



# Using the Behavioral Risk Factor Surveillance System (BRFSS) for Oral Health Surveillance and Research

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# Presentation Overview

- Introduction to BRFSS
- State level data/estimates on BRFSS
- City/county level data/estimates on BRFSS SMART
- BRFSS MAPS (Jim Holt)

# BRFSS - Introduction

- **Established in 1984 by CDC**
- **State-based Surveillance System**
- Monitor health risk behaviors, preventive health practices, health care access -  
Chronic diseases and injuries
- **Conducted by Health Departments in all 50 states, District of Columbia, Puerto Rico, U.S Virgin Islands and Guam**

# BRFSS - Introduction

- Telephone health interview survey
- Completed annually
- Information from a representative sample of non-institutionalized adults aged 18 years and older
- BRFSS-SMART now provides data and prevalence estimates for over 120 metropolitan and micropolitan statistical areas, as well as counties within those areas.
- ([www.cdc.gov/brfss](http://www.cdc.gov/brfss))

# BRFSS – Introduction

## Questionnaires

- Core component
  - Fixed core every year
  - Rotating core every other year
  - Emerging core
- Optional modules supported by CDC
- State added questions
- ([www.cdc.gov/brfss/questionnaires](http://www.cdc.gov/brfss/questionnaires))

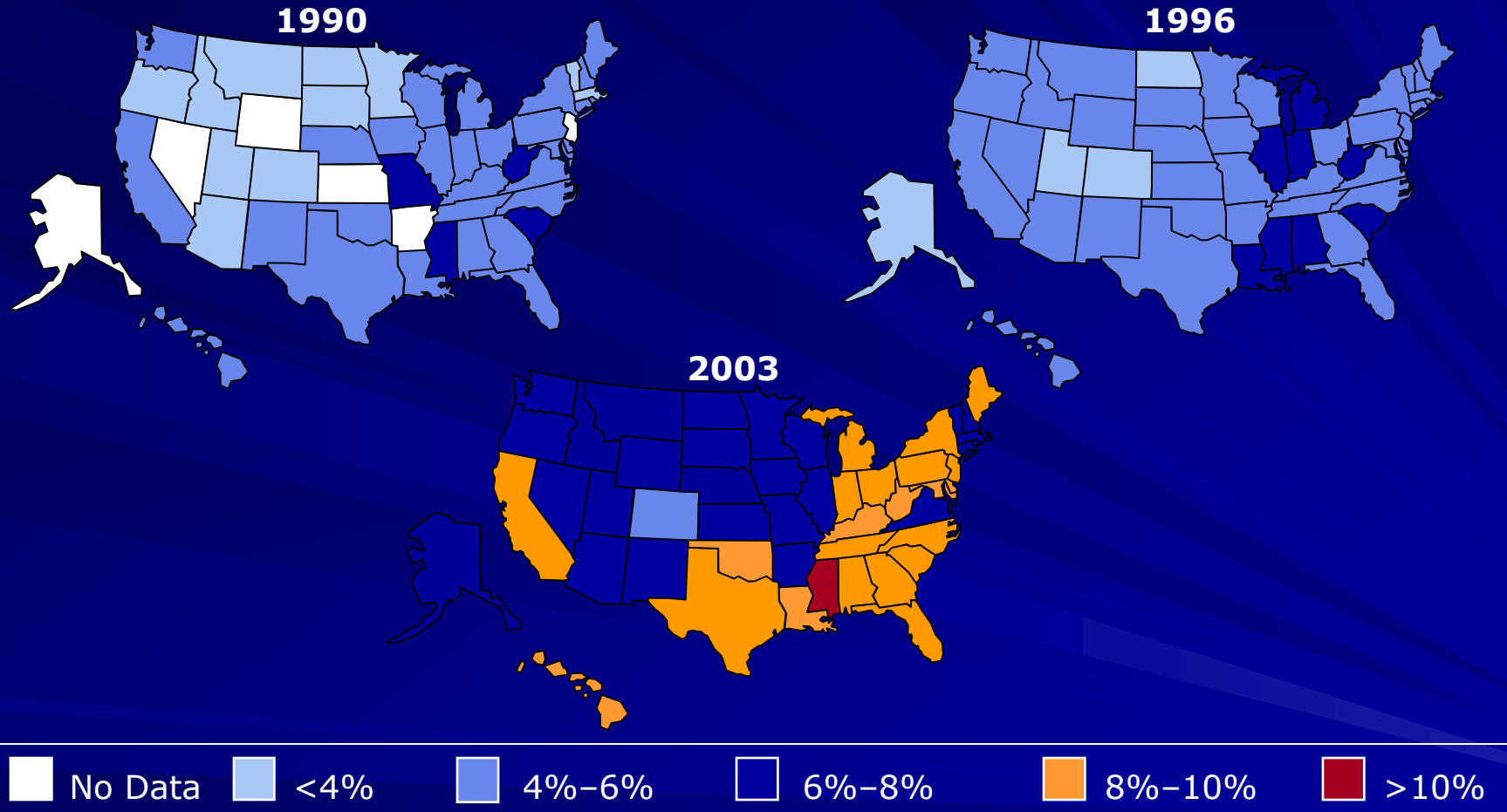
# Examples of Questionnaire Contents

- Health Status
- Demographics
- Pregnancy
- Smoking
- Diabetes
- Health Insurance
- Routine checkup
- Women's Health
- HIV/AIDS
- Oral health
- Hypertension
- Alcohol
- Injury
- Cholesterol
- Physical activity
- Fruits & vegetables
- Weight control
- Cardiovascular health

# Some Uses of BRFSS

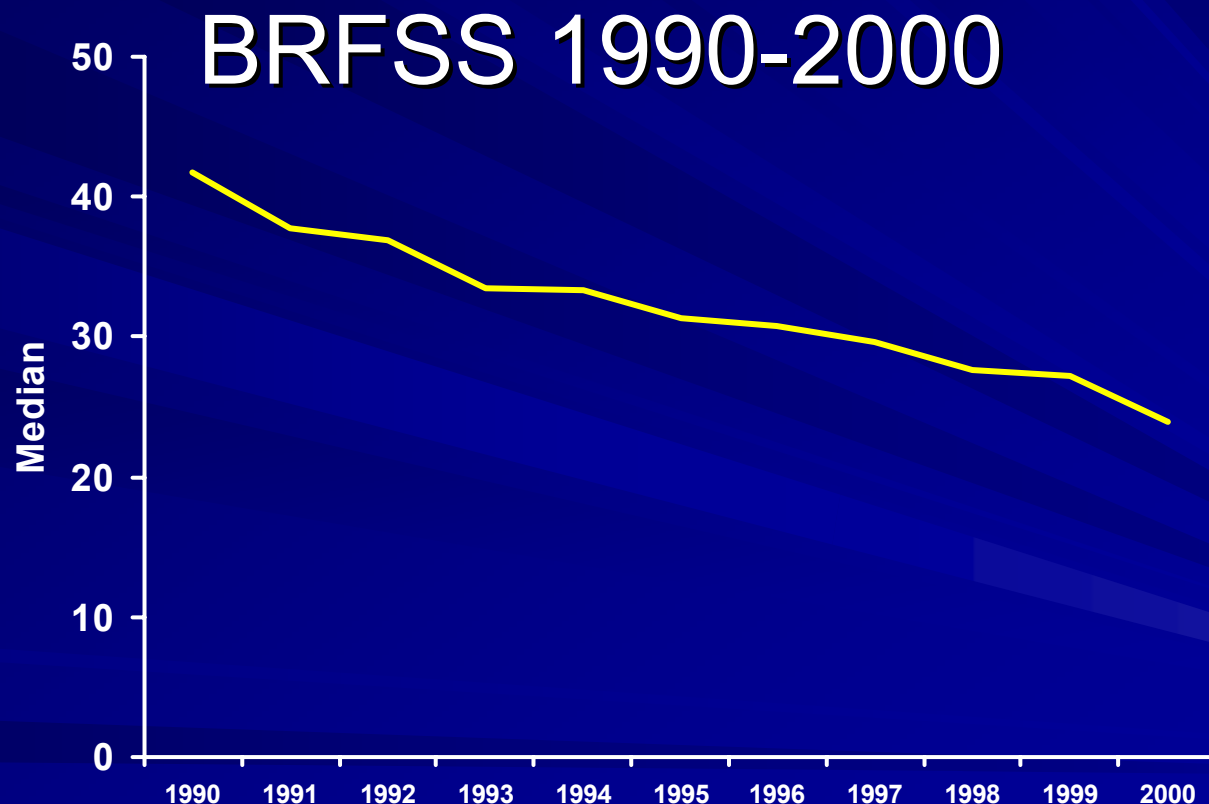
- Tracking Health Risk Trends
  - Identify emerging health issues
  - Document health trends
  - Compare health behaviors across states
  - Measure progress towards HP 2010
- Program development
- Policy development
- Program evaluation

