



Deconstructing Stigmatizing Language in Patient Care

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Background

- **Stigmatizing language:** language that assigns negative labels, stereotypes, and judgment to certain groups of people
- **Implicit Bias:** Unconscious mental process that stimulates negative attitudes and opinions about people outside one's own "in group" and positive attitude or beliefs about people recognized inside one's own "in group."
 - unconsciously influence one's understanding and decision-making
 - leads to discrimination against people not of one's own group
 - Evident in a Physician's use of stigmatizing language
 - Health care providers may be more likely to downplay or ignore concerns of marginalized patients during & after clinical encounters

Forms of Stigmatizing Language

Domain	Definition	Examples
Undermining Credibility	Signal of disbelief in patient reports of their own experience or behaviors to readers, through implied hysteria, incompetence or lack of sincerity	<ul style="list-style-type: none">• She adamantly denies cocaine use, but we're awaiting <u>utox</u> results to confirm
Evidential	Grammatical elements indicating writer's source of knowledge or information	<ul style="list-style-type: none">• <u>Declarative</u>: She will be late.• <u>Evidential</u>: I heard she will be late.
Judgments Words	Grammatical elements that classify the credibility or reliability of information from speaker's point of view	<ul style="list-style-type: none">• "Supposedly," "insists," "claims"
Quotation Marks	Quotation marks used to convey that the words spoken by the patient are to be doubted . Also called scare quotes.	<ul style="list-style-type: none">• Patient stated "I'm in 10/10 pain" but initially found to be on his iPhone

Forms of Stigmatizing Language

Original Investigation | Ethics

July 14, 2021

Physician Use of Stigmatizing Language in Patient Medical Records

Jenny Park^{1,2}, Somnath Saha, MD, MPH^{1,2,3}, Brant Chee, PhD⁴, et al

[Author Affiliations](#) | [Article Information](#)

JAMA Netw Open. 2021;4(7):e2117052. doi:10.1001/jamanetworkopen.2021.17052

600 notes were found to have negative and/or positive expressions

Categories	Definitions	Examples ^b
Questioning credibility	Implication of physician disbelief of patient reports of their own experience or behaviors	<ul style="list-style-type: none"> • He insists the pain is behind his knee. • He claims that nicotine patches don't work for him. • I listed several fictitious medication names and she reported she was taking them, and that she takes "whatever is written there"
Disapproval	Highlights poor reasoning, decision-making, or self-care, usually in a way that conveys the patient is unreasonable	<ul style="list-style-type: none"> • Reports that if she were to fall, she would just "lay there" until someone found her • He was adamant that he does not have prostate cancer because his "bowels are working fine." • Counseled that there is no evidence for this, but patient has strong beliefs. • She is adamant that she cannot perform any kind of exercise due to pain and will not change her diet.
Stereotyping	Quoting African American Vernacular English	<ul style="list-style-type: none"> • Chief complaint - "I stay tired" • Reports that the bandage got "a li'l wet"
	Quoting incorrect grammar or unsophisticated terms	<ul style="list-style-type: none"> • States that the lesion "busted open" • Reports she was unable to fill prescription for the "sugar pill"
Difficult patient	Inclusion of details with questionable clinical significance that depict the patient as belligerent or otherwise suggests that the physician is annoyed	<ul style="list-style-type: none"> • She persevered on the fact that "a lot of stuff is going on at home with my family" but that "you wouldn't understand." • I informed her that this is unlikely to be helped by antibiotics and talked about smoking cessation with her. She said she will ask her 'sinus doctor' for antibiotics.



Significance



- **Stigma**
 - **Influences mental health outcomes**
 - **Social relationships**
 - **Psychological and behavioral responses**
 - **Stress**

- **Causes social isolation**

- **Increases risk of poor health outcomes and denial of adequate treatment**

- **Reinforces health inequities among stigmatized and disadvantaged groups**

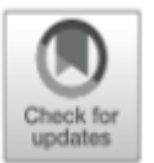
- **Puts patients at higher risk of distrusting their physician and consequently disengaging from their care**


Significance



Significance

Testimonial Injustice: Linguistic Bias in the Medical Records of Black Patients and Women



