

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



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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)



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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



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Who are the Smokers in Missouri?

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



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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/ethnicity groups

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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/ethnicity groups

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Why We Need Numbers/Density?

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

= 20%

Hispanic Smoker as Percent
of total population =
(400 / 1,001,000) * 100

= 0.04%

White Smoker as Percent of
total population =
(200,000 / 1,001,000) * 100

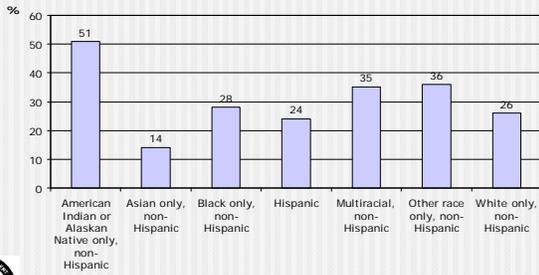
= 20%



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

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Smoking Prevalence Among Adult Missourians of Seven Different Race and Ethnic Backgrounds



Source: Behavioral Risk Factor Surveillance System Survey, 2002-03

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Missourians by Racial/Ethnic Composition

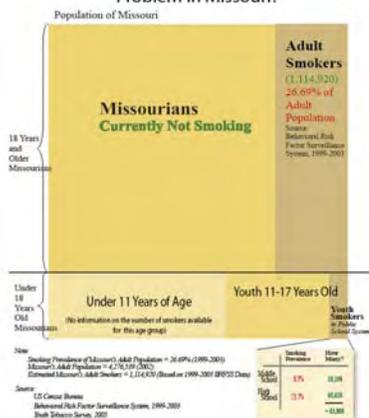
- Racial/Ethnicity Composition (Based on 2000 Census)
 - 85% White, Non-Hispanic
 - 11% Black, Non-Hispanic
 - 2% Hispanic
 - 1% Asians, Non-Hispanic
 - 1% Other



Source: US Census Bureau, 2000

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How Big is the Cigarette Smoking Problem in Missouri?



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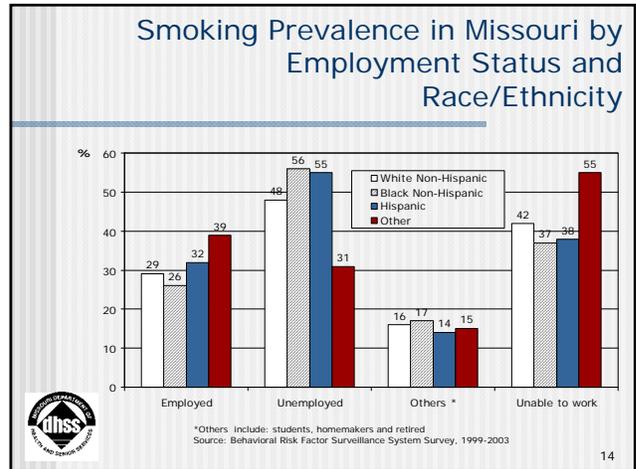
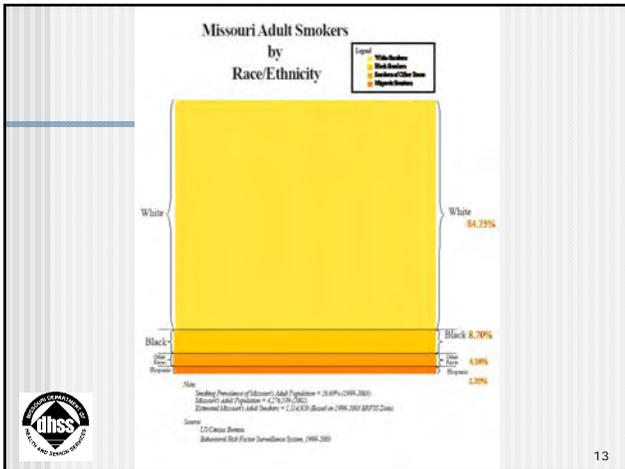
Missouri's Adult Population and Adult Smokers' Composition By Race/Ethnicity