# Diabetes Trends Among U.S. Adults – BRFSS 1990, 1996, and 2003





# Prevalence of Women Who Never Had a Mammogram, Ages 40 and Older



# Oral Health Questions on BRFSS

- Time since last visit to a dentist or dental clinic
- Time since teeth last cleaned by a dentist or dental hygienist
- Number of permanent teeth removed because of tooth decay or gum disease
- Main reason for no visit to a dentist in last year
- Insurance that pays for some or all of routine dental care

# History of Oral Health Questions on BRFSS

- Rotating core – Even years beginning in 06
- Emerging Core – 99, 02, 04
- Optional – 95, 96, 97, 01, 03, 05, (07 ?)
- State - Added

# Oral Health Data/Estimates on BRFSS - Website

## Prevalence Estimates for Oral Health Indicators

- State estimates for loss of 6 or more teeth
- State estimates for visits to a dentist or dental clinic within the past year
- State estimates for having had teeth cleaned by dentist or dental hygienist within the past year
- State estimate for loss of 6 or more teeth age > 65 years old\*

## Others:

- Can download data files directly from website
- Limited to questions surveyed in more than 40 states
- Trend data for 16 selected risk factors (not including oral health)
- No data for state added questions
- Can compare estimates between states, and between years

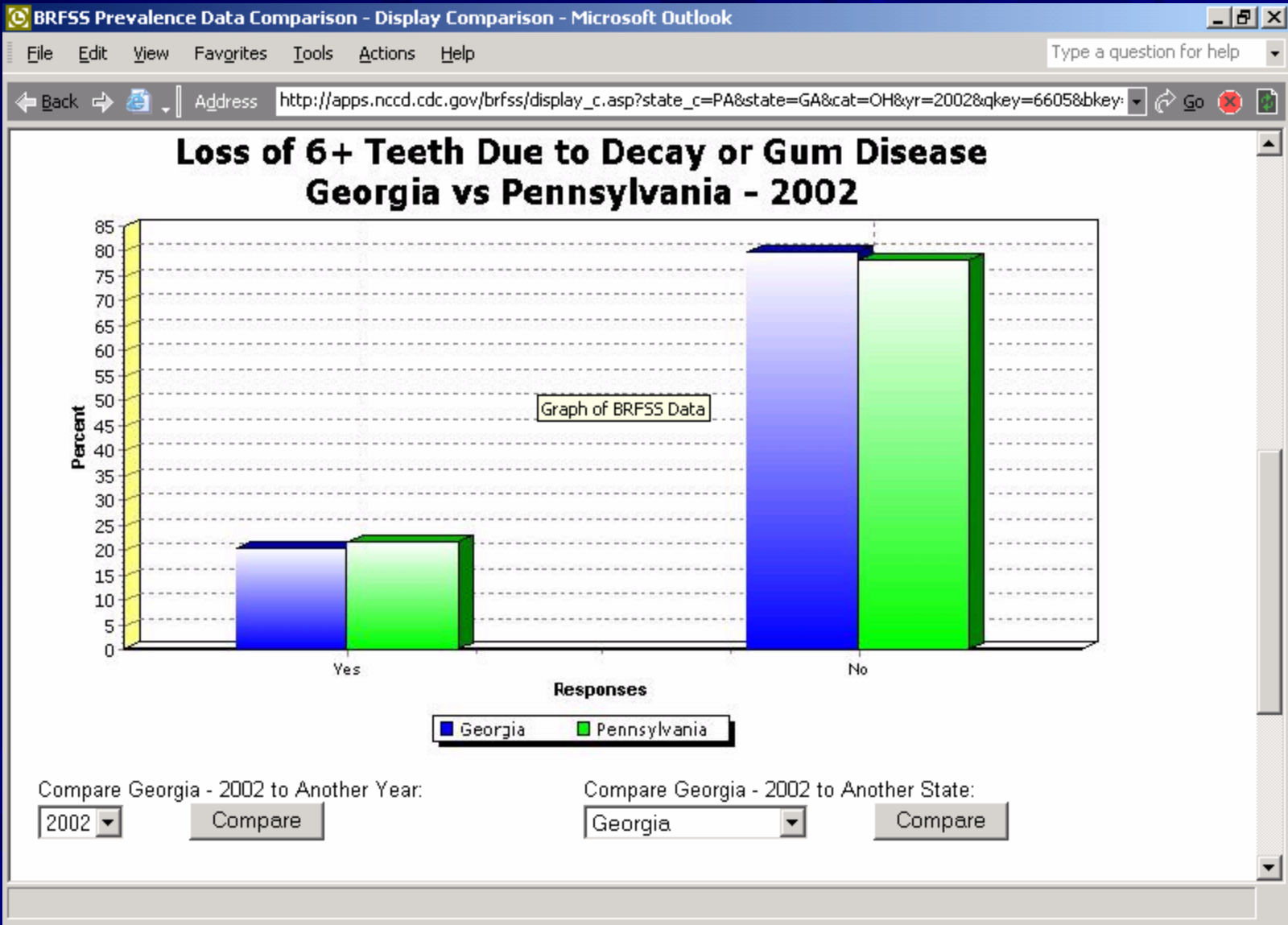
# Oral Health Data on BRFSS – Data file

## Variables

- How long since dental visit (actual length of time)
- How long since dental cleaning (actual length of time)
- Number of permanent teeth removed (actual number)
- Having had **any** permanent teeth extracted (HP 21-3)
- Having had **all** permanent teeth extracted (HP 21-4)
- Having **visited** a dentist, dental hygienist or dental clinic within **past year** (HP 21 – 10)