Mary Catherine Beach, MD, MPH^{1,2,3,4}, Somnath Saha, MD, MPH^{2,5,6} , Jenny Park^{2,7}, Janiece Taylor, RN, PhD, FAAN⁸, Paul Drew, PhD⁹, Eve Plank¹⁰, Lisa A. Cooper, MD, MPH^{2,3,4}, and Brant Chee, PhD¹¹

Clinicians are more likely to indicate disbelief or lack of confidence in patient credibility in the medical records of Black patients

Table 2 Prevalence of Linguistic Features Used in Medical Records by Race and Gender

Linguistic feature	Race		Gender		Unadjusted Black-White difference	Adjusted [†] Black-White difference	Unadjusted female-male difference	Adjusted [†] female-male difference
	White	Black	Male	Female				
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	β (95% CI)		β (95% CI)	<i>p</i> -value
Evidentials	3.29 (3.66)	4.81 (3.74)	4.41 (3.89)	4.56 (3.70)	1.52*** (1.33, 1.70)	0.32*** (0.17, 0.47)	0.15 (-0.01, 0.31)	0.10 (-0.02, 0.22)
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	OR (95% CI)		OR (95% CI)	
Judgment words	403 (21%)	2164 (29%)	1037 (29%)	1530 (27%)	1.56*** (1.38, 1.75)	1.25* (1.02, 1.53)	0.93 (0.85, 1.02)	0.96 (0.82, 1.11)
Quotes	572 (30%)	3337 (45%)	1470 (41%)	2439 (43%)	1.94*** (1.74, 2.16)	1.48*** (1.20, 1.83)	1.12** (1.03-1.22)	1.22* (1.05, 1.44)

