
Racial/Ethnic Disparities in Service Utilization among Homeless Adults with Severe Mental Illness

Marcela Horvitz-Lennon MD MPH

University of Pittsburgh

Severely mentally ill *and* homeless –*can it
get any worse?*



Talk Outline

- Motivation for this work
 - Disparities research: conceptual & methodological framework
 - Study Aim
 - Methods
 - Results
 - Discussion
-

Motivation for this work

People with severe mental illness (SMI) are over-represented among the homeless –and many people with SMI are or have been homeless

- 2 studies a decade apart found that 7.5% (Culhane 97) and 15% (Folsom 07) of clinical samples of adults with SMI were homeless
 - Roughly 1 of 5 homeless adults have a current SMI (Lehman 93)
 - Some studies report higher rates (Folsom 02)
 - Evidence that rates of SMI have *increased* in the past decades (North 04)
-

Racial & ethnic minorities among homeless adults with SMI

- Minorities are overrepresented among the homeless (Burt 01)
 - Evidence that African Americans with SMI are at higher risk for homelessness (Folsom 07)
 - Latino ethnicity protective?
 - Frequency of minorities among the homeless has increased (North 04)
-

Potential for sharp increase in number of Latino adults with SMI at risk for homelessness

- Census data projects that Latinos will represent ~a quarter of US population by year 2050
 - A large proportion of young adults entering age of onset for SMI in the near future will be Latino
 - Latino homeless persons may be systematically undercounted by traditional surveys (Conroy & Heer 03)
 - Calls into question notion that Latino ethnicity protects against homelessness (Gonzalez-Baker 96)
-

Adequacy of services for homeless people with SMI

- Health and social needs of homeless adults with mental disorders are inadequately met (Breakey 89, Drake 91, Dennis 91, Drake 99)
- Multiple barriers to accessing mental health services and staying in care (Rosenheck & Lam 97)
 - Low rates of 'any use' (Padgett 90, Wenzel 95, Koegel 99)
 - Low intensity of utilization (Pollio 97, Stein 00)
- Housing services also inadequate (Wolff 97)

In brief, a tale of inadequate access, intensity of utilization, and quality of care

Burdened by the double whammy of
homelessness and severe mental illness,
and underserved...

Could it be that in addition, there are
unwarranted differences in their care
based on their race/ethnicity?