## Others

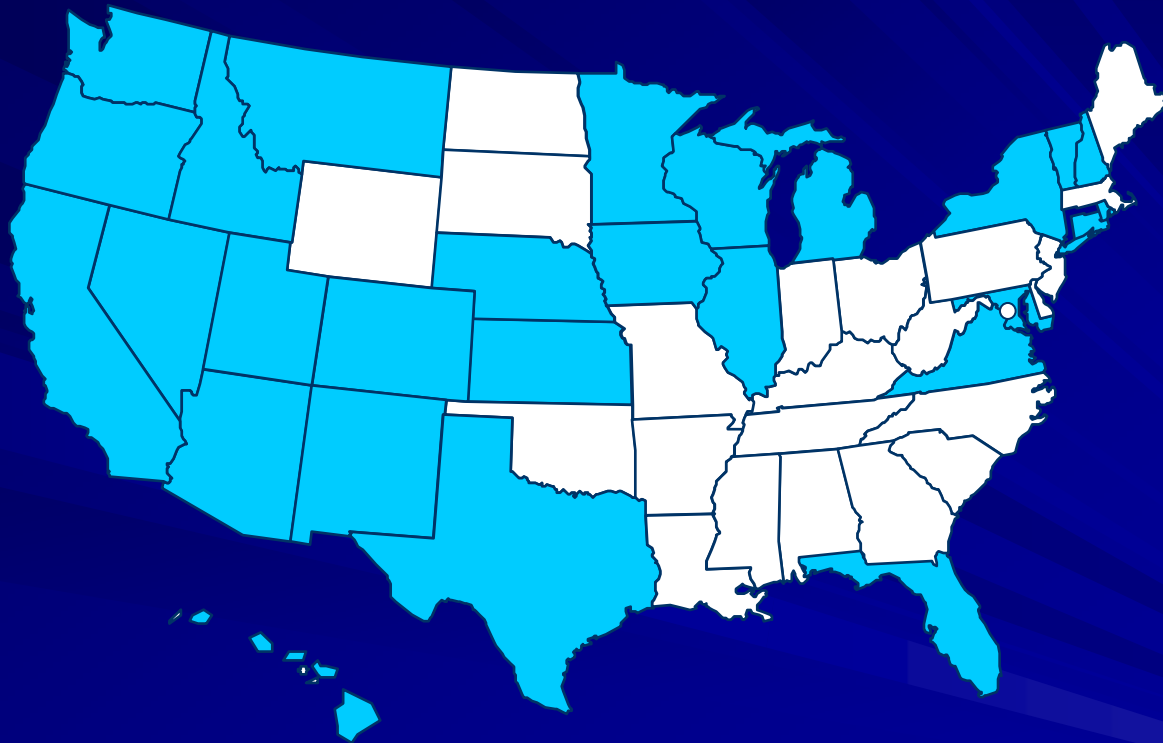
- Cross tabs/correlations with other variables
- Can pool data from 1999 and 2002 datasets