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



Source: Behavioral Risk Factor Surveillance System Survey, 1999-2003

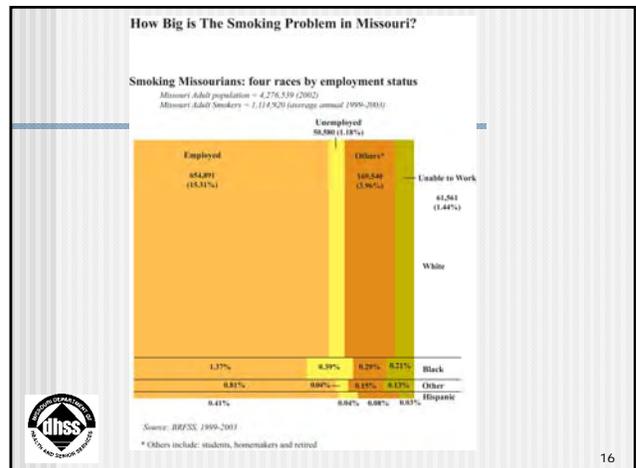
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Employment-Related Disparities

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 home makers



Employment-Related Disparities

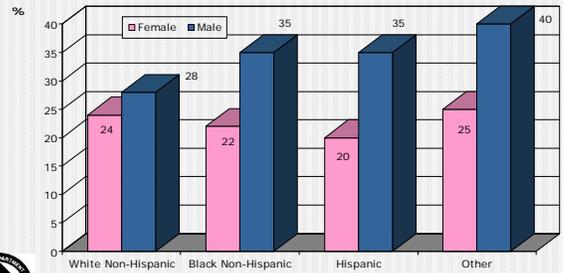
Based on Density of Smokers

- 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



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Smoking Prevalence Among Adult Missourians of Different Racial and Ethnic Backgrounds



Source: Behavioral Risk Factor Surveillance System Survey, 1999-2003

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Gender-Specific Disparities

Based on Smoking Prevalence

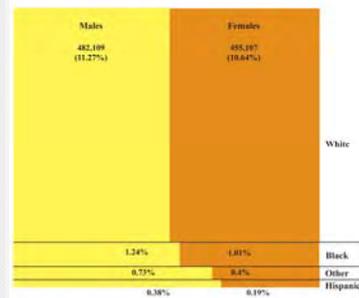
- Across 4 races, men smoked more than women
- Highest gender disparity is among Other Races, followed by Hispanic and Blacks



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How Big is The Smoking Problem in Missouri?

Smoking Missourians: four races by gender
 Missouri Adult population = 4,276,539 (2002)
 Missouri Adult Smokers = 1,114,920 (coverage annual 1999-2003)



Source: BRFSS, 1999-2003

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Gender-Specific Disparities Based on Density of Smokers

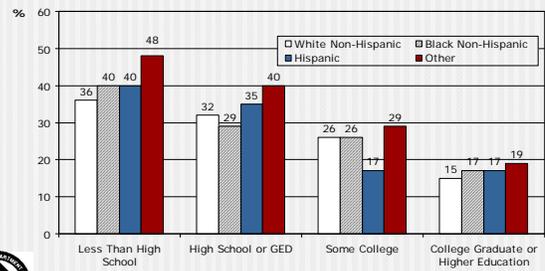
- Almost twice as many Hispanic men smoked as Hispanic women and the same was true for 'Other Races'.
- Gender disparity was the highest among Hispanics followed by 'Other Races'* and Blacks; and the lowest among Whites.