**In other words, is this population as
susceptible to racial & ethnic disparities
as most other populations are?**

Disparities research: conceptual & methodological framework

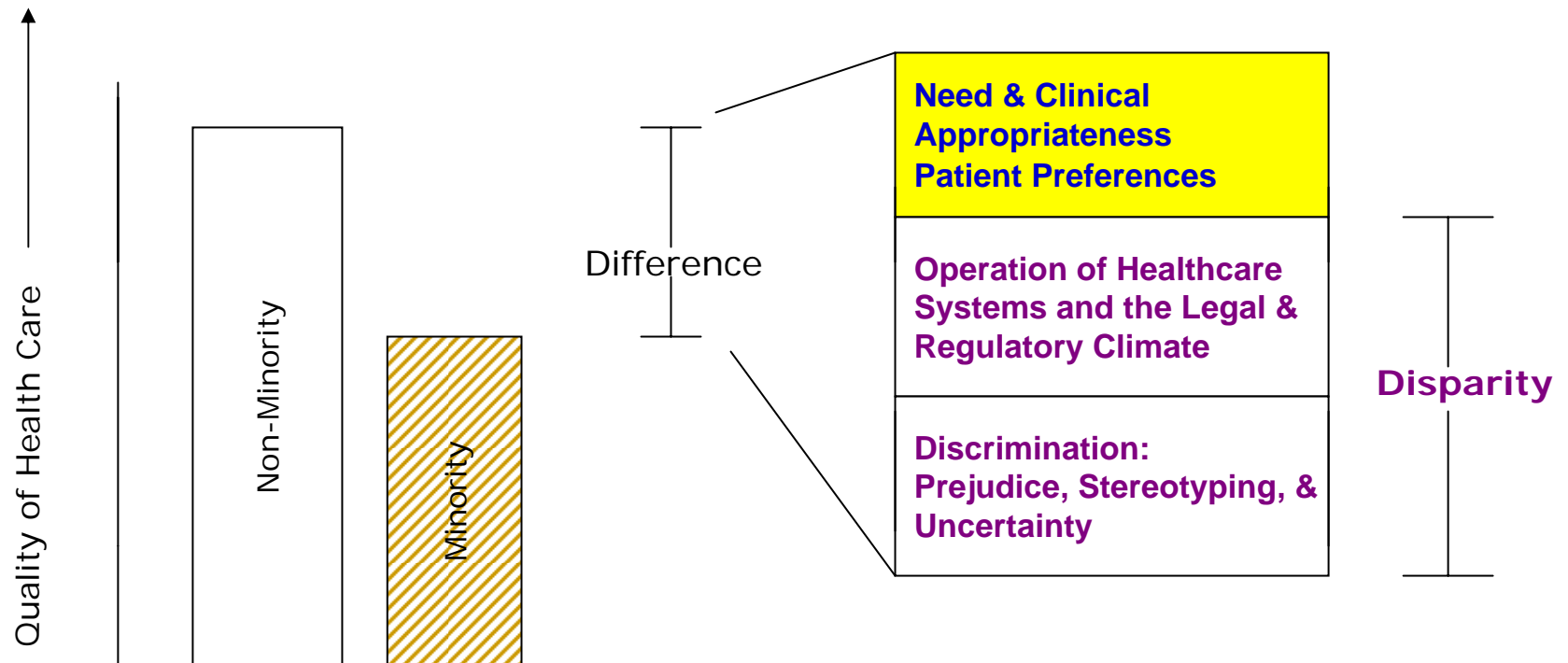
Racial & Ethnic Service Disparities

- Difference in treatment or access not justified by the differences in health status or preferences of the groups (Institute of Medicine, 02)
 - Conceptual framework based on this definition provides a method to standardize assessment of disparities
 - **Only adjustors are measures of need and preference**
 - **SES, insurance, and geography are treated as mediators –hence, they should not be adjusted away**
-

Disparities and Geography

- Substantial geographic variation in utilization & quality
 - In the general population (Wennberg 99)
 - Among people with SMI (Wang 02)
 - Evidence that ‘geographic disparities’ play a role in racial/ethnic disparities (Waidmann 00; Chandra 03)
 - **Racial and ethnic minorities tend to live and get their care in locations with worse quality of care**
-

IOM's Definition of Disparities*



* Adapted from "Unequal Treatment: Confronting Racial & Ethnic Disparities in Health Care," 2002

What is known about
disparities in this population?

Minorities with SMI have lower access & utilization of services than non-Latino whites

- Evidence is larger and more consistent for blacks
 - **Lower utilization of OP & case management services** (Dixon 01, Barrio 03)
 - **Higher utilization of IP services** (Snowden 92)
 - **Poorer IP-OP continuity of care** (Thompson 03)
 - **Lower frequency of minimally adequate treatment** (Wang 02)
 - **Lower clozapine utilization** (Daumit 03)
 - Less and less consistent evidence for Latinos
-

... little is known however, about service disparities among adults with SMI who are also homeless

- ❑ Most studies have controlled for race & ethnicity
 - ❑ Little evidence regarding utilization by non-black minorities
 - ❑ Only some of those studies about naturalistic treatment
-

Study Aim

Investigate effect of race & ethnicity on utilization of services critical to treatment outcomes for homeless adults with SMI

Cross-sectional design based on analyses of data collected at **baseline** by the *Access to Community Care & Effective Services & Support (ACCESS)* study (PI: R. Rosenheck)

Research supported by grant NIH/NIMH P50 MH073469

Co-investigators: R. Frank PhD, M Alegria PhD, SL Normand PhD



Methods



Data Source: ACCESS

- Quasi-experimental demonstration that evaluated effectiveness of a systems integration intervention
- 18 sites (2 per state) recruited homeless adults with SMI not receiving mental health care into case management programs (4 annual cohorts: 1994-1998)
- Self-reported socio-demographic, clinical, and treatment information collected at baseline, and 3 and 12 months

Our Data Source: Baseline data for blacks, Latino, and non-Latino white subjects (N = 6,829)

Multivariate (Disparities) Model

- Outcome variables: self-reported utilization of psychiatric (outpatient), case management, and housing services
 - Intensity of utilization: # visits in past 60 days
 - Access: probability of any utilization (≥ 1 visits)
 - Main explanatory variable: self-reported race/ethnicity
 - Other adjustors:
 - Demographic (age, sex, marital status)
 - Need for services
 - Health: medical burden, mental health need, SUD diagnosis
 - Social: chronic homelessness, chronic unemployment
 - State
-