**Georgia 20.3 (18.9 – 21.6)**

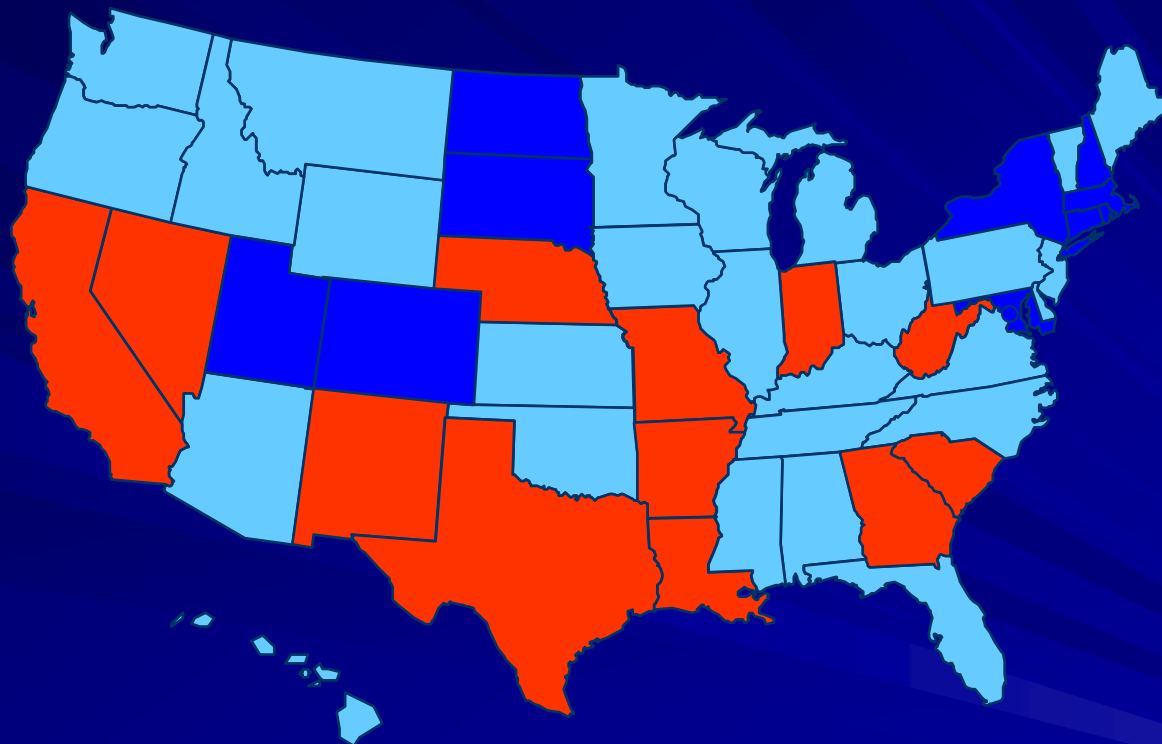
**Pennsylvania 21.7 (20.7 – 22.6)**

# States with > 50% of Adult Population Having Functional Teeth (i.e., Loss of 5 or Fewer Teeth) - BRFSS 2002



Gooch BF, Eke PI, Malvitz DM. Retention of Natural Teeth Among Older Adults - United States, 2000. MMWR December 19, 2003 vol.52 no.50

# Dental Visit in the Last 12 months among Adults Reporting to have Diabetes: BRFSS 2002



- States in lowest quartile <56.8%
- States in 2<sup>nd</sup> and 3<sup>rd</sup> quartiles
- States in the highest quartile > 67.1%



# City/County Level Data on BRFSS

## Background:

- Prevalence may vary widely within states (e.g., between counties and cities)
- Critical need for local-level surveillance data
- Increase in numbers of local respondents to BRFSS within cities and counties
- In 2003 started **SMART** (Selected Metropolitan /Micropolitan Area Risk Trends) Project
- ([www.cdc.gov/brfss-smart](http://www.cdc.gov/brfss-smart))

