

Variations in Use of Preventative Dental Services among U.S. Diabetic Adults, BRFSS 2010

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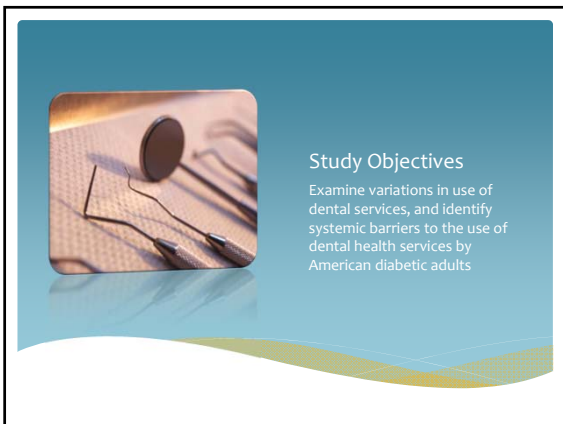
Learning Objectives

1. Describe the magnitude of dental health problems among diabetic adults in the United States
2. Describe dental health services utilization patterns among diabetic adults in the United States
3. Discuss strategies to eliminate the barriers to dental health services experienced by diabetics

Background

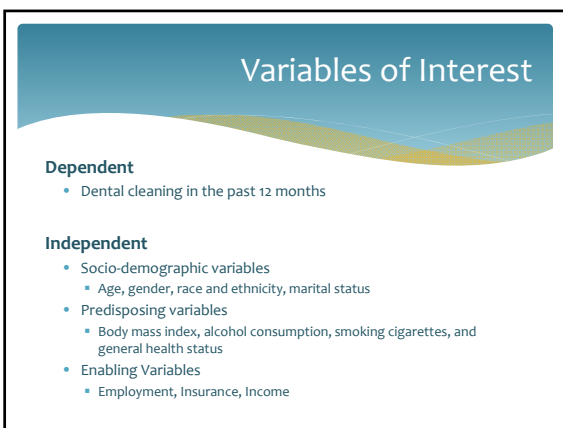
Healthy People 2020 Objectives

- * Increase the proportion of persons with diagnosed diabetes who attend at least one annual dental exam by 10% with a baseline target of 61.2%¹
- * Promote and support the use of preventative dental services among the diabetic population¹
- * Diabetics may be unaware of their risk level for oral complications such as dental caries, dry mouth, and periodontitis^{2, 4}
- * Oral complications can be temporally related to diabetes³
- * Glycemic levels and nutritional intake and absorption need monitoring⁵
- * Preventive care can reduce oral complications, lead to the improvement of glucose metabolism and nutritional intake



Study Objectives
Examine variations in use of dental services, and identify systemic barriers to the use of dental health services by American diabetic adults

The slide features a blue background with a wavy pattern at the bottom. On the left, there is an image of a dental mirror and a dental chair. The text is positioned to the right of the image.



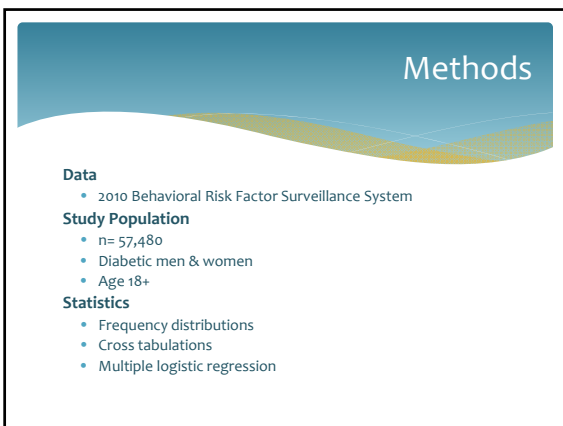
Variables of Interest

Dependent

- Dental cleaning in the past 12 months

Independent

- Socio-demographic variables
 - Age, gender, race and ethnicity, marital status
- Predisposing variables
 - Body mass index, alcohol consumption, smoking cigarettes, and general health status
- Enabling Variables
 - Employment, Insurance, Income



Methods

Data

- 2010 Behavioral Risk Factor Surveillance System

Study Population

- n= 57,480
- Diabetic men & women
- Age 18+

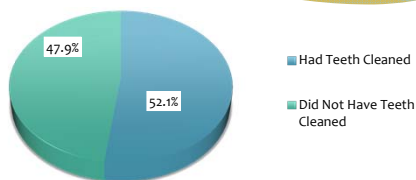
Statistics

- Frequency distributions
- Cross tabulations
- Multiple logistic regression

Descriptive Results

Variable	No. Observations	Weighted Percent
Age		
< 35 years	972	5.21 %
35 - 49 years	5,610	17.6 %
50 - 64 years	20,867	38.1 %
> 64 years	29,592	38.4 %
Missing	439	0.66 %
Race / Ethnicity		
White	40,840	62.1 %
Black/African American	7,286	14.8 %
Hispanic	4,849	14.9 %
Others	4,505	8.2 %

Teeth Cleaning in the Last 12 Months



Results

Significant predictors of dental services utilization (p ≤ 0.001):

- * Education (completion of high school and/or college)
- * Race/ethnicity (Black/African American)
- * Income
- * Unemployment
- * Overweight
- * Smoking cigarettes
- * Insurance coverage
- * General health status
- * Lack of exercise

Significant predictors of dental services utilization (p ≤ 0.01):

