



**The Hilltop Institute**

*analysis to advance the health of vulnerable populations*

# **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

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

# The Problem

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- 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

# Background

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- A growing share of the nursing home population is comprised 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%,

# Empirical Evidence is Sparse

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- 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

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- 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)*

# Purpose of this study

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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

# Study Hypothesis

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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



# Research Questions

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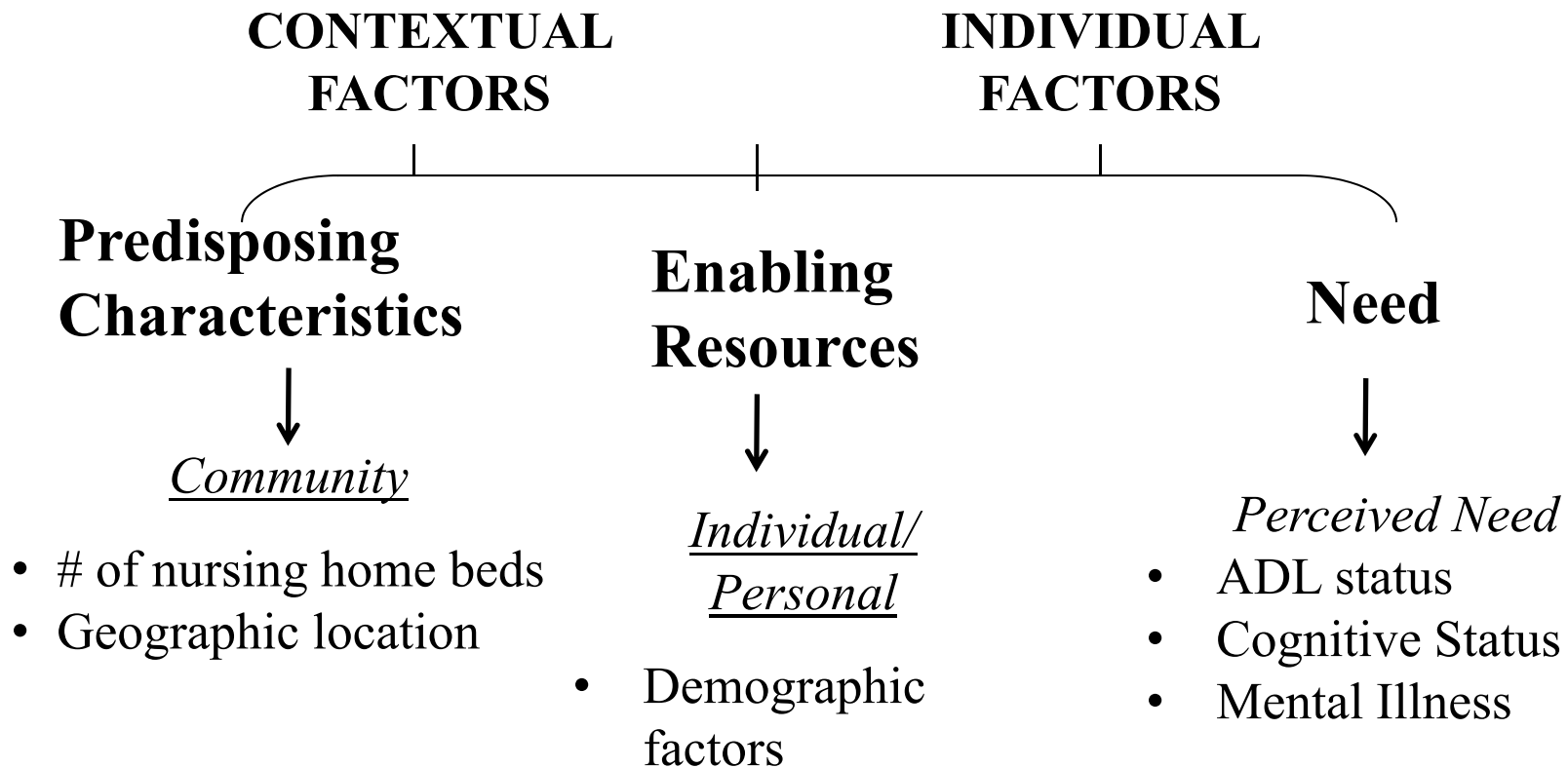
- Is there a relationship to the availability of nursing home beds (the per capita number of beds in a geographic area) to discharge from a nursing home among the study population?
- What is the predictive strength of ADL and cognitive status, race, gender, and mental illness on the likelihood of discharge?

