

The Effect of Race and Nursing Home Racial Composition on Social Engagement

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Overview – Social Engagement

- Interactions with others and participation in social activities
- Linked to a multitude of health outcomes, including mortality
- Community dwelling Blacks report higher levels of social engagement (SE) than their white counterparts
- No studies have examined racial differences in SE among nursing home (NH) residents



Social Engagement in Community

- Related to fewer functional limitations and chronic conditions (Tang, Heo, Weissman, 2011)
- Related to decreased depression in both cross-sectional and longitudinal analyses (Glass, Mendes de Leon, Bassuk, Berkman, 2006)
- Meta-analysis found a 50 percent increased likelihood of survival in older adults with stronger social relationships (Holt-Lunstad, Smith, Layton, 2010)



Social Engagement in Nursing Homes

- Concerns about SE among NH residents led to the inclusion of a measure of SE in the Resident Assessment Instrument Minimum Data Set (MDS)
- SE highest among residents with adequate physical and cognitive functioning (Schroll, Jonsson, Mor, Berg, Sherwood, 1997)
- Residents not engaged socially were 1.4 times as likely to die during follow-up (Kiely, Simon, Jones, Morris, 2000)
- With each increase in SE score, residents were .94 times as likely to die (Kiely & Flacker, 2003)



Racial Disparities in Nursing Homes

- Multiple studies in the past 20 years have also examined racial disparities in the care of NH residents
- Konetzka & Werner (2009) concluded disparities in care likely related to racial and socioeconomic segregation as opposed to within-provider discrimination
- Blacks less likely than Whites in the same facility to be vaccinated for flu & more likely to live in nursing homes with lower flu vaccination rates (Cai, Feng, Fennell, Mor, 2011)
- Grabowski & McGuire (2009), more studies examine both within-facility and between- facility disparities



Purpose

- Examine racial differences in SE among NH residents
- Examine the effect of individual race and facility-level racial composition on the likelihood of low SE
- Determine if disparities in SE between black and white NH residents were due to disparities between facilities or disparities between Blacks and Whites within the same facilities



Methods - Data

■ MDS

- 2000-2008
- Person-level
- Collected for every NH resident at admission and quarterly
- Diagnoses, treatments, activities of daily living (ADL), mood/behaviors, SE, etc

■ OSCAR

- Facility- level
- Collected during annual certification inspections
- Organizational characteristics, staffing, quality deficiencies, etc



Methods - Study Sample

- Residents of all Medicaid/Medicare certified NHs in the US
- Identified all long-stay residents in each NH on the 1st Thursday in April each year using the Residential History File (RHF)
- NH population highest during the winter months, greatest number of admissions on Mondays and greatest number of discharges on Fridays
- Excluded residents with a CPS score > 3



Methods – Dependent Variable

- Dichotomous variable indicating low SE (≤ 2)
 - 1) Resident is at ease interacting with others
 - 2) Resident is at ease doing planned or structured activities
 - 3) Resident is at ease doing self-initiated activities
 - 4) Resident establishes own goals
 - 5) Resident pursues involvement in the life of the facility
 - 6) Resident accepts invitations into most group activities



Methods – Independent Variables

- Racial composition of the NH
- Individual race
- Controlled for:
 - ADL score, hearing and vision loss, marital status
 - ownership status, chain affiliation, hospital affiliation, bed size, occupancy rate, Medicaid census, religious affiliation



Methods – Analytic Strategy

- Calculated the % of residents with low SE for each NH
- Compared this across NHs with different racial composition
- Stratified NHs into quintiles of % black residents
- Excluded the few NHs each year with no white residents (10-28)



Methods – Analytic Strategy

- Used base logit and conditional fixed-effects logit models to examine between- and within–NH racial differences
- Base logit model used to estimate the overall racial differences in low SE across all NHs
- Conditional fixed-effects logit model accounted for facility effects, so estimates represent the racial differences in low SE within NHs
- NH with both Black and White residents stratified into quintiles