* Includes all races except White, Black and Hispanics



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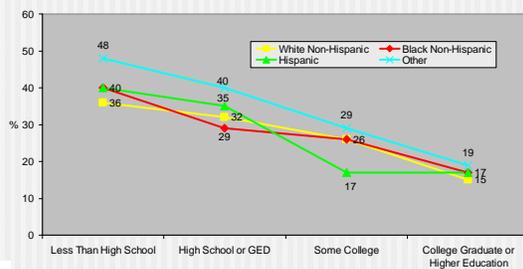
Smoking Prevalence in Missouri by Education Level and Race/Ethnicity



Source: Behavioral Risk Factor Surveillance System Survey, 1999-2003

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Smoking Prevalence in Missouri by Education Level and Race/Ethnicity



Source: Behavioral Risk Factor Surveillance System Survey, 1999-2003

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Education-Related Disparities Based on Smoking Prevalence

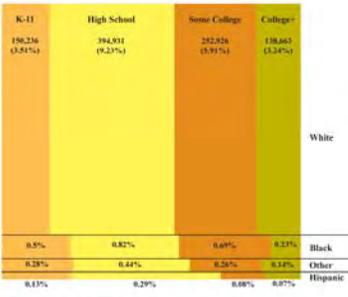
- Less educated Missourians had higher smoking prevalence among all races
- College graduates of all races had half the smoking prevalence of Missourians who had less than high school education



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How Big is The Smoking Problem in Missouri?

Smoking Missourians: four races by education level
 Missouri Adult population = 4,278,539 (2002)
 Missouri Adult Smokers = 1,114,920 (average annual 1999-2003)