Indicators of Need for Health Services

- Medical burden: # self-reported medical/dental conditions
- Mental health need*:
 - Addiction Severity Index (ASI), abbreviated, alcohol subscale
 - ASI abbreviated, drug subscale
 - Composite score derived from three sources:
 - ASI, psychiatric subscale (psychotic and mood symptoms)
 - Diagnostic Interview Schedule, depressive symptoms
 - Psychiatric Epidemiology Research Interview Schedule, psychotic symptoms
 - Count of clinician-formulated psychiatric diagnoses
- Substance use disorder diagnosis (yes/no)

* A composite score was created by standardizing scores for each measure and taking the average; higher scores = greater need

Indicators of Need for Social Services

- Chronic homelessness (yes/no): yes: >12 mos. lifetime homelessness *and* has not lived in own place in previous 60 d.
 - Chronic unemployment (yes/no): yes: sub-employed or unemployed in previous 12 mos.
-

Statistical Analyses

- Sample divided into 2 cohorts: white/black, white/Latino
 - Within each cohort: subjects stratified into comparable groups using propensity scores
 - Multiple imputations approach to deal with missing data
 - Racial/Ethnic ***difference*** in [mean # visits] or [$p \geq 1$ visit] computed as a function of adjustors
 - State-stratified, variance-weighted estimates
 - white *minus* black estimate
 - white *minus* Latino estimate
-

ALL STATES



STATE "I"



Stratum 1
...
...
Stratum 10

**(3) State-Adjusted
Disparity
Estimate:**
Combine **state-**
specific estimates
across states



**(2) State-Specific
Disparity Estimate:**
Combine **stratum-**
specific estimated differences
within the state



**(1) Within-State,
Stratum-Specific
Disparity Estimate:**
Calculate difference in
outcomes within each
stratum



Results



Demographic & Need Variables

Variable	All (n=6829)	blacks (n=3394)	Latinos (n=381)	whites (n=3054)	P value
Age, mean (SD)	37.8 (9.50)	37.5 (8.7)	37.0 (9.5)	38.4 (10.2)	<.0001
Male (%)	62.3	60.5	71.4	63.2	<.0001
Married (%)	5.4	4.7	7.9	5.8	0.014
Mental Health Need, mean (SD)	0.77 (0.66)	0.85 (0.69)	0.90 (0.70)	0.66 (0.61)	<.0001
SUD Diagnosis (%)	53.1	58.0	53.0	47.0	<.0001
Medical Burden, mean (SD)	2.69 (2.69)	2.58 (2.57)	2.88 (2.98)	2.79 (2.77)	<.002
Chronic Homelessness (%)	53.7	57.1	53.5	50.0	<.0001
Chronic Unemployment (%)	49.2	51.2	54.6	46.3	<.0001

Other Confounders

Variable	All	blacks	Latinos	whites	P value
Income (\$), mean (SD)	392 (517.4)	393 (555.0)	337 (432.9)	397 (480.3)	NS
Education (yrs), mean (SD)	11.6 (2.5)	11.5 (2.3)	9.6 (3.4)	11.9 (2.6)	<.0001
State (column %)					<.0001
Connecticut	11.4	9.8	36.2	10.1	
Pennsylvania	11.5	18.1	6.3	4.9	
Virginia	11.1	14.8	3.9	7.8	
North Carolina	11.1	13.7	2.4	9.3	
Texas	11.1	7.6	15.0	14.5	
Illinois	10.9	13.6	8.4	8.1	
Missouri	11.0	11.1	6.6	11.4	
Kansas	11.8	6.2	6.6	18.6	
Washington	10.2	5.1	14.7	15.3	

Unadjusted Results: Intensity of Utilization

	Mean (SD) Number of Visits					
Service	whites	blacks	P value	whites	Latinos	P value
Psychiatric Outpatient	4.22 (9.35)	3.90 (8.43)	NS	4.22 (9.35)	3.72 (9.40)	NS
Case Management	2.52 (5.25)	3.01 (6.20)	<0.0001	2.52 (5.25)	3.92 (8.52)	<0.0001
Housing	0.79 (2.70)	0.77 (2.99)	NS	0.79 (2.70)	0.76 (3.72)	NS