**p*<0.05
 ***p*<0.01
 ****p*<0.001

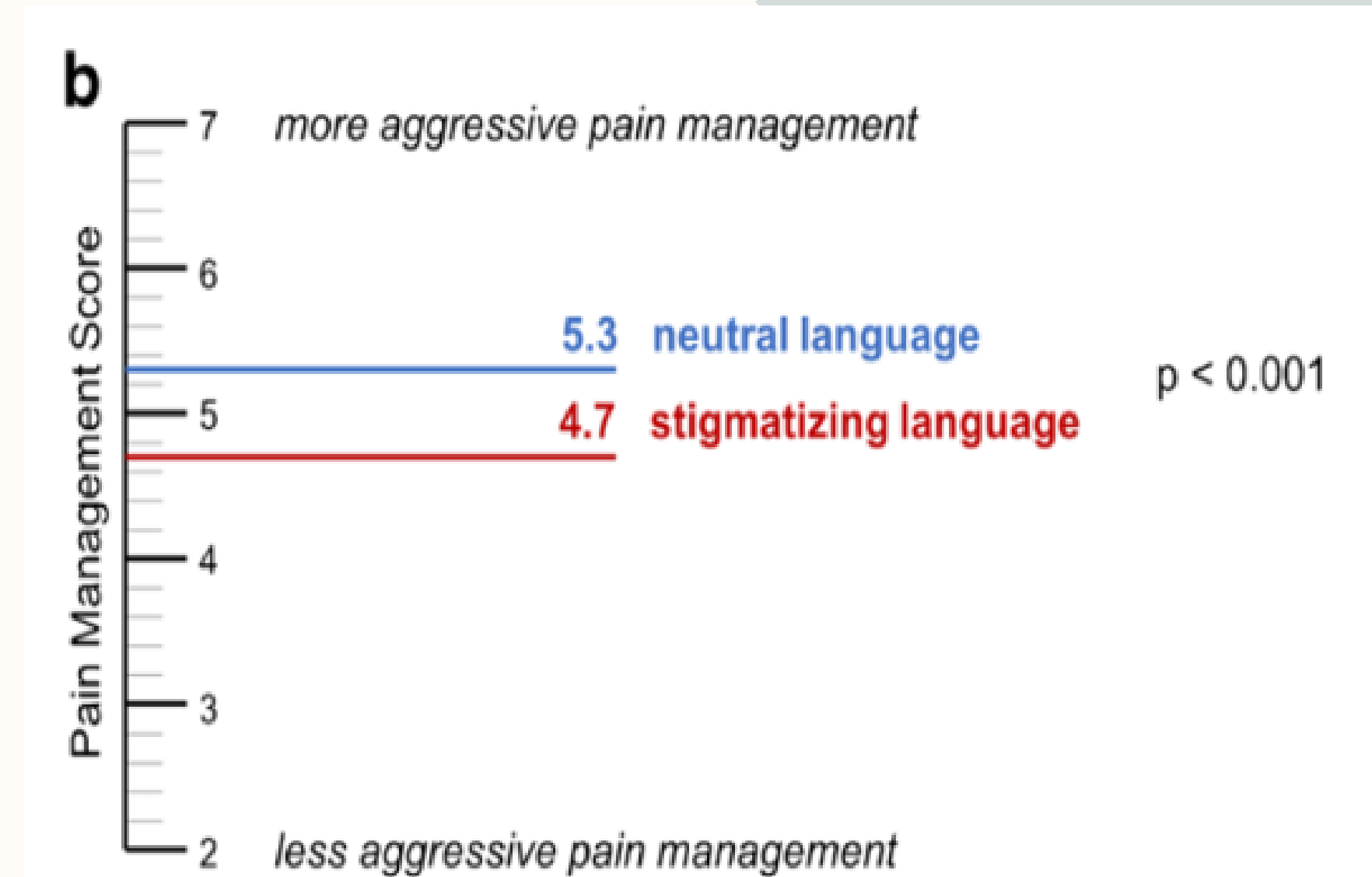
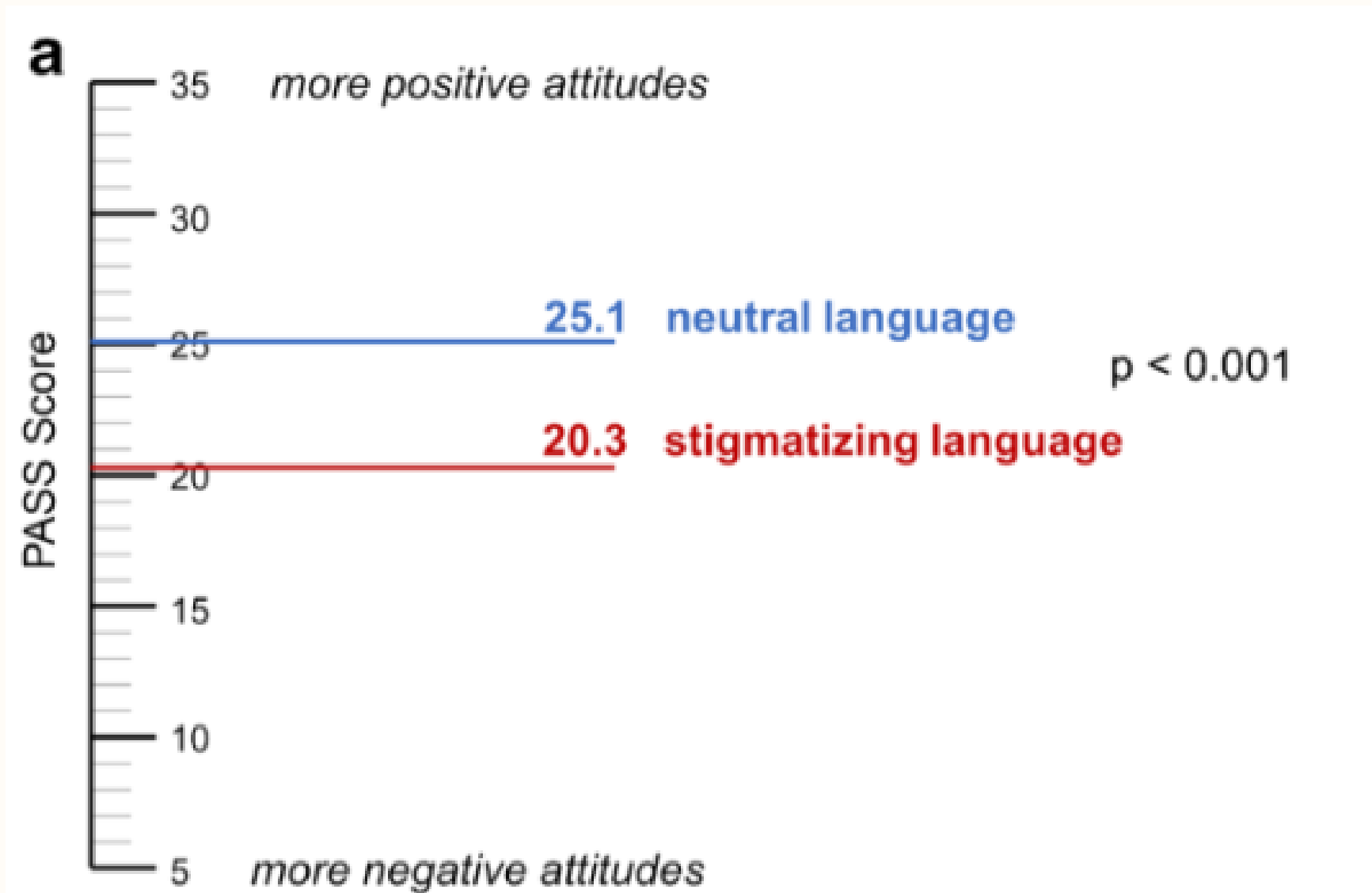
[†]Mixed-effects modeling to account for clustering of notes within patients and patients within clinicians

