# The Impact of Selected Demographic, Mental Health and Geographic Measures on Discharge From Nursing Homes Among Working-Age Adults in Maryland

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# Disclosure Statement

The researchers have no relationships that need to be disclosed while conducting this research.

# The Problem

- A growing share of the nursing home population comprises working-age adults

- There are substantial federal and state policy efforts to support individuals with long-term care needs in preferred community settings

- More empirical information is needed about the experiences of working-age adults in order to establish meaningful and successful programs to delay institutionalization and increase the opportunity for transitions back to the community

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# Background

- A growing share of the nursing home population is comprise of working-age adults (age 18-64 years)

- Between 2000 and 2007, the share of nursing home residents age 31-64 grew from 10.0% to 12.9%

- In 2007, several states' share was notably higher:
    - Alaska (23.3%)
    - Illinois (17.6%)
    - Nevada (17.2%)
    - Arizona (16.8%)
    - Louisiana (16.7%)
    - Maryland 14.5%,

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# Empirical Evidence is Sparse

- Far less is known about working-age individuals in nursing homes

- Socio-demographic and clinical profiles draw on data from the mid-1980s to mid-1990s.

- These studies show that, relative to older nursing home residents, working-age residents are more often:
    - male
    - minority race
    - lower socioeconomic status (SES)
    - living alone prior to admission
    *(Department of Health and Human Services, 2002)*

# Federal and State Policy Activity

- Substantial support for living in the community rather than institutional settings:

    - 1999 Supreme Court *Olmstead* decision (*Zimring v. Olmstead*) 1990 Americans with Disabilities Act

    - The *New Freedom Initiative* in 2001

    - The *New Freedom Commission on Mental Health* in 2002

    - The CMS's *Real Choices Systems Change* grant program

    - The 2005 *Money Follows the Person Demonstration*

    - Title VIII of the 2010 *Patient Protection and Affordable Care Act, The CLASS Act (Community Living  Assistance Services and Support)*

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# Purpose of this study

The purpose of this research is to examine factors, among working-age adults, that might predict discharge from nursing homes, in order to inform ongoing policy efforts to increase community living and decrease institutionalization

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# Study Hypothesis

Race, gender, having greater functional limitations, cognitive impairment, or behavioral symptoms, geographic location, and higher availability of nursing home beds are factors that decrease the likelihood of nursing home discharge among working-age adults
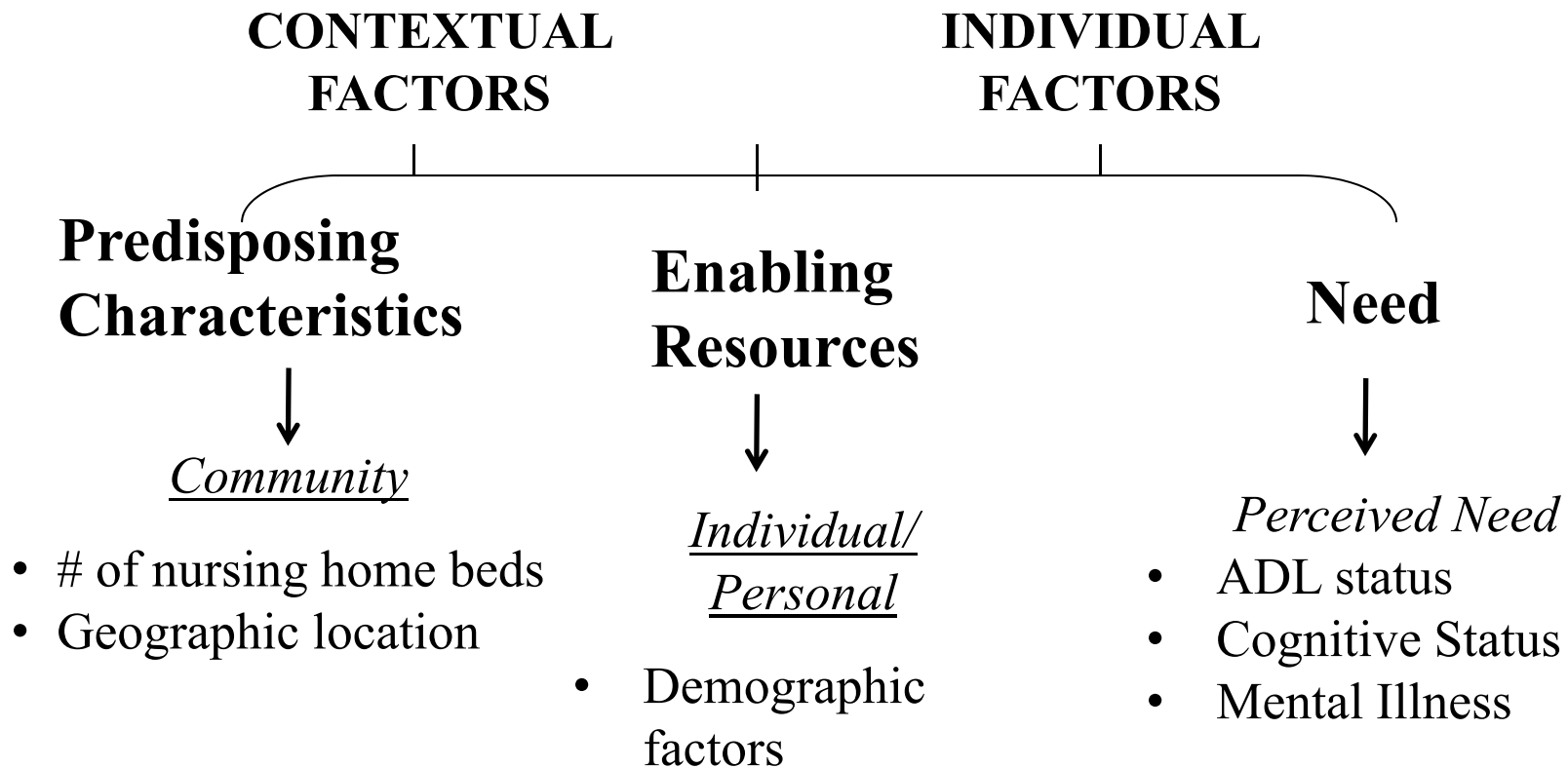
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# Research Questions