# Theoretical Framework

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- 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



# Data use for the study

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- 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

# Study Population

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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

# Study variables

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## 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

# The Activities of Daily Living (ADL) Scale

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- The ADL Scale uses a formula containing MDS measures for:
  - bed mobility
  - transfer
  - eating
  - parenteral/intravenous
  - feeding tube
  - toilet use

# The Cognitive Performance Scale

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- 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)

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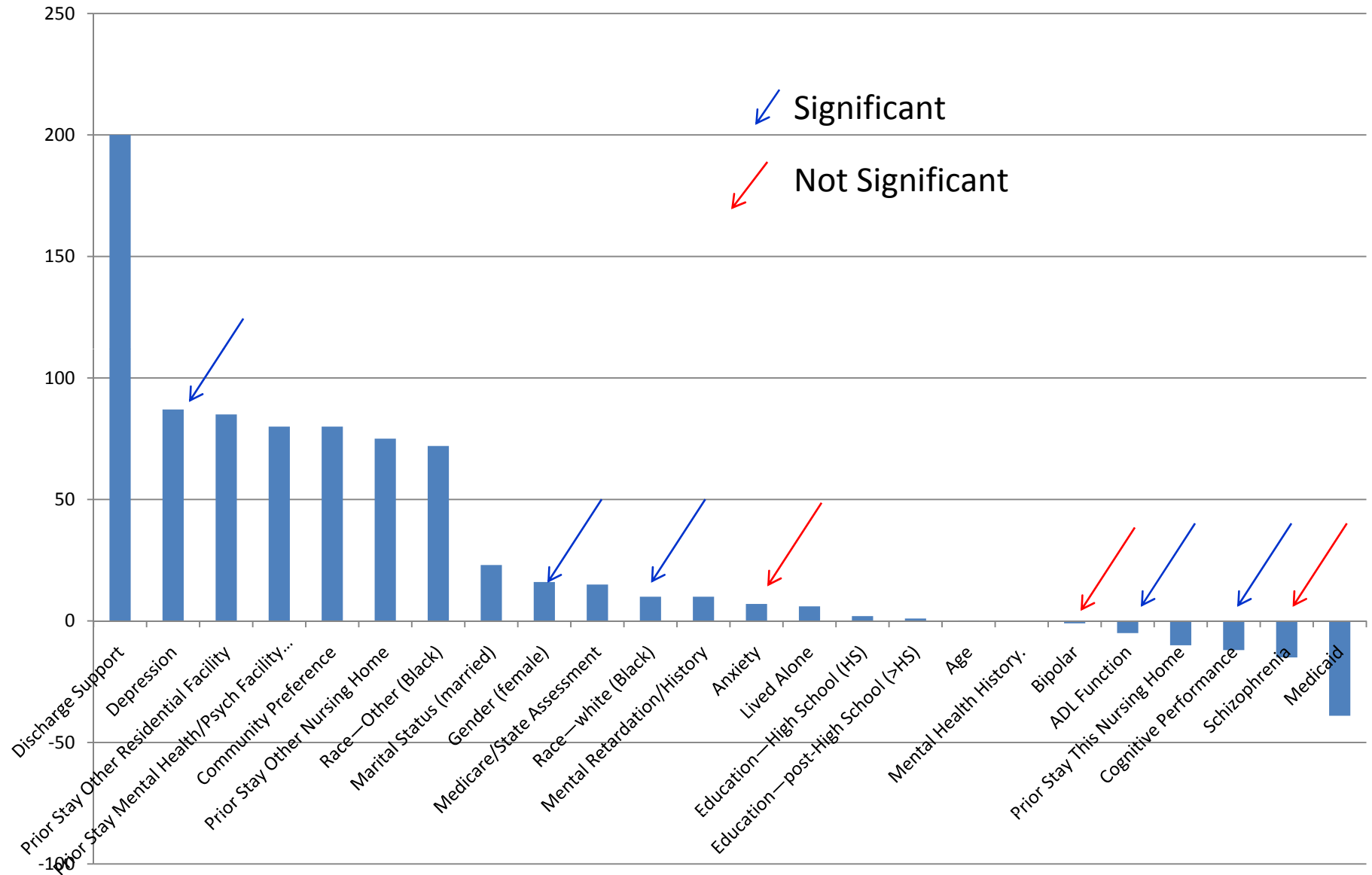
- Survival → individual is *NOT discharged from the nursing home* (censoring variable = discharge to the community)
- *Point estimates measure* the likelihood (risk) of discharge
- Survival time was measured in days, beginning with an admission assessment.