- * Age (>64 years)
- * Gender
- * Marital status

Dental Services Use by Income

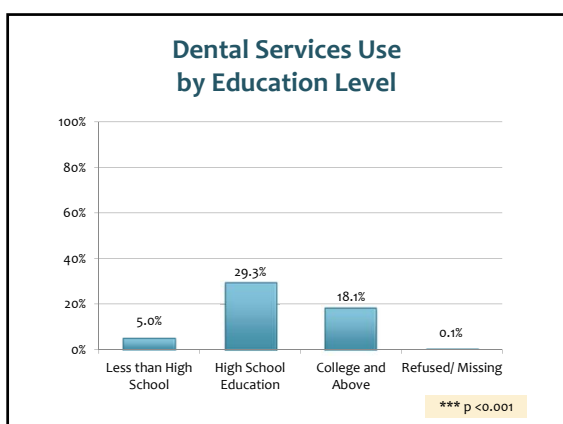
Variable	Dental Cleaning in past 12 months		Last Dental Visit in past 12 months	
	No. Obs.	Weighted %	No. Obs.	Weighted %
Income				
less than \$20,000	4,783	7.78 %	6,198	9.94 %
\$20,000 - \$34, 999	6,030	9.37 %	7,055	11.0 %
\$35,000 - \$49, 999	8,509	15.4 %	9,108	16.4 %
\$50,000 and more	5,395	12.8 %	5,582	13.2 %
Other (missing)	4,147	6.74 %	4,846	7.77 %

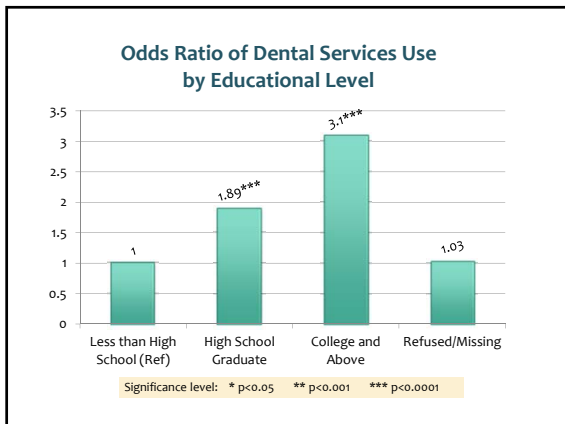
*** p <0.001

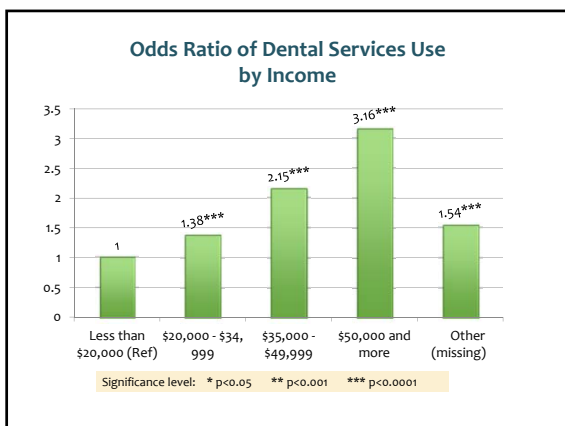
Distribution of Dental Services Use by Gender

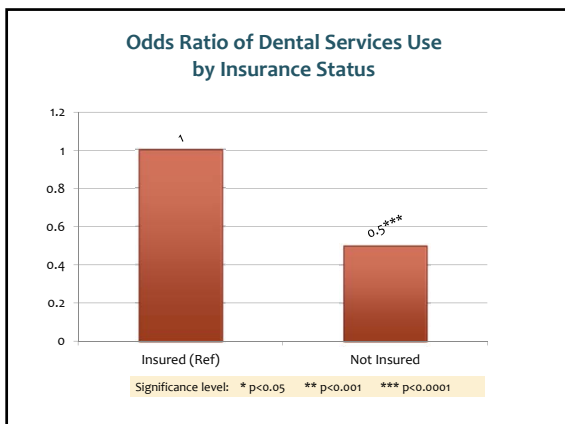
	Females		Males	
	No. Obs.	Weighted Percent	No. Obs.	Weighted Percent
Last Dental Visit in past 12 months				
Yes (12 months or less)	19,077	28.3 %	13,712	30.0 %
No	15,116	21.3 %	9,575	20.5 %
Dental Cleaning in past 12 months				
Yes	16,653	25.1 %	12,211	27.0 %
No	17,540	24.4 %	11,076	23.5 %

*** p <0.001











Conclusion

Use of dental health services among diabetics appears to be associated with several sociodemographic, predisposing, and enabling factors.

References

1. U.S. Department of Health and Human Services. (2012). Health People 2020: Diabetes. HealthyPeople.gov. Retrieved from <http://healthypeople.gov/2020/topic/objectives/objectiveslist.aspx?topicId=8>
2. Sandberg, G. E., Sundberg, H. E., Fjellstrom, C. A., & Wikblad, K. F. (2000). Type 2 diabetes and oral health: A comparison between diabetic and non-diabetic subjects. *Diabetes Research and Clinical Practice*, 50, 27-34. doi: 10.1016/S0168-8227(00)00159-5.
3. Yuen, H. K. (2012). Factors associated with preventive care practice among adults with diabetes. *Primary Care Diabetes*, 6, p. 75-78. doi: 10.1016/j.pcd.2011.12.002.
4. Valerio, M. A., Kanjirath, P. P., Klausner, C. P., & Peters, M. C. (2011). A qualitative examination of patient awareness and understanding of type 2 diabetes and oral health care needs. *Diabetes Research and Clinical Practice*, 93, p. 159-165. doi: 10.1016/j.diabres.2011.03.034.
5. Rhodus, H. L., Vibeto, B. M., Hamamoto, D. T. (2005). Glycemic control in patients with diabetes mellitus upon admission to a dental clinic: Considerations for dental management. *Quintessence International*, 36, p. 474-482.
