Nebraska BRFSS: Overview and Opportunities for Collecting & Reporting Cancer-Related Data

Nebraska Cancer Coalition Webinar: June 8, 2017

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Division of Public Health
Today’s Presentation

- BRFSS Overview/History
- BRFSS Methodology
- BRFSS Questionnaire
- BRFSS Cancer Surveillance
- BRFSS Resources
- Questions
What is Public Health Surveillance?

- Ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control.

(source: CDC)
BRFSS Overview

- Behavioral Risk Factor Surveillance System
- Annual random-digit dial telephone survey
- Targeted at adults 18 and older
- Conducted in all 50 states, DC, and U.S. territories
- Managed federally by the CDC/conducted in Nebraska
- Conducted every year in Nebraska since 1986
- Survey covers a wide variety of health behaviors, conditions, and preventive health practices
- Only source of ongoing health behavior data for Nebraska adults – critical for planning & evaluation
GET ALL THE INFORMATION YOU CAN, WE'LL THINK OF A USE FOR IT LATER.
What are BRFSS Data Used For?

- Identifying emerging health problems
- Monitoring health conditions and behaviors over time
- Identifying high-risk populations
- Establishing and track health objectives
- Supporting planning and evaluation efforts (CHA/CHIP)
- Informing the public about public health issues
BRFSS Methodology

- Random-digit telephone survey of adults 18+
- Data are collected each month of the calendar year
- Survey administered using Computer-Aided Telephone Interviewing System (CATI)
- Monthly sample of cell phone and landline telephone numbers drawn
  - One adult randomly selected in household for landline calls
- Sample data are weighted by CDC for each state/territory to adjust for differences between sample proportions and the actual population
Big changes in 2011

- Adding cell phones:
  - Growing percentage of population with cell phones
  - Growing percentage of households are cell phone only
    - Current estimates show that 49% of Nebraska households are cell phone only. Young adults, racial/ethnic minorities, and low income have higher percentages. (source NHIS, CDC)

- Use of the “raking” weighting method
  - Iterative proportional fitting (or raking) adjusts the data so that groups which are underrepresented in the sample can be accurately represented in the final dataset
  - More thorough than post-stratification process used in past

- These changes prevent pre-2011 data from being compared to data collected in 2011 and beyond
Nebraska BRFSS Design

- LHD Stratification (started in 2007)
  - Currently stratify the design by 20 LHD regions
  - Collect a minimum of 500 surveys in each LHD region

- Minority Oversample
  - Part of state sample during years 2011-2017. Includes oversample of African American and Native American populations (previously oversampled for Hispanics in 2011 and 2012)

- Proportion of sample that is cell phone is increasing annually, targeting 57% cell phone in 2017

- Data are weighted to be representative at the LHD level

- Roughly 15,000 surveys completed each year during 2015-2017
BRFSS Questionnaire

- Topics cover a broad range of health conditions, behaviors, attitudes, and perceptions

- Questions are separated into three sections:
  - Core questions
    - asked to all respondents by every state
  - Optional modules
    - developed by the CDC, states can choose to add, modules vary by year
  - State-added questions
    - states can add other topics and questions of interest, not processed by the CDC, must be validated or pre-tested to get on survey
Demographics

- Age
- Gender
- Ethnicity/Race
- Marital status
- Height and Weight
- Education level
- Income
- Internet usage

- Home ownership
- Employment status
- Industry & Occupation
- County of residence
- Zip code
- Military service
- Pregnancy status
- Children <18 in HH
- Disability status
BRFSS Questionnaire, Cont.

- Nebraska has a split-form design (or multiple questionnaire version design)
  - This allows us to ask more optional questions
- 2012-2017 have two paths (or versions)
- All respondents asked core questions, then half assigned to Path A and half to Path B
- Average administration time ranges between 18 and 22 minutes
...Hi, we're taking a survey...how much time do you have to waste?
BRFSS Data Collection

- UNL Bureau of Sociological Research (BOSR) is the Data Collection Contractor for NDHHS
- Data collection completed by BOSR at Whitehall facility in Lincoln
- Nebraska has one of the best response rates for BRFSS in the nation
  - In top quartile of all states in 2012-2015 using AAPOR response rate
    - 56.3% in 2015 (53.4% landline, 60.7% cell); national median 47.2%
    - 2016 appears to be higher than 2015
Pause for Questions?
Cancer Surveillance Using BRFSS
Cancer-Specific Modules

- Chronic Health Conditions – cancer prevalence
  - (2011\textsuperscript{C}, 2012\textsuperscript{C}, 2013\textsuperscript{C}, 2014\textsuperscript{C}, 2015\textsuperscript{C}, 2016\textsuperscript{C}, 2017\textsuperscript{C})

