



Preventive Health Screening Disparities by Disability, Gender and Race



College of Nursing

VILLANOVA
UNIVERSITY



Suzanne C. Smeltzer, EdD, RN, FAAN

**Professor and Director, Center for Nursing Research
Villanova University College of Nursing**



College of Nursing

VILLANOVA
UNIVERSITY



Definition of Health Disparities

- ✓ **The difference in incidence, prevalence, mortality, or burden of disease and other adverse health conditions, including lack of access to proven healthcare services that exists between specific population groups**
- ✓ **Population-specific differences in the presence of disease, health outcomes, quality of health care and access to health care services that exist across racial and ethnic groups.**
- ✓ **Differences between groups of people that affect how frequently a disease affects a group, how many people get sick, or how often the disease causes death. These groups include 1) racial and ethnic minorities, 2) residents of rural areas, 3) women, children, the elderly, and 4) persons with disabilities**



Background: Disability

U.S. Surgeon General's *Call to Action to Improve the Health and Wellness of Persons with Disabilities*:

- A lower percentage of persons with disabilities (PWDs) than those without disabilities report their health to be excellent or very good (28.4% versus 61.4%)
- Health care providers often focus on the disabling condition rather than on other health issues that might be of concern to the individual, including preventive health screening
- Persons with disabilities do not participate in wellness programs or health screening activities at the same level as those without disabilities.



Background: Race and Ethnicity

IOM's Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care:

- Significant variation exists in the rates of medical procedures by race
- Individuals from racial and ethnic minorities are less likely to receive even routine medical procedures and they experience a lower quality of health services.



Background: Gender

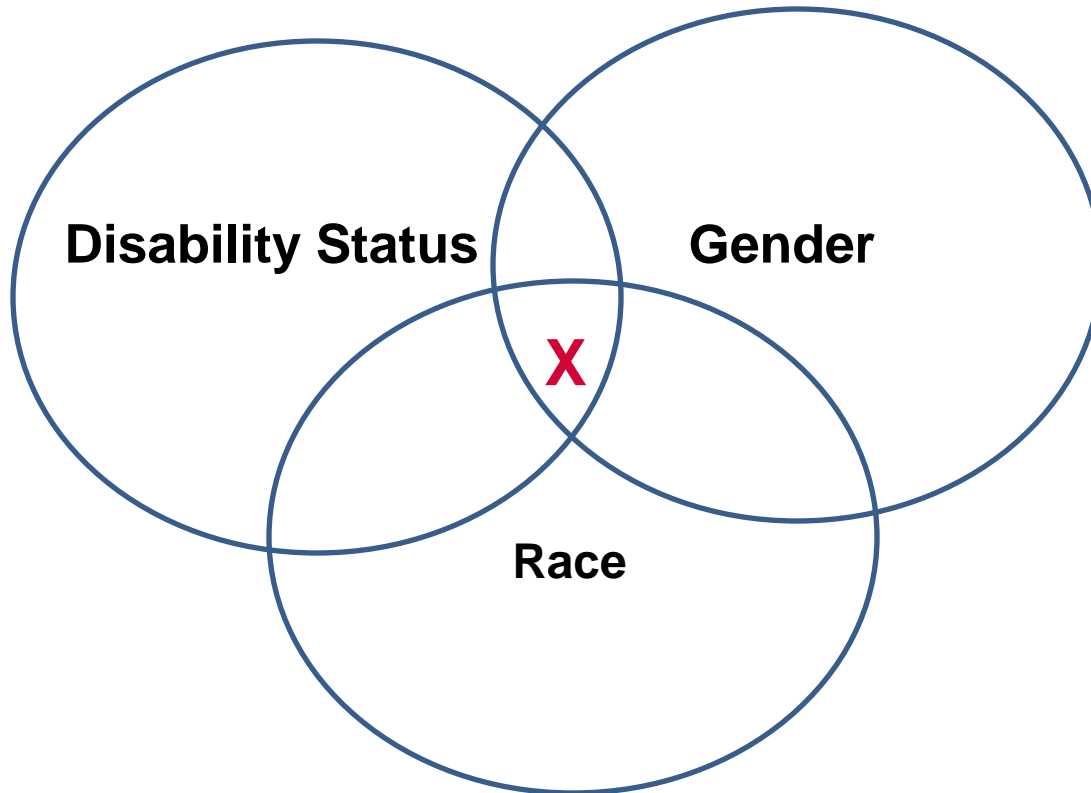
CDC and many other sources

- **Women typically experience more stress, poorer health, and more years with disabilities than men**
- **Women are more likely to live below poverty level**
- **Women are more likely than men to be diagnosed with cancer**
- **Women more likely than men to report having unmet health needs**



Few studies have addressed the issue of health disparities among racial minority populations with disabilities in comparison to Caucasians with disabilities.