# Findings

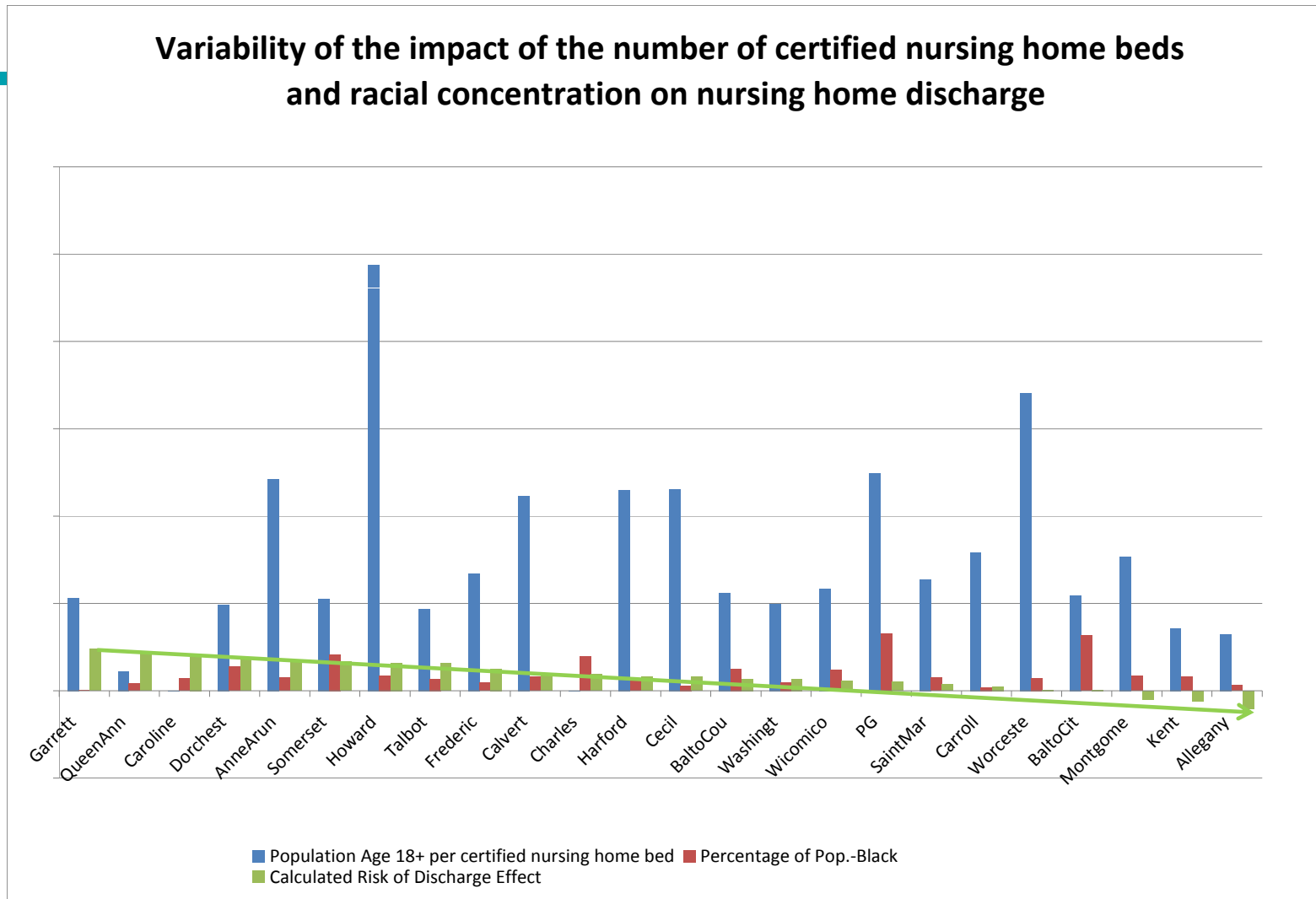
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- Women had a 16% greater likelihood to be discharged than men
- Whites were 10% greater likelihood to be discharged compared to Blacks
- A diagnosis of mental illness had a variable effect on the likelihood of discharge, with depression and anxiety (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

# Findings



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



# Policy Implications and Conclusions

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- 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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