Who are the Smokers in Missouri?

Beyond prevalence: A Picture is Worth a Thousand Words

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Who are the Smokers in Missouri?

Traditional Indicator:
Prevalence shows the percentage of a defined group or subgroup that have a certain risk factor or health condition

It has limitations:
This presentation will attempt to discuss these

Who are the Smokers in Missouri?

Data Source:
Behavioral Risk Factor Surveillance System (BRFSS), 1999-2003
Conducted annually by DHSS with the support from CDC. Missouri adults randomly selected/sample of 4,000-5,000. BRFSS data are based on self-reporting through telephone survey

PROCLARITY software was used to query BRFSS data in Multi State Integrated Database maintained by Arkansas Center for Health Improvement (it is very user friendly but does not let us test for significance)

Who are the Smokers in Missouri?

Data Limitations:
Sample size for Missouri for a single year in BRFSS is very small; therefore, we used five-years of combined data
Even after combining five-years of data, we still could not get information on certain races; further data break down remained a problem for certain categories
Seven group race/ethnicity data should be used with caution
Who are the Smokers in Missouri?

Current Adult Smokers by Race/Ethnicity & by Socio-Economic Characteristics in Missouri (BRFSS 1999-2003)

Why Do We Need Numbers/Density?

Example: Importance of Numbers Besides Prevalence

Total Hispanics = 1,000
Smokers = 400
Smoking Prevalence =

(400 / 1000) *100

=40%

Total Whites, Non-Hispanics = 1,000,000
Smokers = 200,000
Smoking Prevalence =

(200,000 / 1,000,000) *100

=20%

Note: In this hypothetical population it is assumed that there are only two racial/ethnic groups.

Why We Need Numbers/Density?

Example: Importance of Numbers Besides Prevalence

Hispanic Smoker as Percent of total population =

(400 / 1,001,000) *100

= 0.04%

White, Non-Hispanic Smoker as Percent of total population =

(200,000 / 1,001,000) *100

= 20%

Note: In this hypothetical population it is assumed that there are only two racial/ethnic groups.

Smoking Prevalence Smokers as % of Adult Population

Note: In this hypothetical population it is assumed that there are only two racial/ethnic groups.
Smoking Prevalence Among Adult Missourians of Seven Different Race and Ethnic Backgrounds

<table>
<thead>
<tr>
<th>Race/Ethnicity Category</th>
<th>Adult Population Composition</th>
<th>Adult Smokers' Composition</th>
<th>Smoking Prevalence</th>
<th>Smokers as % of Adult Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.00%</td>
<td>100.00%</td>
<td>26.69%</td>
<td>26.69%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>85.93%</td>
<td>84.75%</td>
<td>26%</td>
<td>22.62%</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>8.45%</td>
<td>8.70%</td>
<td>28%</td>
<td>2.32%</td>
</tr>
<tr>
<td>Other Races</td>
<td>3.53%</td>
<td>4.36%</td>
<td>33%</td>
<td>1.16%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>2.09%</td>
<td>2.20%</td>
<td>28%</td>
<td>0.58%</td>
</tr>
</tbody>
</table>

Smoking Prevalence in Missouri by Employment Status and Race/Ethnicity

Employment-Related Disparities Based on Smoking Prevalence

- The highest smoking prevalence was among unemployed Missourians followed by 'Unable to Work'
- Similar pattern was seen across all races with the exception of 'Other Races'
- Smoking prevalence was lowest among retired, students, and homemakers

**Employment-Related Disparities**

*Based on Density of Smokers*

- Contrary to common belief, a majority of the smokers (69%) were employed, it was true for all races.
- Although the smoking prevalence was the highest among the Unemployed and Unable to work; these two were less than 3% of Missouri's adult population.
- Blacks had disproportionately higher number of unemployed smokers compared to other racial groups.

**Gender-Specific Disparities**

*Based on Smoking Prevalence*

- Across 4 races, men smoked more than women.
- Highest gender disparity is among Other Races, followed by Hispanic and Blacks.