- Breast and Cervical Cancer Screening
  - (2012\textsuperscript{C}, 2014\textsuperscript{C}, 2016\textsuperscript{C})

- Prostate Cancer Screening
  - (2012\textsuperscript{C}, 2014\textsuperscript{C}, 2016\textsuperscript{C})

- Colorectal Cancer Screening
  - (2012\textsuperscript{C}, 2013\textsuperscript{O}, 2014\textsuperscript{C}, 2015\textsuperscript{O}, 2016\textsuperscript{C}, 2017\textsuperscript{S})

- Cancer Survivorship
  - (2014\textsuperscript{O}, 2016\textsuperscript{O}, 2017\textsuperscript{O})
Cancer Prevalence

Has a doctor, nurse, or other health professional EVER told you that you had any of the following? For each, tell me “Yes,” “No,” or you’re “Not sure.”

(Ever told) you had skin cancer?

1. Yes
2. No
7. Don’t know / Not sure
9. Refused

6.0%

(Ever told) you had any other type of cancer?

1. Yes
2. No
7. Don’t know / Not sure
9. Refused

6.9%

11.6% of Nebraska adults in 2015
Cancer Screening

- BRFSS Covers Breast, Cervical, Prostate, and Colon Cancer Screening topics
- Designed to provide estimates of the percentage of adults who are up-to-date on the U.S. Preventive Service Task Force Recommendations
  - For Breast Cancer: Percentage of females 50-74 years old who report having had a mammogram during the past 2 years
  - For Cervical Cancer: Percentage of females 21-65 years old without a hysterectomy who report having had a Pap test during the past 3 years
  - For Colon Cancer: Percentage of adults 50–75 years old who report having had a fecal occult blood test (FOBT) during the past year, or a sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years
Up-To-Date on Breast Cancer Screening among Women 50-74 Years Old*, Nebraska and U.S., 2004-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Nebraska</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>81.7</td>
<td>80.4</td>
</tr>
<tr>
<td>2006</td>
<td>79.1</td>
<td>81.2</td>
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<td>2007</td>
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<td>81.2</td>
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<td>2008</td>
<td>77.8</td>
<td>80.4</td>
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<td>2010</td>
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<tr>
<td>2014</td>
<td>76.1</td>
<td>78.1</td>
</tr>
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</table>

*Percentage of females 50-74 years old who report having had a mammogram during the past 2 years

**BRFSS data from 2011 and later are not comparable to data from 2010 and earlier due to methods changes

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Up-To-Date on Cervical Cancer Screening among Women 21-65 Years Old*, Nebraska and U.S., 2004-2014

<table>
<thead>
<tr>
<th>Year</th>
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<td>90.5</td>
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<tr>
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<td>2007</td>
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<td>88.3</td>
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<td>2008</td>
<td>88.6</td>
<td>87.8</td>
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<td>2010</td>
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<tr>
<td>2012</td>
<td>83.9</td>
<td>84.3</td>
</tr>
<tr>
<td>2014</td>
<td>81.7</td>
<td>82.6</td>
</tr>
</tbody>
</table>

*Percentage of females 21-65 years old without a hysterectomy who report having had a Pap test during the past 3 years

**BRFSS data from 2011 and later are not comparable to data from 2010 and earlier due to methods changes

Source: Behavioral Risk Factor Surveillance System (BRFSS)
**Up-To-Date on Colon Cancer Screening among Adults 50-75 Years Old**, Nebraska and U.S., 2004-2015

**Historical Trend (pre-2011)**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
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<tr>
<td>U.S.</td>
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<td>65.1</td>
<td>66.6</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Current Trend**

*Percentage of adults 50–75 years old who report having had a fecal occult blood test (FOBT) during the past year, or a sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years (U.S. data only collected during even calendar years)*

**BRFSS data from 2011 and later are not comparable to data from 2010 and earlier due to methods changes**

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Up-To-Date on Cancer Screening Recommendations, among Nebraska Adults, by Urban/Rural, 2012-2015^

<table>
<thead>
<tr>
<th></th>
<th>Colon Cancer*</th>
<th>Breast Cancer**</th>
<th>Cervical Cancer***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban-Large</td>
<td>67.5</td>
<td>79.0</td>
<td>84.4</td>
</tr>
<tr>
<td>Urban-Small</td>
<td>60.3</td>
<td>72.2</td>
<td>81.3</td>
</tr>
<tr>
<td>Rural</td>
<td>56.6</td>
<td>70.7</td>
<td>78.9</td>
</tr>
</tbody>
</table>

*Percentage of adults 50–75 years old who report having had a fecal occult blood test (FOBT) during the past year, or a sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years

