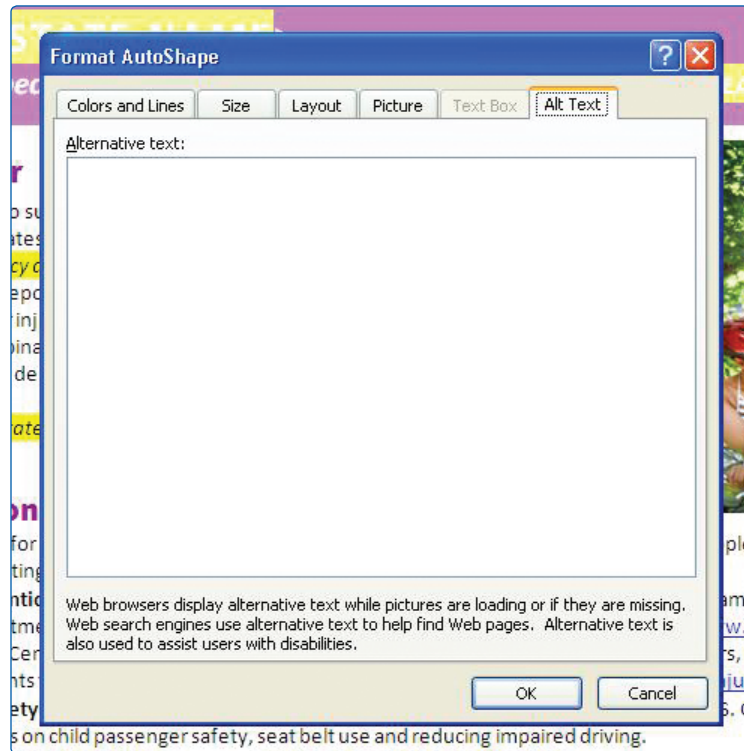
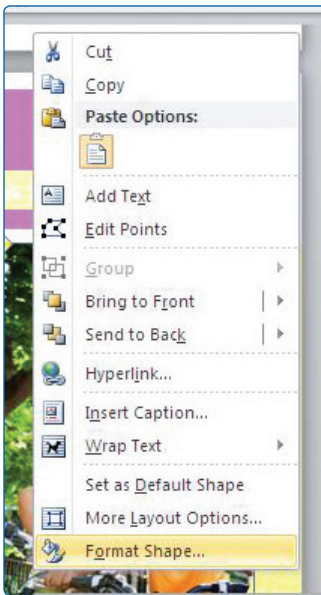
Section 508 requires that Federal agencies' electronic and information technology is accessible to people with disabilities. This information must be accessible in a variety of ways, which are specific to each disability. To learn more about Section 508 guidance, visit [www.section508.gov](http://www.section508.gov).

Images, data tables, charts and graphs must contain titles and descriptions, **Alt Text**, to provide alternative, text-based representations of the information contained within. The Alt Text is accessed and read through the use of electronic screen readers.

The *Special Emphasis Report: Traumatic Brain Injury* from each state must be fully compliant with Section 508 before electronic distribution. Instructions to add Alt Text in Microsoft Word are below.