Significance

Transmission of Bias

Do Words Matter? Stigmatizing Language and the Transmission of Bias in the Medical Record

Anna P. Goddu, MSc¹, Katie J. O'Connor, BA¹, Sophie Lanzkron, MD, MHS²,
Mustapha O. Saheed, MD³, Somnath Saha, MD, MPH^{4,5}, Monica E. Peek, MD, MPH, MSc⁶,
Carlton Haywood, Jr., PhD, MA², and Mary Catherine Beach, MD, MPH¹



Residents and medical students who were exposed to stigmatizing language were more likely to have less aggressive pain management and more negative attitudes towards patients

Aims



To determine whether patient characteristics are associated with questioning patient credibility within admission notes



Methods

Obtained snippets from MIMIC III Database

- publicly available dataset from clinical notes
- Beth Israel Deaconess

Each snippet contained a term associated with stigmatized language

Denies	<ul style="list-style-type: none">• He states he drinks wine only on the weekends and denies other recreational drug use.• Patient denied abdominal pain.
Reportedly	<ul style="list-style-type: none">• She reportedly had abrupt onset of nausea, belching, sweating.• Patient was reportedly asymptomatic
Claims	<ul style="list-style-type: none">• She claims that her last drink was 3 weeks ago.• Per report, patient claims he "fell on the kitchen knife."

Identifying Stigma

Rated each snippet, based on a set of guidelines, of whether or not the snippet was biased against the patient / stigmatized the patient

Included (rated as 1):

- Clinician's perspective of how a patient describes their symptoms, behaviors, and adherence/response to treatment
- Lack of confidence in the certainty of a patient's symptoms and adherence to treatment

Not Included (rated as 0):

- Clinician's perspective of how anyone (family, friends, etc.) other than the patient describes the patient's symptoms
- Words that refer to prior history of notes, medical condition, and acceptance/refusal of treatment and/or procedures

Any disbelief:

Complains

Denies

Endorses

Notes

Reports

Says

States

Tells

Claims

Insists

Apparently

Any evidential word
(Reporting Words):

Complains

Denies

Endorses

Notes

Reports

Says

States

Tells

Any Epistemic

Modal:

Claims

Insists

Apparently

Associations with Patient Characteristics

- Age
- Gender
- Race
 - Non-Hispanic White
 - Non-Hispanic Black
 - Hispanic
 - Asian/Pacific Islander
 - Other
 - Unknown/Not Specified
- Religion
 - Non-Christian
 - Christian
 - Unknown/Not Specified
- Marital Status
 - Single
 - Married/Life Partner
 - Widowed
 - Divorced/Separated
- Language
 - English
 - Not English
 - Missing
- Insurance
 - Private Pay/Self Pay
 - Medicaid
 - Medicare
 - Government
- Admission Location
 - ER
 - Transfer
 - Clinical/Physician Referrals
- Discharge Location
 - Home/HHC
 - Facility
 - AMA
 - Hospice
 - Expired