**Percentage of females 50-74 years old who report having had a mammogram during the past 2 years

***Percentage of females 21-65 years old without a hysterectomy who report having had a Pap test during the past 3 years

^Years 2012-2015 combined for colon cancer, years 2012 and 2014 combined for breast and cervical cancer

Source: Behavioral Risk Factor Surveillance System (BRFSS)
<table>
<thead>
<tr>
<th>Income Level</th>
<th>Colon Cancer*</th>
<th>Breast Cancer**</th>
<th>Cervical Cancer***</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$25,000</td>
<td>50.8%</td>
<td>63.2%</td>
<td>75.3%</td>
</tr>
<tr>
<td>$25,000 - $49,999</td>
<td>61.2%</td>
<td>72.7%</td>
<td>80.4%</td>
</tr>
<tr>
<td>$50,000 - $74,999</td>
<td>65.8%</td>
<td>79.3%</td>
<td>87.4%</td>
</tr>
<tr>
<td>$75,000+</td>
<td>71.6%</td>
<td>83.7%</td>
<td>89.8%</td>
</tr>
</tbody>
</table>

*Percentage of adults 50–75 years old who report having had a fecal occult blood test (FOBT) during the past year, or a sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years

**Percentage of females 50-74 years old who report having had a mammogram during the past 2 years

***Percentage of females 21-65 years old without a hysterectomy who report having had a Pap test during the past 3 years

^Years 2012-2015 combined for colon cancer, years 2012 and 2014 combined for breast and cervical cancer

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Up-To-Date on Colon Cancer Screening among Nebraska Adults 50-75 Years Old, by Race/Ethnicity, 2012-2015 Combined

*Percentage of adults 50–75 years old who report having had a fecal occult blood test (FOBT) during the past year, or a sigmoidoscopy during the past 5 years and an FOBT during the past 3 years, or a colonoscopy during the past 10 years

Source: Behavioral Risk Factor Surveillance System (BRFSS)
No Health Care Coverage among Nebraska Adults 18-64 Years Old (age-adjusted), by Race/Ethnicity, 2011-2015 Combined

*Percentage of adults 18-64 years old who report that they do not have any kind of health care coverage

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Cancer Survivorship

Subset of questions targeted at those who indicated they had ever been told by a doctor that they had cancer, including:

- How many types they had been diagnosed with
- Age at first diagnosis
- Most recent type of cancer
- Treatment status
- Type of doctor providing majority of care
- Documentation of treatment history
- Follow-up care planning with doctor
- Health care coverage for treatment/denial of coverage
- Clinical trial participation
- Current pain caused by cancer or treatment/pain management
Cancer Survivorship Results, 2014

- Among BRFSS respondents who had ever been told they had cancer (n=3,452)
  - 16.7% reported having been diagnosed with 2+ types of cancer
  - 77.8% were under the age of 65 at the time of their first diagnosis
  - Most commonly diagnosed cancers:
    - Non-melanoma skin (29.9%)
    - Melanoma (15.7%)
    - Breast (13.9%)
    - Prostate (7.9%)
    - Cervical (5.6%)
    - Colon (4.5%)

Preliminary Results
Cancer Survivorship Results, 2014

Among BRFSS respondents who had ever been told they had cancer, and completed treatment (n=2,600)

- Family practice (39.9%) and general practitioner or internist (38.3%) provide the majority of their health care
- 39.1% ever received written history of all cancer treatments received
- 68.1% ever received instructions on where to go or who to see for routine cancer checkups after completing cancer treatment
- 94.4% had health insurance that paid for all/part of cancer treatment
- 7.4% ever denied health or life insurance because of cancer
- 6.5% participated in a clinical trial as part of cancer treatment
- 6.1% have current pain from cancer or cancer treatment

Preliminary Results
Other Cancer-Related Topics on BRFSS

- Tobacco Use
- Alcohol Use
- Overweight and Obesity
- Physical Activity
- Nutrition

<table>
<thead>
<tr>
<th>Year</th>
<th>Nebraska</th>
<th>U.S.</th>
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</thead>
<tbody>
<tr>
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<tr>
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<td>17.3</td>
<td>18.1</td>
</tr>
<tr>
<td>2015</td>
<td>17.1</td>
<td>17.5</td>
</tr>
</tbody>
</table>

*Percentage of adults 18 and older who report that they currently smoke cigarettes either every day or on some days

**BRFSS data from 2011 and later are not comparable to data from 2010 and earlier due to methods changes

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Binge Drank during the Past 30 Days among Adults*, Nebraska and U.S., 2005-2015

Historical Trend (pre-2011)**

Current Trend**

<table>
<thead>
<tr>
<th>Year</th>
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<th>U.S.</th>
</tr>
</thead>
<tbody>
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<td>20.3</td>
<td>16.0</td>
</tr>
<tr>
<td>2015</td>
<td>19.5</td>
<td>16.3</td>
</tr>
</tbody>
</table>