- Is there a relationship to the availability of nursing home beds (the per capita number of beds in a geographic area) to discharge from a nursing home among the study population?

- What is the predictive strength of ADL and cognitive status, race, gender, and mental illness on the likelihood of discharge?

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# Theoretical Framework

- Andersen's expanded Behavioral Model of Health Services Use (1995; 2001), which models access, use, and outcomes of health care

- The model includes two domains
    - Contextual or macro systemic
    - Individual or micro

- Four components in each domain
    - (1) predisposing characteristics
    - (2) enabling resources
    - (3) need as perceived by the individual or as evaluated by professionals
    - (4) use of health services.

# Applied Andersen Model

CONTEXTUAL
FACTORS

INDIVIDUAL
FACTORS

**Predisposing
Characteristics**

**Enabling
Resources**

**Need**

*Community*

- # of nursing home beds
- Geographic location

*Individual/
Personal*

- Demographic factors

*Perceived Need*

- ADL status
- Cognitive Status
- Mental Illness

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# Data use for the study

- Using data from Maryland Long-term Care Minimum Data Set (MDS), a series of initial and subsequent assessments with discharge information was used to examine predictors of discharge

- A substantially longer period than used in previous studies of discharge among older adults

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# Study Population

The study population consisted of 27,527 Maryland nursing home residents, who were 18-64 years of age upon admission, from June 1999 and July 2005, and who had resided in the nursing home for at least one year

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# Study variables

**Demographics**

Age, race/ethnicity, marital status, gender, education

**Other individual factors**

Living alone, prior institutional residence, history of mental illness
ADL status, cognitive status

**Other MDS measures**

Discharge preferences
Availability of community support
Discharge destination

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# The Activities of Daily Living (ADL) Scale

■ The ADL Scale uses a formula containing MDS measures for:

- bed mobility
- transfer
- eating
- parenteral/intravenous
- feeding tube
- toilet use

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# The Cognitive Performance Scale

- Cognitive Performance Scale (CPS) computed using MDS measures pertaining to impaired cognitive abilities, including:

    - Communication and memory
    - Short-term memory loss
    - Decision-making
    - Ability to make self understood

# Survival Analysis Using Cox Proportional Hazards (CPH)

- Survival →individual is *NOT discharged from the nursing home (censoring variable=discharge to the community)*