Unadjusted Results: Access

	Mean (SD) Probability of ≥ 1 Visit					
Service	whites	blacks	P value	whites	Latinos	P value
Psychiatric Outpatient	0.52 (0.50)	0.55 (0.50)	0.010	0.52 (0.50)	0.50 (0.50)	NS
Case Management	0.44 (0.50)	0.52 (0.50)	0.000	0.44 (0.50)	0.47 (0.50)	NS
Housing	0.28 (0.45)	0.27 (0.44)	NS	0.28 (0.45)	0.22 (0.42)	0.013

Disparities Analyses: Differences in Intensity of Utilization

	Mean Difference (SE)		Reference (Unadjusted Mean, All)
Service	whites minus blacks	whites minus Latinos	
Psychiatric Outpatient	0.44* (0.20)	0.64 (0.41)	4.03
Case Management	0.02 (0.10)	- 0.41 (0.23)	2.52 – 3.92
Housing	- 0.00 (0.03)	0.09 (0.07)	0.78

* P value < 0.05

Disparities Analyses: Differences in Access

	Mean Difference (SE)	
Service	whites minus blacks	whites minus Latinos
Psychiatric Outpatient	0.00 (0.01)	- 0.01 (0.03)
Case Management	0.00 (0.01)	- 0.00 (0.02)
Housing	0.01 (0.01)	0.03 (0.02)



Discussion



Intensity of Utilization

- Unadjusted analyses: minorities had *more* visits with providers of case management services than whites
 - Disparities analyses: blacks had *fewer* visits with providers of psychiatric outpatient services than whites
 - Findings not consistent with thin existing literature: Leda & Rosenheck 95 [naturalistic study of service use @ VA residential program]; Lehman 99 [RCT, usual care vs. ACT]
 - However, neither study set out to evaluate disparities
 - We did not find disparities for Latinos
 - Type II error?
-

Intensity of Utilization, Cont'd

- Utilization of 3 critical services was generally very low
 - Current receipt of mental health *treatment* was an exclusion criterion
 - However, finding is in keeping with prior evidence of tenuous connection with health/social service providers and inadequacies in their care (Morse & Calsyn 86; Pollio 97; Koegel 99)
-

Access

- Unadjusted analyses:
 - Blacks had *higher* probability of any use of psychiatric outpatient and case management services than whites
 - Latinos had *lower* probability of any use of housing services than whites
 - Disparities analyses: we *did not* find disparities –that is, all groups had comparable probabilities of using services at least once
-

Possible contributors to our findings

- **Quality of Care differences?**
 - We did not control for study site, a proxy for characteristics of local service system including quality of providers
 - ACCESS evidence that site is strongest predictor of perceived barriers to service use among outreached subjects (Rosenheck & Lam 97)
 - Racial/ethnic groups may gravitate to different geographic areas served by providers of varying quality/cultural competency (Balsa & McGuire 03, Betancourt 06, Hasnain-Wynia 07)
 - Quality can affect utilization via effect on satisfaction with care
 - Lower satisfaction may render people less receptive to outreach & treatment and less likely to remain in treatment
 - However, no evidence that satisfaction differs by race/ethnicity in this population & absence of disparities in access diminish its possible role
-

Possible contributors to our findings, Cont'd

- Insurance/benefit design differences?
 - We were unable to evaluate its contribution
 - Absence of disparities in access and absence of disparities for Latinos reduce likelihood of an important role
 - Socio-economic differences?
 - Blacks had lower educational level than whites
 - However, analyses that included education did not change results
 - Socio-cultural factors?
 - Possible racial differences in stigma & attitudes toward psychiatric treatment may have led to higher rate of premature treatment termination among blacks
 - We were unable to assess role of stigma/attitudes
-

Food for thought...

- Black-white disparities only for intensity of utilization of the most medical of the services assessed
 - Related to these services being more stigmatizing?
 - Larger quality gap between racial & ethnic groups?
 - Magnitude and direction of disparities findings –are they sensitive to the outcome measure being used?
 - Few studies have simultaneously assessed intensity of utilization and access
 - One study found disparities in both (Wells 01: several mental health services) but the other found disparities only in access (Harman 04: depression care)
-

Limitations

- Groups may not have been entirely equivalent with regard to need
 - PS model did not achieve optimal balance between the groups
 - However, minorities had *higher* need than whites
 - Use of self-reported service utilization data
 - However, adults with SMI provide reliable service utilization information (Goldberg 02)
 - Latino sample size may not have been large enough to detect disparities
 - Further, we could not elucidate role of language
-

It's all pretty bad but some may have it worse than others....