*Percentage of adults 18 and older who report having five or more alcoholic drinks for men/four or more alcoholic drinks for women on at least one occasion during the past 30 days

**BRFSS data from 2011 and later are not comparable to data from 2010 and earlier due to methods changes

Source: Behavioral Risk Factor Surveillance System (BRFSS)
**Obesity among Adults*, Nebraska and U.S., 2005-2015**

**Historical Trend (pre-2011)**

<table>
<thead>
<tr>
<th>Year</th>
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</tr>
</thead>
<tbody>
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<td>2006</td>
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<td>25.1</td>
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<td>2007</td>
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<td>26.3</td>
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<td>26.7</td>
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<td>2009</td>
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<td>26.9</td>
</tr>
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<td>2010</td>
<td>27.5</td>
<td>27.5</td>
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**Current Trend**

<table>
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<tbody>
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<td>2012</td>
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<td>27.6</td>
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<tr>
<td>2015</td>
<td>31.4</td>
<td>29.8</td>
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</table>

*Percentage of adults 18 and older with a body mass index (BMI) of 30.0 or greater, based on self-reported height and weight*

**BRFSS data from 2011 and later are not comparable to data from 2010 and earlier due to methods changes**

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Fruit and Vegetable Consumption among Adults,* Nebraska and U.S., 2015

Consumed Fruits less than One Time Per Day

- Nebraska: 41.1%
- U.S.: 39.7%

Consumed Vegetables less than One Time Per Day

- Nebraska: 24.7%
- U.S.: 22.1%

*Percentage of adults 18 and older who report consuming (1) fruit or 100% fruit juice an average of less than one time per day during the past month and (2) vegetables an average of less than one time per day during the past month

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Physical Activity among Adults,* Nebraska and U.S., 2015

*Percentage of adults 18 and older who report (1) at least 150 minutes of moderate-intensity physical activity, or at least 75 minutes of vigorous-intensity physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity per week during the past month; (2) that they engaged in physical activities or exercises to strengthen their muscles two or more times per week during the past month; (3) that they met both the aerobic and muscle strengthening recommendations

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Current Cigarette Smoking among Nebraska Adults (age-adjusted), by Race/Ethnicity, 2011-2015 Combined

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>19.0</td>
</tr>
<tr>
<td>African American</td>
<td>24.2</td>
</tr>
<tr>
<td>American Indian</td>
<td>37.9</td>
</tr>
<tr>
<td>Asian/P.I.</td>
<td>11.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15.0</td>
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</tbody>
</table>

*Non-Hispanic*

*Percentage of adults 18 and older who report that they currently smoke cigarettes either every day or on some days*

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Obesity among Nebraska Adults (age-adjusted), by Race/Ethnicity, 2011-2015 Combined

- White: 29.1%
- African American: 36.5%
- American Indian: 43.3%
- Asian/P.I.: 13.9%
- Hispanic: 33.0%

*Percentage of adults 18 and older with a body mass index (BMI) of 30.0 or greater, based on self-reported height and weight
Source: Behavioral Risk Factor Surveillance System (BRFSS)
Current Smokeless Tobacco Use among Nebraska Adults (age-adjusted), by Urban/Rural, 2011-2015 Combined

*Percentage of adults 18 and older who report that they currently use smokeless tobacco products (chewing tobacco, snuff, or snus) either every day or on some days

Source: Behavioral Risk Factor Surveillance System (BRFSS)
Figure 115: Cigarette Smoking and Physical Activity among Nebraska Adults (age-adjusted), by Household Income, 2011-2015 Combined^

*Current Cigarette Smoking*  
*Met Physical Activity Recommendation**

% of adults 18 and older who report that they currently smoke cigarettes either every day or on some days

% of adults 18 and older who report at least 150 minutes of moderate-intensity physical activity, or at least 75 minutes of vigorous-intensity physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity per week during the past month and that they engaged in physical activities or exercises to strengthen their muscles two or more times per week during the past month

^Years 2011-2015 combined for current smoking, years 2011, 2013, and 2015 combined for physical activity

Source: Behavioral Risk Factor Surveillance System (BRFSS)
BRFSS Resources

- Nebraska DHHS BRFSS Website (currently being updated)
  - [www.dhhs.ne.gov/brfss](http://www.dhhs.ne.gov/brfss)

- Nebraska BRFSS Web Query System (under construction)

- CDC BRFSS Website
  - [https://www.cdc.gov/brfss/](http://https://www.cdc.gov/brfss/)

- County Health Rankings & Roadmaps
Any Final Questions?
Contact Information

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