- *Point estimates measure* the likelihood (risk) of discharge

- Survival time was measured in days, beginning with an admission assessment.
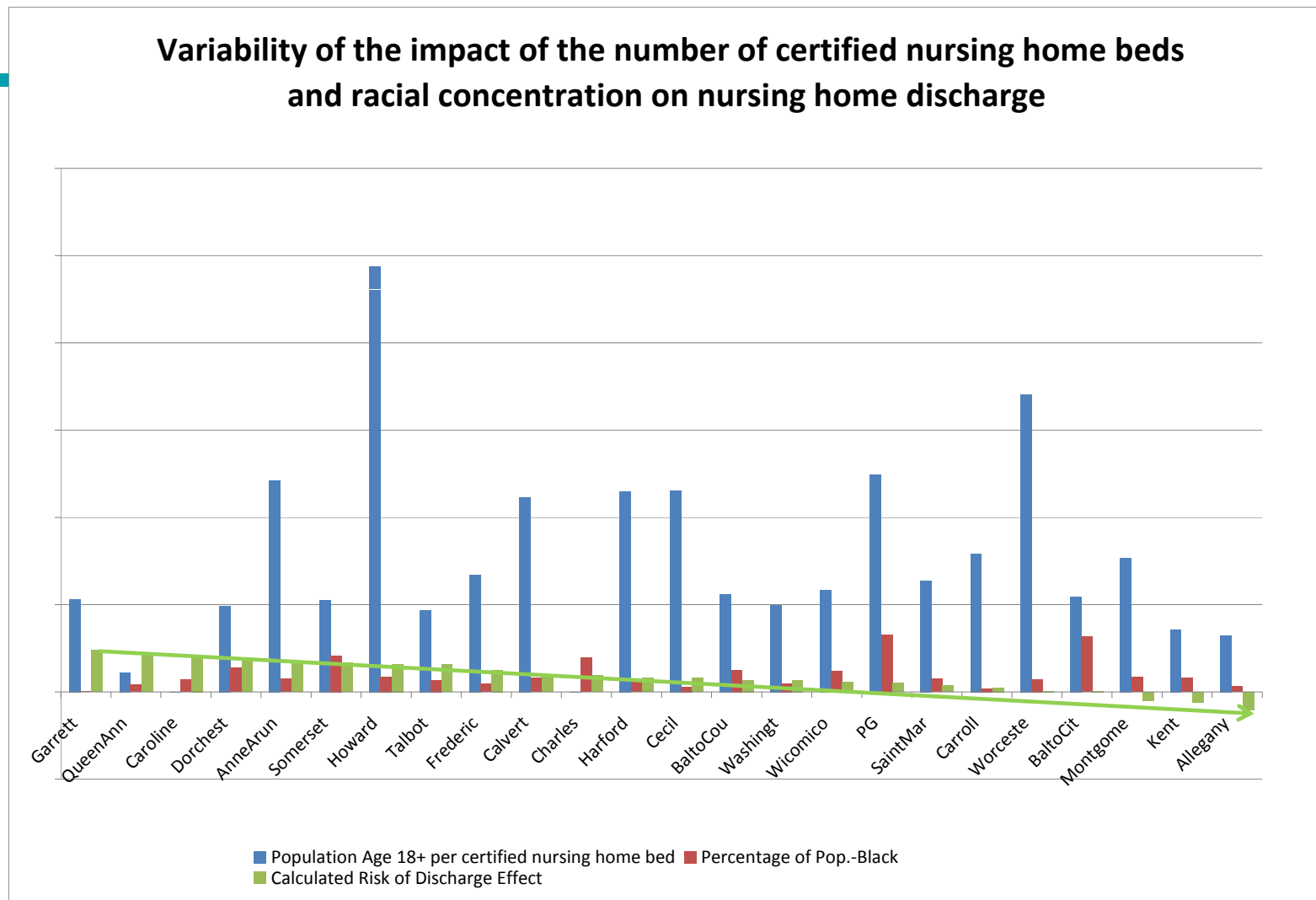
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# Findings

- Women had a 16% greater likelihood to be discharged than men

- Whites were 10% greater likelihood to be discharged compared to Blacks

- A diagnosis of mental illness had a variable effect on the likelihood of discharge, with depression and anxiety (not significant) having positive effects

- Bipolar illness and Schizophrenia have significant negative effects on the likelihood of discharge (not significant)

- Cognitive and ADL impairment are both negatively associated with nursing home discharge, with cognitive impairment having the greater effect