# SMART - BRFSS

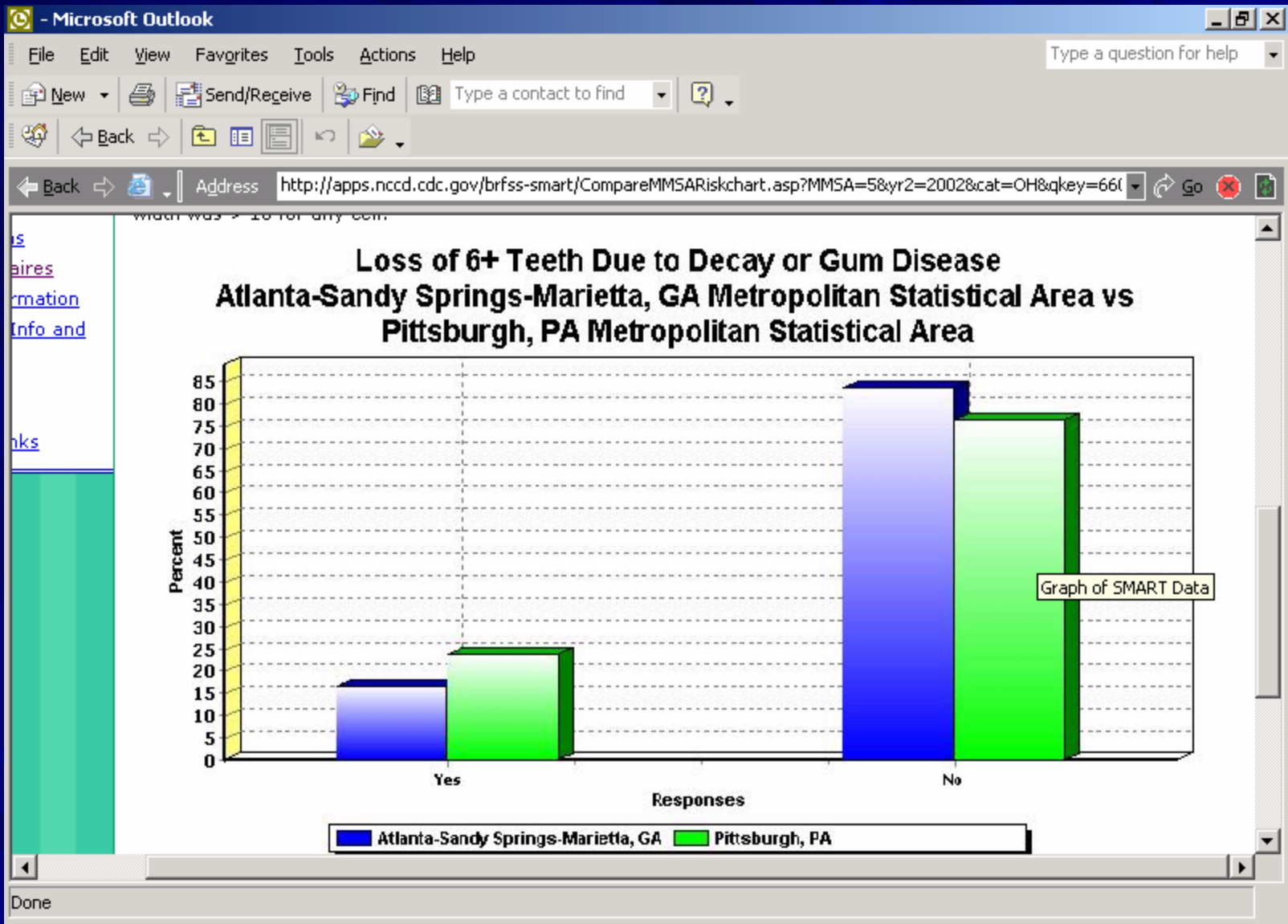
## Background cont.

- **MMSA (Metropolitan/Micropolitan Statistical Area)**
  - **Metropolitan statistical area:** a group of counties that contain at least one urbanized area > 50,000
  - **Micropolitan statistical area:** group of counties with at least one urban cluster of at least 10,000 to 50,000
  - **Metropolitan division:** smaller group of counties within a metropolitan statistical area of > 2.5 million
- **Estimates based on at least 500 completed interviews per MMSA**
- **2002 BRFSS - 98 MMSAs**
- **2003 BRFSS – 120 MMSAs**

# SMART BRFSS

## Capabilities on Website

- **List of all MMSAs**
- **Dataset for all MMSAs**
- **Prevalence data for all MMSAs**
  - By year (currently only 2002, 2003)
  - By question category (includes oral health)
  - Generate reports and compare statistics
- **Quick view charts**
  - Limited to seven selected risk factors
  - Compare county, metro and state data



Atlanta 16.4 (14.2 – 18.6)

Pittsburgh 23.7 (21.5 – 25.9)

# BRFSS - Strengths

- Flexible
- Timely
- Standardized across states
- Local area surveillance data
- Large sample size
- Trend data
- Same weighting methodology for all MMSSAs

# BRFSS - Limitations

- Self-reported information only
- Telephone under coverage
- Non-institutionalized population
- Cannot further categorize or cross-tab with other variables at MMSA level

# Future Plans for Oral Health Questions

- Self-reported measures for periodontal disease
  - CDC/AAP work group setup to develop self-reported measures for periodontitis
  - Evaluated potential self-reported questions from multiple datasets
  - Testing questions versus clinical measures in the Australian National Adult Oral Health Survey
  - Pilot test questions in NHANES



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