With the growing numbers of the population of people with disabilities and racial ethnic minority population, there is a need to examine the prevalence of disparities in preventive health screening among racial minority and Caucasian populations if strategies to reduce these disparities and discrepancies in health screening are to be reduced.



Purpose of Study



- To examine preventive health screening (e.g., Pap tests, mammogram, colon cancer screening, and prostate specific antigen (PSA) in African-American men and women with disabilities and without disabilities
- To compare screening rates by disability status (with vs. without disability), gender (males vs. females) and race (African-Americans vs. Caucasians).



Framework, Study Design and Methods

- ❖ **Goodall's Interface model of disability served as the framework for the study**
- ❖ **Descriptive, comparative study using secondary data analysis of variables from 2008 National Health Interview Survey (NHIS) data set**

NHIS data are collected from a national random via a personal household interview conducted by U.S. Census interviewers using computer-assisted personal interviewing (CAPI)

NHIS Survey

- **Basic Module** (largely unchanged from year to year):
 - **Family Core** (collects data on whole family)
 - **Sample Child Core** (1 child randomly selected from family)
 - **Sample Adult Core** (1 adult randomly selected from family)
- **File downloaded to SPSS v. 20 for analysis**
- **The African-American and Caucasian sample of 20,148 was selected from the Sample Adult Core for analysis to obtain data about health screening**

NHIS Survey

Independent Variables:

Race: Responses to questions on race were coded as either African American or Caucasians; other ethnic groups were excluded

Gender: Responses to questions on gender were coded as either male or female

Disability Status: Responses to 8 functional limitations were coded as 1) limited in any way vs. not limited in any way, and 2) by three disability categories (Cheverley et al., 2006):

- Difficulty with none of the 8 FLs = 0
- Difficulty with 1 or 2 of the 8 FLs = 1
- Difficulty with 3 or more of 8 FLs = 2

No difficulty defined as “not at all” to “only a little difficult”

Difficulty defined as “somewhat difficult” to “cannot do at all”

NHIS Survey

Dependent Variables

Preventive Screening: Responses to selected questions asking about specific types of screening (ever had it or not)

For women: mammogram, Pap test, colonoscopy, and FOBT (based on age- and gender-appropriate recommendations)

For men: colonoscopy and prostate-specific antigen (PSA) (based on age- and gender-appropriate recommendations)

Analysis

χ^2 analyses were used to address the study's purposes

Gender and Race of Sample

(n = 20,148)

	Men	Women
Gender	8,764 (43.5% of total sample)	11,384 (56.4% of total sample)
African-American	1,319 (15% of men; 6.5% of total sample)	2,160 (19.1% of women; 10.7% of total sample)
Caucasian	7,445 (84.9% of men; 36.9% of total sample)	9,224 (81.7% of women; 45.8% of total sample)
Age (n=20,148)	Range: 18 – 85;	M = 48.23 \pm 18.03

Disability by Gender

(n = 20,148)

	Men		Women	
	No limitation	Limited in any way	No limitation	Limited in any way
	70.2%	29.0%	59.7%	39.7%*

*Significant difference in limitation vs. no limitation by gender ($p < .001$) with a greater proportion of women having limitations than men

	Men			Women		
	No FL	1-2 FLs	≥ 3 FLs	No FL	1-2 FLs	≥ 3 FLs
	79.7%	9.2%	11.1%	70.1%	12.2%	17.7%*

*Significant difference in disability by number of functional limitations (FLs) by Gender ($p < .001$) with a greater proportion of women than men having more functional limitations.