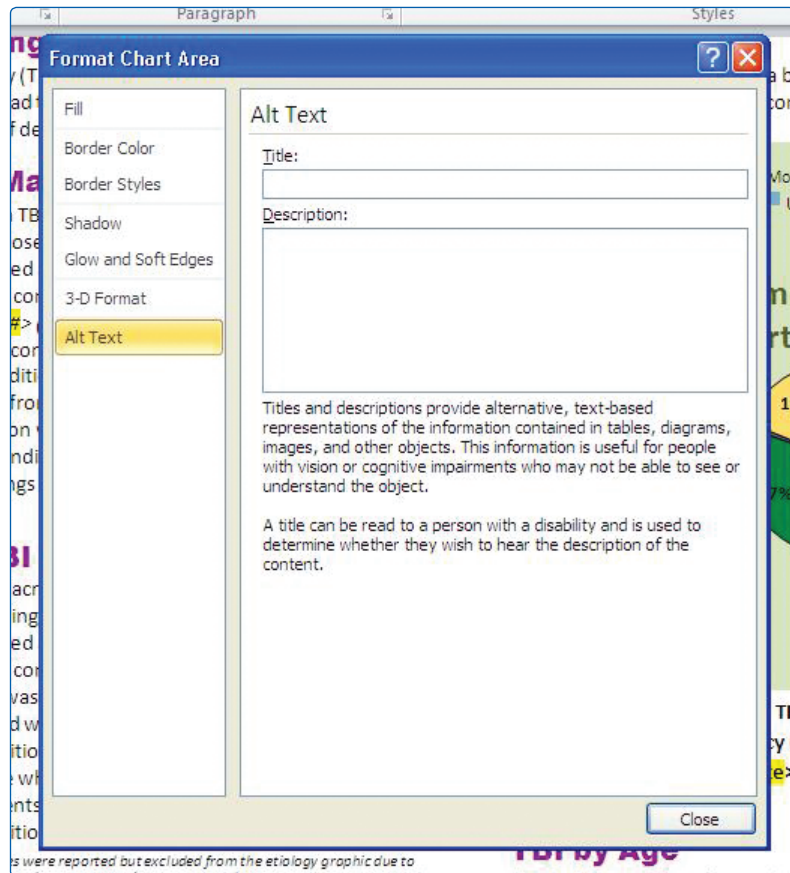
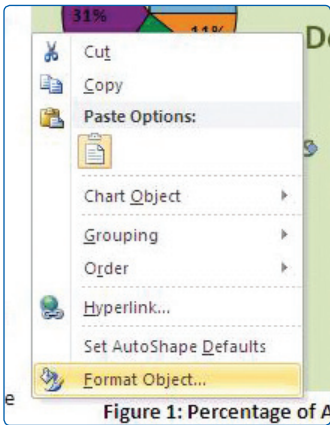
## Adding Alt Text to Images and Pictures in Microsoft Word 2010

- Right click on the image or picture.
- Choose *Format Shape* from the menu.
- Next, choose *Alt Text* from the menu.
- Enter the title and a brief description of the image in the fields provided.
  - Ex: Mother adjusting son's helmet while both are sitting on bicycles



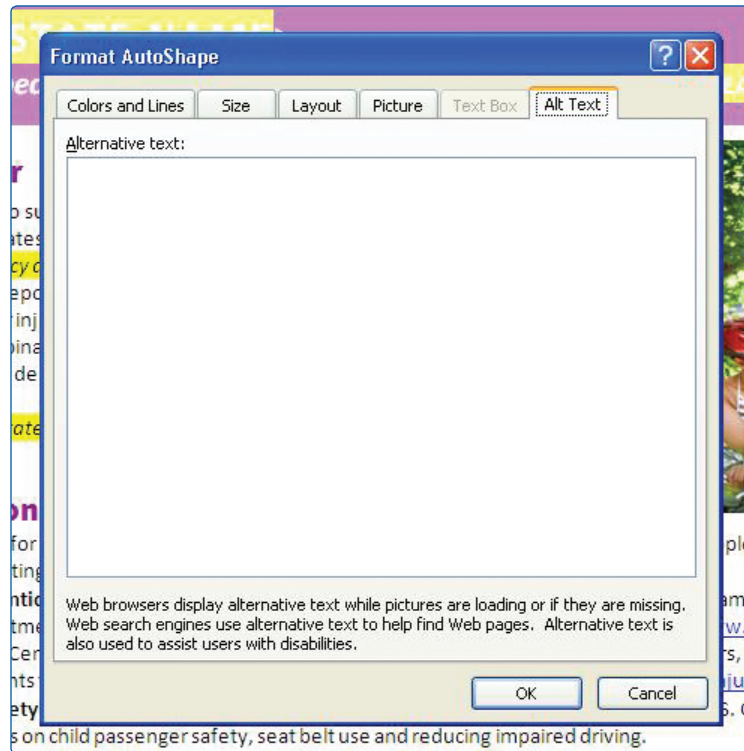
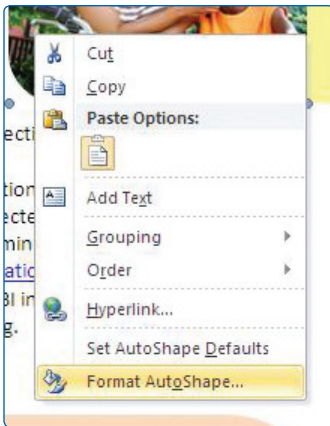
## Adding Alt Text to Charts, Graphs or Data Tables in Microsoft Word 2010

- Right click on the chart, graph or data table.
- Choose *Format Chart Area* from the menu.
- Next, choose *Alt Text* from the menu.
- Enter the title and a brief description of the image in the fields provided. For data graphics, simply copy and paste the summary next to each graph/chart.
  - Ex: <Cause> was the leading cause of injury among those who were hospitalized with a TBI alone or in combination with other injuries or conditions