**Smoking Prevalence Among Adult Missourians of Different Racial and Ethnic Backgrounds**

[Bar chart showing smoking prevalence by race and gender, with data from Behavioral Risk Factor Surveillance System Survey, 1999-2003]

**How Big is The Smoking Problem in Missouri?**

[Bar chart showing smoking rates by race and gender, with data from American Cancer Society, 1995-2003]
Gender-Specific Disparities
Based on Density of Smokers

- Almost twice as many Hispanic men smoked as Hispanic women and the same was true for 'Other Races'.
- Gender disparity was the highest among Hispanics followed by 'Other Races' and Blacks; and the lowest among Whites.

* Includes all races except White, Black and Hispanics

Smoking Prevalence in Missouri by Education Level and Race/Ethnicity

- Less educated Missourians had higher smoking prevalence among all races
- College graduates of all races had half the smoking prevalence of Missourians who had less than high school education
**Education-Related Disparities Based on Density of Smokers**

- Relatively more smokers had high school or less education among all races.
- Missourians with high school or less education were about 60% of all smokers.
- Seventy-two percent of Hispanic smokers had high school or less education.

**Age-Related Disparities Based on Smoking Prevalence**

- In the age group 18-24, Hispanic adults had the highest prevalence but older Hispanics (65+) had the lowest.
- In contrast, young Black adults (18-24) had the lowest smoking prevalence but older Blacks (65+) had the highest.
Age-Related Disparities Based on Density of Smokers

- Highest proportion of Missouri smokers was between the ages of 35 and 44 and the lowest in ages 65 and over
- Blacks had the lowest number of smokers in the age group 18-24
- Hispanics had the highest number of smokers in the age group 18-24

Smoking Prevalence in Missouri by Health Care Access and Race/Ethnicity

Health Care Access-Related Disparities Based on Smoking Prevalence

- Smoking prevalence among Missourians without health insurance was almost twice as high as among Missourians with health insurance
- This was true for all races
Health Care Access-Related Disparities

Based on Density of Smokers

- Even though the smoking prevalence was much higher among Missourians without health insurance, 80% of the smokers had health insurance.
- Blacks and Whites follow a similar pattern, but among smokers of Hispanic and "Other Races," about 70% had health insurance.
Poverty-Related Disparities
Based on Smoking Prevalence

- Smoking prevalence was higher among the poor (less than 100% FPL); the same pattern was observed across both genders
- At almost all the poverty levels, ‘Other Races’ had the higher smoking prevalence
- Blacks had the lowest smoking prevalence for incomes greater than 300% of FPL

Poverty-Related Disparities
Based on Density of Smokers

- The highest proportion of Missouri’s White smokers had incomes greater than 300% of the FPL
- Compared to the other races/ethnicities, about 70% of Black smokers were below 200% of the FPL

What We Know About the Smoking Prevalence in Missouri!

- Smoking Prevalence is Higher Among
  - Male Population
  - Unemployed
  - Uninsured
  - Low Income, <100% of FPL
  - Less than High School Education
  - Relatively Younger Adult Hispanics, 18-24 Years Old
  - American Indian or Alaskan Native
Conclusions
Prevalence VS Density

- **Prevalence** is higher among:
  - American Indians or Alaskan Natives
  - Unemployed and Unable to Work
  - Uninsured
  - High School or Less educational attainment had twice the smoking prevalence than College or Higher Education
  - Poor (<100% of FPL) of all races

- Smokers are Predominantly (Density):
  - Whites
  - Employed
  - Insured
  - Sixty percent of all Missourians and 72% of Hispanic with HS or less education smoked
  - Highest proportion at income greater than 300% FPL, Blacks and Hispanics were below 200% FPL

Recommendations/Implication for Public Health

- Prevalence does not provide enough information and the comparison can be misleading for the allocation of resources
- Introduction of the concept of density changes the emphasis and direction for public health policy
- It helps us clearly identify the disparities and devise such a policy that would help maximize the impact of a prevention program

Thank you

- **Gracias**

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