- County and # of per capita nursing beds had a variable effect

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# Findings

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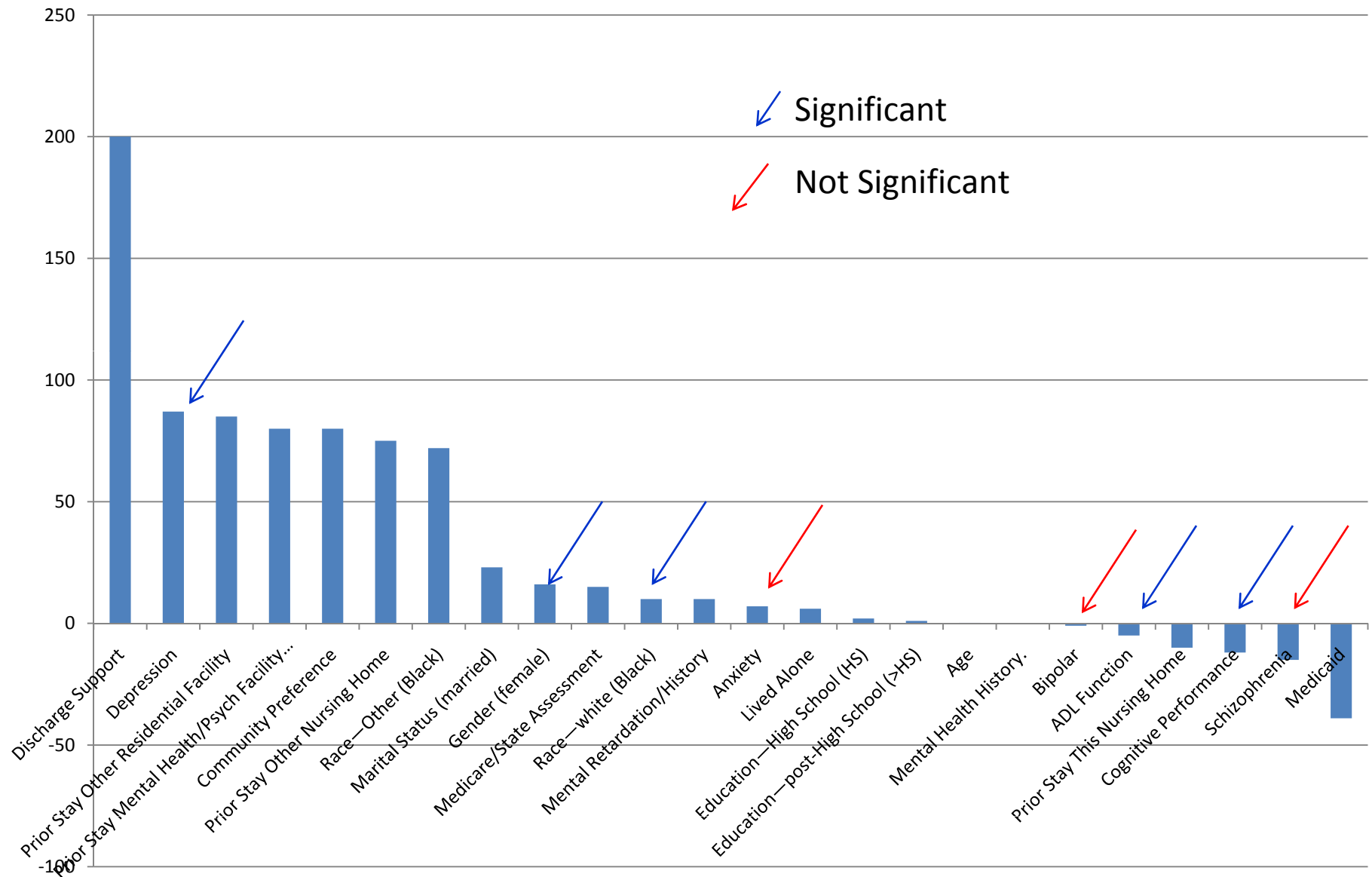
- Geographic location and the availability of nursing home beds had highly variable effects on the decreasing likelihood of discharge

**Variability of the impact of the number of certified nursing home beds and racial concentration on nursing home discharge**



Legend: Population Age 18+ per certified nursing home bed (blue), Percentage of Pop.-Black (red), Calculated Risk of Discharge Effect (green)

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# Policy Implications and Conclusions

- Especially among those with longer nursing home stays, there is value to understanding what factors might contribute to or deter from being discharged from a nursing home

- There are likely complex interactions, mediating, and moderating effects that still need to be further evaluated

- Planning needs to include empirical evidence that will allow the most efficient use of resources as we seek to transition individuals from institutional to community living
  - Those most likely to benefit from the transition
  - The characteristics of those who will transition and what that means for the services and supports they will require

# Thank you.

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