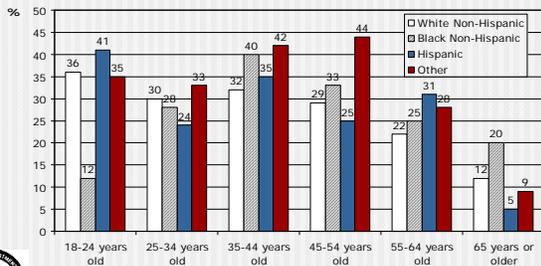
Source: BRFSS, 1999-2003

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



Smoking Prevalence in Missouri by Age Groups and Race/Ethnicity

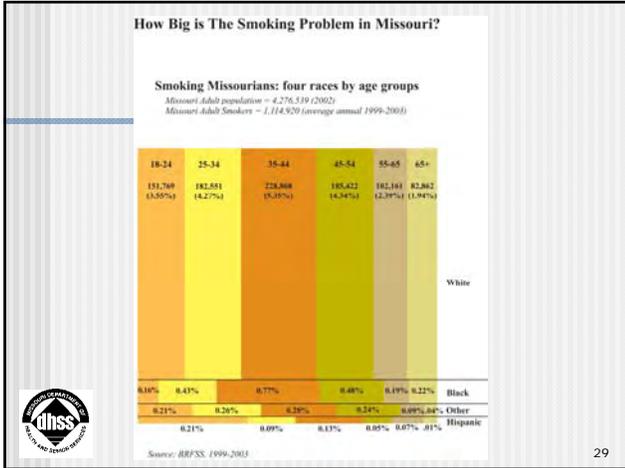


Source: Behavioral Risk Factor Surveillance System Survey, 1999-2003

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

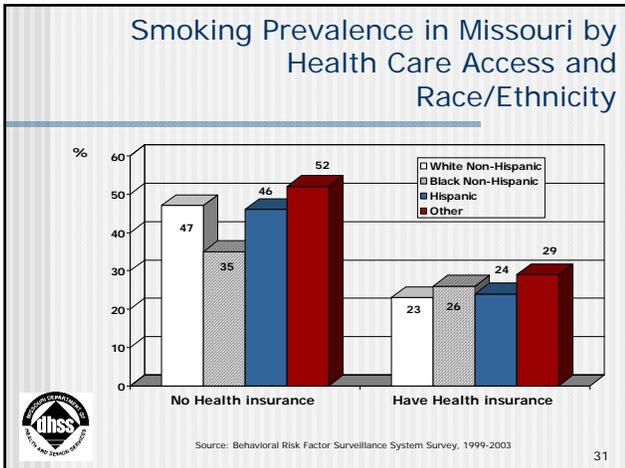




Age-Related Disparities

Based on Density of Smokers

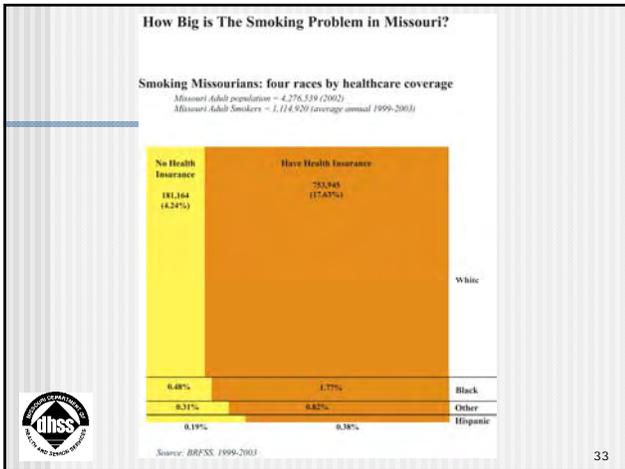
- Highest proportion of Missouri smokers was between the ages of 35 and 44 and the lowest in ages 65 and over
- Blacks had the lowest number of smokers in the age group 18-24
- Hispanics had the highest number of smokers in the age group 18-24



Health Care Access-Related Disparities

Based on Smoking Prevalence

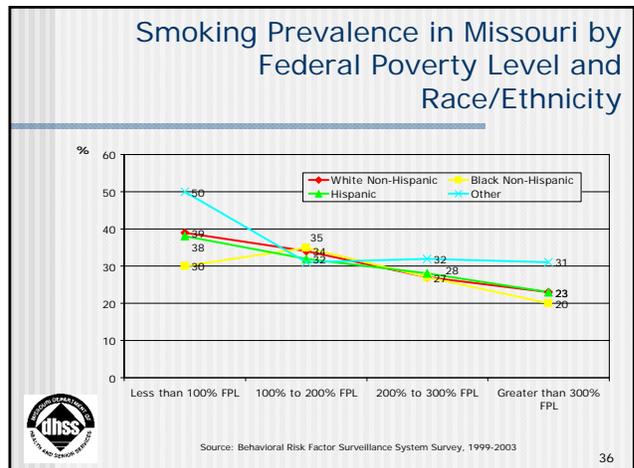
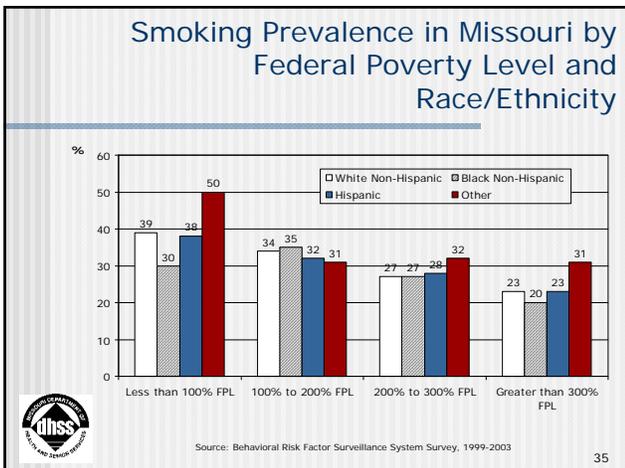
- Smoking prevalence among Missourians without health insurance was almost twice as high as among Missourians with health insurance
- This was true for all races



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



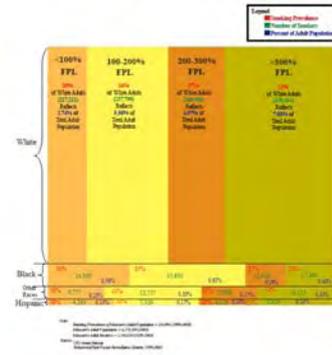
Poverty-Related Disparities Based on Smoking Prevalence

- 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



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Missouri Adult Smokers by Race/Ethnicity and Federal Poverty Level



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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



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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



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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



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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



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Thank you

•Gracias

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