## Adding Alt Text to Images and Pictures in Microsoft Word 2003

- Right click on the image or picture.
- Choose *Format AutoShape* from the menu.
- Next, choose *Alt Text* from the menu.
- Enter the title and a brief description of the image in the fields provided.
  - Ex: Mother adjusting son's helmet while both are sitting on bicycles



## Adding Alt Text to Charts, Graphs or Data Tables in Microsoft Word 2003

- Right click on the chart, graph or data table.
- Choose *Format Object* from the menu.
- Next, choose *Alt Text* from the menu.
- Enter the title and a brief description of the image in the fields provided. For data graphics, simply copy and paste the summary next to each graph/chart.
  - Ex: <Cause> was the leading cause of injury among those who died with a TBI alone or combined with other injuries or conditions.

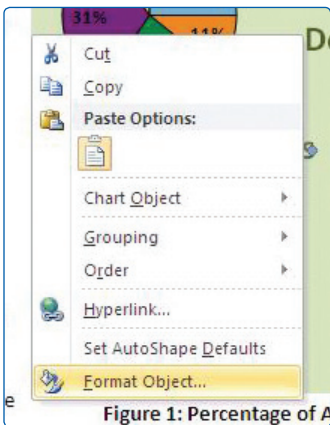


Figure 1: Percentage of A

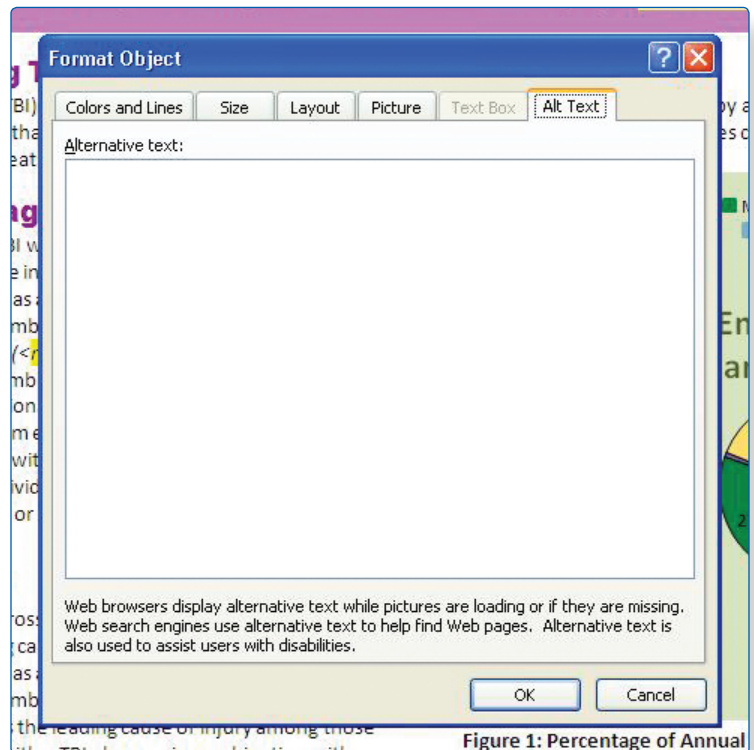


Figure 1: Percentage of Annual

## CHECKLIST

Be sure the following steps are completed before considering this document final for distribution:

- Header complete with necessary information.
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  - State health department logo not larger than CDC logo
  - Do not adjust the placement of the CDC logo
  - If other partner logos are included, then CDC logo is removed
- Clearance:
  - State health department clearance complete
- 508 Compliance
  - All pictures have Alt Text
  - All graphs and charts have Alt Text
- Design/Formatting
  - All colors unchanged.
  - All images and layout remain unchanged

## REFERENCES

1. Thomas KE, Johnson RL. State injury indicators report: instructions for preparing 2010 data. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2012.
2. International Classification of Diseases 10th Revision [online]. [cited 2012 Jan 27]. Available from URL: <http://www.who.int/classifications/icd/en/>.
3. International Classification of Diseases 9th Revision Clinical Modification [online]. [cited 2012 Jan 27]. Available from URL: [www.cdc.gov/nchs/icd/icd9cm.htm](http://www.cdc.gov/nchs/icd/icd9cm.htm)







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Centers for Disease Control and Prevention  
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[www.cdc.gov/injury](http://www.cdc.gov/injury)