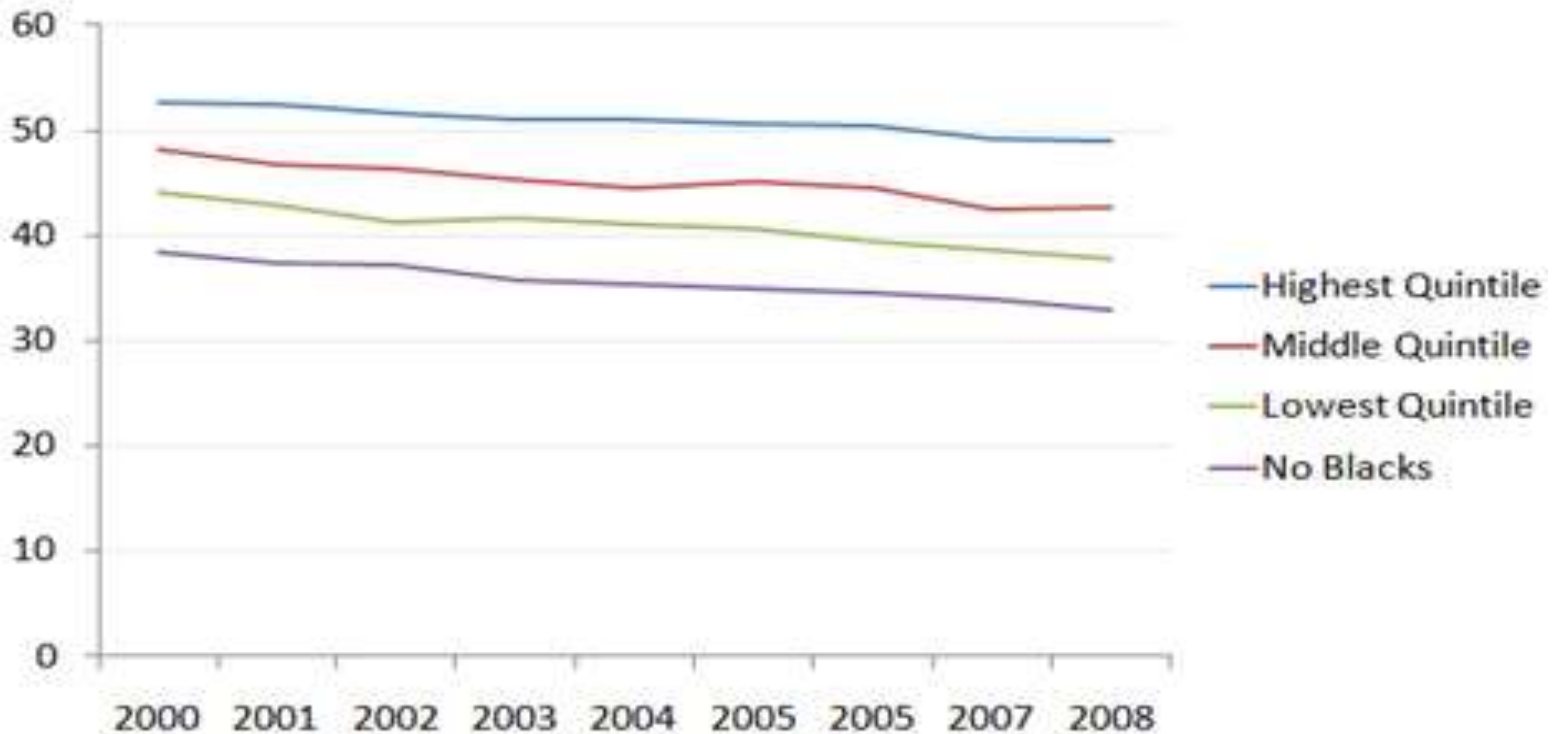


Methods – Analytic Strategy

- Random effects logistic regression model examined relationship between NH racial composition and the individual likelihood of low SE, accounting for individual race
- Main independent variable = categorical variable indicating NH tercile based % of the residents who were white
- Controls = ADL score, hearing loss, vision loss, and marital status, facility ownership status, chain affiliation, occupancy rate, facility religious affiliation and Medicaid census



Results - % Low SE in NHs with Different % Black Residents



Results of Base & Conditional Fixed-Effects Logit Models

Overall Difference in SE	Odds Ratio	95% CI	Within Facility Difference in SE	Odds Ratio	95% CI
<i>Pooled sample</i>			<i>Pooled Sample</i>		
Black	1.42	1.40 to 1.45	Black	.92	.90 to .94
<i>Lowest % White Tercile</i>			<i>Lowest % White Tercile</i>		
Black	1.01	.99 to 1.04	Black	.91	.88 to .93
<i>Middle % White Tercile</i>			<i>Middle % White Tercile</i>		
Black	1.02	.99 to 1.06	Black	.96	.92 to 1.01
<i>Highest % White Tercile</i>			<i>Highest % White Tercile</i>		
Black	1.11	1.01 to 1.21	Black	.99	.90 to 1.09



Results – Random-Effects Model

Variable	Odds Ratio	P-value	95% CI
Black	.93	0.000	.91 to .95
NH in Highest % White Tercile	.49	0.000	.46 to .52
NH in Middle % White Tercile	.69	0.000	.63 to .71
% Residents on Medicaid	1.01	0.000	1.01 to 1.01
Occupancy Rate	1.00	0.143	1.00 to 1.00
# of Beds	1.00	0.000	1.00 to 1.00



Conclusions

- NH racial composition has a stronger influence on resident SE than the resident's race
- Residents in minority-concentrated facilities are at risk for low SE
- Research needed to determine the causal mechanisms leading to lower levels of SE in higher minority NHs



Discussion

- Studies have concluded that disparities in NHs can be blamed on a lack of financial resources
- Our study suggests other explanations should also be explored:
 - Perceptions of staff
 - Nursing home environments



Discussion

- How staff perceive behaviors and needs of minority residents may differ based on perceptions of these groups (Kang-Yi, Mandell, Mui, Castle, 2010)
- Could lead to differences in expectations about social engagement in minority concentrated NHs
- Providing culturally competent care is an important topic in the hospital literature
- Received little attention in the realm of NHs



Discussion

- What part does physical and organizational environment of NHs play?
- Staff roles, resident group size, non-institutional character, nursing station location, adequate seating and sightlines are influential for supporting social interactions (Campo & Chaudhury, 2011)
- NHs with more empowered nurse aides had higher aggregate SE scores (Barry, Brannon, Mor, 2005)
- NH culture change may be promising in terms of resident SE



Thank you!

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