Findings - Any Disbelief

Characteristic	None	At least one patient credibility term
Race		
Non-Hispanic White	2419 (75.3%)	4253 (73.5%)
Non-Hispanic Black	407 (12.7%)	841 (14.5%)
Nonwhite		
White	2419 (75.9%)	4253 (73.8%)
Non-White	673 (21.1%)	1332 (23.1%)
Unknown/Not Specified	106 (3.1%)	167 (3.0%)

Yellow = Smaller Difference
Green = Larger Difference

Characteristic	None	At least one patient credibility term
Admission Location		
ER	2336 (72.7%)	4520 (78.1%)
Transfer	457 (14.2%)	763 (13.2%)
Clinical/Physician Referrals	419 (13.0%)	506 (8.7%)
Discharge Location		
Home/HHC	1378 (42.9%)	2883 (49.8%)
Facility	1276 (39.7%)	1975 (34.1%)
AMA	30 (0.9%)	87 (1.5%)
Hospice	54 (1.7%)	111 (1.9%)
Expired	474 (14.8%)	733 (12.7%)

Findings - Any Evidence

Characteristic	None	At least one patient credibility term
Race		
Non-Hispanic White	2558 (75.1%)	4114 (73.5%)
Non-Hispanic Black	428 (12.6%)	820 (14.7%)
Nonwhite		
White	2558 (75.7%)	4114 (73.9%)
Non-White	717 (21.2%)	1288 (23.1%)
Unknown/Not Specified	106 (3.1%)	167 (3.0%)

Characteristic	None	At least one patient credibility term
Admission Location		
ER	2484 (72.9%)	4372 (78.2%)
Transfer	489 (14.4%)	731 (13.1%)
Clinical/Physician Referrals	434 (12.7%)	491 (8.8%)
Discharge Location		
Home/HHC	1446 (42.4%)	2815 (50.3%)
Facility	1367 (40.1%)	1884 (33.7%)
AMA	33 (1.0%)	84 (1.5%)
Hospice	57 (1.7%)	108 (1.9%)
Expired	504 (14.8%)	703 (12.6%)

Yellow = Smaller Difference
Green = Larger Difference

Findings - Any Epistemic Modal

Yellow = Smaller Difference
Green = Larger Difference

Characteristic	None	At least one patient credibility term
Gender		
Male	4382 (53.1%)	419 (55.5%)
Female	3864 (46.9%)	336 (44.5%)
Marital Status		
Single	2622 (32.7%)	254 (34.7%)
Married/Life Partner	3536 (44.1%)	303 (41.4%)
Widowed	1220 (15.2%)	108 (14.8%)
Divorced/Separated	645 (8.0%)	67 (9.2%)
Married Status		
Not Married	4487 (55.9%)	429 (58.6%)
Married	3536 (44.1%)	303 (41.4%)
Language		
English	850 (10.3%)	89 (11.8%)
Not English	7376 (89.4%)	666 (88.2%)

Characteristic	None	At least one patient credibility term
Insurance		
Private Pay/Self Pay	2247 (27.2%)	184 (24.4%)
Medicaid	994 (12.1%)	87 (11.5%)
Medicare	4807 (58.3%)	466 (61.7%)
Government	198 (2.4%)	18 (2.4%)
Admission Location		
ER	6287 (76.2%)	569 (75.4%)
Transfer	1100 (13.3%)	120 (15.9%)
Clinical/Physician Referrals	859 (10.4%)	66 (8.7%)
Discharge Location		
Home/HHC	3933 (47.7%)	328 (43.4%)
Facility	2953 (35.8%)	298 (39.5%)
AMA	106 (1.3%)	11 (1.5%)
Hospice	153 (1.9%)	12 (1.6%)

My Role



Rating snippets

STATA

Data Cleaning Via
coding



Analyzing data (compare the
distributions of patient characteristics
across stigmatizing words)

Takeaways

Coding/Using stata

Understanding medical notes

Research is a lot of trial and error – perseverance is essential

Don't be afraid to ask “dumb” questions

Acknowledgments

- Joanne Levy & the SUMR program
- Dr. Courtney Lee
- ALPHA Project Team