Comparison of Estimates of Having a Dental Visit in the Past Year among Adults from Four Surveys

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Background

- Healthy People 2020 (HP 2020) Objective OH-7 (Leading Health Indicator): Increase oral health care utilization in the past year
- National data sources: National estimates
  - Medical Expenditure Panel Survey (MEPS): Data source for OH-7
  - National Health Interview Survey (NHIS)
  - National Health and Nutrition Examination Survey (NHANES)
Background

- State-level data source for adults
  - Behavioral Risk Factor Surveillance System (BRFSS): National and state-level estimates

Objective

- To compare prevalence estimates of having a dental visit in the past year among adults aged ≥18 years (DV) from BRFSS to those from MEPS, NHIS and NHANES
Methods

- **Data Sources**
  - BRFSS
  - MEPS
  - NHIS
  - NHANES

<table>
<thead>
<tr>
<th></th>
<th>BRFSS</th>
<th>MEPS</th>
<th>NHIS</th>
<th>NHANES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2010</td>
<td>2010</td>
<td>2010</td>
<td>DV not available for 2005-2010</td>
</tr>
</tbody>
</table>

- **Study Population**
  - Adults aged ≥18 years, representative of non-institutionalized civilian US adult population

Methods

- **Prevalence of having a dental visit in the past year (DV)**
  - Self-reported visit to any dental care providers

- **Other variables**
  - Age
  - Race/ethnicity
  - Education level
  - Poverty status
  - Edentulism
Methods

- **Statistical Analyses**
  - Age-race/ethnicity adjusted* DV overall and stratified by age, race/ethnicity, education level, poverty status, and dentate status
  - T-tests (p≤0.05) to compare DV
    - Between BRFSS and other surveys
    - Between 2002 and 2010 overall within BRFSS, MEPS and NHIS

* Direct standardization based on 2000 projected US population

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## DV Questions

<table>
<thead>
<tr>
<th>Interview Type</th>
<th>BRFSS</th>
<th>MEPS</th>
<th>NHIS</th>
<th>NHANES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Telephone</td>
<td>In-person, 5 rounds</td>
<td>In-person</td>
<td>In-person</td>
</tr>
<tr>
<td>How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists</td>
<td>About how long has it been since you last saw a dentist? Include all types of dentists, such as orthodontists, oral surgeons, and all other dental specialists, as well as dental hygienists.</td>
<td>About how long has it been since (you/SP) last visited a dentist? Include all types of dentists, such as orthodontists, oral surgeons, and all other dental specialists, as well as dental hygienists.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past year</td>
<td>&lt;1 year ago</td>
<td>In the calendar year</td>
<td>≤1 year ago</td>
<td>≤1 year ago</td>
</tr>
</tbody>
</table>

*General dentist, Dental hygienist, Dental technician, Dental surgeon, Orthodontist, Endodontist, Periodontist, or other dental specialist
Results

Compare DV Between BRFSS and

- MEPS, NHIS, and NHANES
  - BRFSS vs. MEPS; BRFSS vs. NHIS; BRFSS vs. NHANES
Overall, 2002

<table>
<thead>
<tr>
<th>Survey</th>
<th>DV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRFSS 2002</td>
<td>69.8</td>
</tr>
<tr>
<td>MEPS 2002</td>
<td>43.9</td>
</tr>
<tr>
<td>NHIS 2002</td>
<td>61.5</td>
</tr>
<tr>
<td>NHANES 1999-2004</td>
<td>59.4</td>
</tr>
</tbody>
</table>

* Significant difference (p≤0.05) in DV between BRFSS and other surveys
** Age-race/ethnicity adjusted DV

Overall, 2010

<table>
<thead>
<tr>
<th>Survey</th>
<th>DV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRFSS 2010</td>
<td>68.7</td>
</tr>
<tr>
<td>MEPS 2010</td>
<td>40.8</td>
</tr>
<tr>
<td>NHIS 2010</td>
<td>60.4</td>
</tr>
</tbody>
</table>

* Significant difference (p≤0.05) in DV between BRFSS and other surveys
** Age-race/ethnicity adjusted DV
By Race/Ethnicity, 2002

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>NHW</td>
<td>72.7</td>
<td>49.5</td>
<td>60.9</td>
<td>58.6</td>
</tr>
<tr>
<td>NHB</td>
<td>64.7</td>
<td>1</td>
<td>50.7</td>
<td>51.2</td>
</tr>
<tr>
<td>Hispanic**</td>
<td>63.1</td>
<td>1</td>
<td>48.3</td>
<td>42</td>
</tr>
</tbody>
</table>

NHW: Non-Hispanic White; NHB: Non-Hispanic Black
* Significant difference (p≤0.05) in DV between BRFSS and other surveys
** NHANES: Mexican American
*** Age adjusted DV

Compare Overall DV Between 2002 and 2010 within

- BRFSS
- MEPS
- NHIS
Overall, 2002 vs. 2010

* Significant difference (p≤0.05) in DV between 2002 and 2010

** Age-race/ethnicity adjusted DV

Limitations

- Self-reported DV
- Adjusted DV based on direct standardization: unstable estimates for populations with small size
- Changes between two time points may not reflect the trend over time
Conclusions

- Overall DV estimates were highest from BRFSS and lowest from MEPS.
- Similar patterns of comparisons in DV between BRFSS and other surveys were observed in both 2002 and 2010 and most subpopulations.
- Overall DV decreased slightly but significantly from 2002 to 2010 within surveys.

Public Health Implications

- BRFSS is the primary state-level data source for DV among adults.
- When monitoring state progress in DV using BRFSS towards national goals (e.g., HP 2020) using MEPS, NHIS or NHANES, differences in estimates, survey methodologies and questions across surveys should be considered.
Questions?

Thanks!

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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.