Disability by Race

(n = 20,148)

	African Americans		Caucasians	
	No limitation	Limited in any way	No limitation	Limited in any way
	64.2%	34.8%	64.2%	35.1%

	African Americans			Caucasians		
	No FL	1-2 FL	≥ 3 FL	No FL	1-2 FL	≥ 3 FL
	72.9%	9.7%	17.4%	74.6%	11%	14.3%

No significant differences in disability by race by either limitation vs. no limitation or by number of functional limitations (FLs; $p > .05$)

Incidence of Disability by Race and Gender

(n = 20,148)

	Men			Women		
	No FL	1-2 FL	≥ 3 FL	No FL	1-2 FL	≥ 3 FL
African-American	78%	8.9%	12.9%*	69.6%	10.3%	20.1%*
Caucasian	80%	9.2%	10.7%*	70.3%	12.6%	17.2%*

FL = functional limitations

*Significant differences in FLs by gender but not by race

All Women who Responded Yes to Having a Pap Test, Mammogram or Colorectal Screening Exam

	No FL	1-2 FL	≥ 3 FL
--	-------	--------	--------

Pap Test:

Yes to Pap Test	69.8%	12.3%	17.9%*
-----------------	-------	-------	--------

Mammogram:

Yes to Mammogram	61.9%	14.5%	23.6%*
------------------	-------	-------	--------

Colorectal Screening Exam:

Yes to Colorectal Screening Exam	55.4%	11.6%	33.0%*
----------------------------------	-------	-------	--------

FL = Functional limitations

*Significant differences in screenings by FLs ($p \leq .001$)

Women who Responded Yes to Having a Pap Test, Mammogram or Colorectal Screening Exam By Race

	African-Americans			Caucasians		
	No FL	1-2 FL	≥ 3 FL	No FL	1-2 FL	≥ 3 FL
Pap Test:						
Yes to Pap Test	69.3%	10.4%	20.3%*	69.9%	12.7%	17.4%*
Mammogram:						
Yes to Mammogram	61.7%	11.4%	27.0%*	62.0%	15.2%	22.8%*
Colorectal Screening Exam:						
Yes to Colorectal Screening	55.4%	11.6%	33.0%*	52.8%	18.1%	29.0%*

FL = functional limitations

*Significant differences in screening by FLs, but not by race

Men who Responded Yes to Ever Having a PSA or Colorectal Screening Exam

	No FL	1-2 FL	≥ 3 FL
--	-------	--------	-------------

PSA Test:

Yes to PSA Test	67.7%	14.1%	18.2%*
-----------------	-------	-------	--------

Colorectal Screening Exam:

Yes to Colorectal Screening Exam	59.6%	16.3%	24.1%*
----------------------------------	-------	-------	--------

FL = Functional limitations

*Significant differences in screening by FL ($p \leq .001$)

Men who Responded Yes to Having a PSA Test or Colorectal Screening Exam By Race

		African-Americans			Caucasians		
		No FL	1-2 FL	≥ 3 FL	No FL	1-2 FL	≥ 3 FL
PSA Test							
Yes to PSA Test		67.1%	12.5%	20.4%*	67.8%	14.4%	17.8%*
Colorectal Screening Exam:							
		58.4%	13.3%	28.3%*	60.2%	16.8%	23.0%*

FL = functional limitations

*Significant differences in screening by FL ($p \leq .001$) but not by race

Conclusions:

- The data in this sample on disability are consistent with national data about its incidence
- A greater proportion of women than men in this sample have disability (by limitation vs. no limitation and by number of functional limitations)
- The proportions of African-Americans and Caucasians with limitations or number of functional limitations do not differ
- Significant differences in preventive health screening by number of functional limitations (in some cases having ≥ 3 limitations is associated with more screening than those with 1-2 limitations)

Conclusions...

- The screening rates across groups, including those without any functional limitations, are considerably lower than recommended
- Disability status (having a disability) had a stronger relationship to low preventive screening rates than did race

Implications

- Attention to preventive health screening is important for people with disabilities as well as those without disabilities
- Importance of preventive health screening should be emphasized to people with disabilities and to health professionals who provide care to patients with disabilities
- Efforts are needed to ensure that accommodations are available in screening facilities to enable people with disabilities to undergo recommended preventive screening

Implications...

- **Efforts are needed to identify barriers and challenges to preventive screening in all groups, including those with and without disabilities**
- **People with some disability (1-2 limitations) should be targeted to increase screening; they may be less likely to see health care providers than those with more severe disability and less likely to have health screening recommended**

Limitations

- Data were obtained from existing database, which limits the ability to modify questions or seek further clarification from respondents
- There are numerous ways to identify and categorize disability; other methods and approaches will be used in future studies
- Responses about screening may/may not be accurate responses because of errors in recall and in wording of questions
- There are considerable missing data on health screening responses to questions

Questions or Comments?



College of Nursing

VILLANOVA
UNIVERSITY

Suzanne.smeltzer@villanova.edu

610-519-6828