

# Social gradients in psychological distress by race/ethnicity in the 2014/15 *Healthy Chicago Surveys*

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## Introduction

Chicago’s new public health plan calls for a reduction in psychological distress among residents living in high hardship communities.

Our study seeks to document the social patterning of psychological distress in Chicago, exploring social gradients by household income and how these may vary by race/ethnicity.

## Methods

- Secondary analysis of the 2014-15 *Healthy Chicago Surveys* (N=4,923 adults).
- Psychological distress was measured with the Kessler 6 questionnaire, which asks how often someone feels nervous, hopeless, restless or fidgety, depressed, worthless or that everything is an effort. We categorized responses into two dichotomous variables, indicating the presence of (a) any psychological distress (mild/moderate or serious) (b) serious distress.
- Household income, measured in relation to the federal poverty line (FPL), was used to operationalize the social gradient. We examined three groups: respondents with income of <133%, 134-399%, and ≥400% of the FPL. Along with income, independent variables included race/ethnicity, gender, and age.
- Regression analyses were carried out using STATA, adjusting for survey sampling features.

## Results

- 9.6% of respondents screened for mild or moderate distress, amounting to an estimated 199,322 adults (95% CI = 174,538 to 224,107).
- A further 4.2% of respondents screened for serious distress, corresponding to an estimated 86,842 adults in Chicago (95% CI = 70,858 - 102,824).
- Low income respondents were most likely to screen for distress, followed by those in the middle income group.
- Stratified models suggest that the gradient may be steepest for non-Hispanic Whites (see tables 1 and 2).
- 52% of respondents with serious psychological distress were not receiving treatment or taking medicine for a mental health condition (see figure 1).

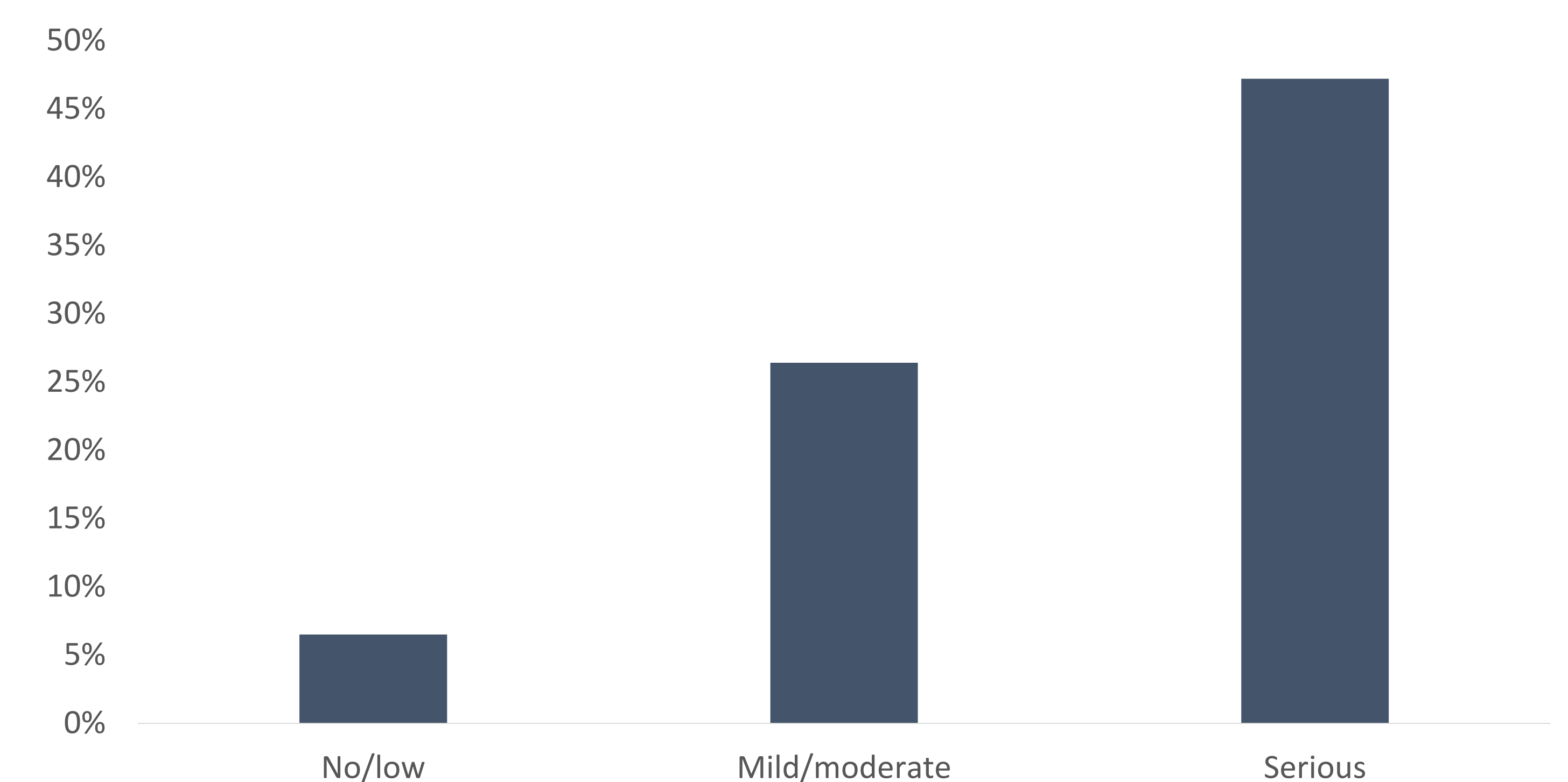
**Table 1: Logistic regression models predicting psychological distress (mild/moderate or serious)**

	Non-Hispanic White		Non-Hispanic Black		Hispanic	
	OR	95% CI	OR	95% CI	OR	95% CI
<i>Poverty</i>						
<133%	7.52	4.01 – 14.08	2.80	1.51 – 5.17	4.64	1.83 – 11.76
133-399%	4.60	2.59 – 8.15	1.66	0.85 – 3.23	3.46	1.30 – 9.22
>400%	1.00	-	1.00	-	1.00	-
<i>Gender</i>						
Male	1.00	-	1.00	-	1.00	-
Female	0.79	0.48 – 1.28	1.24	0.83 – 1.84	1.32	0.76 – 2.30
<i>Age</i>						
18-29	1.00	-	1.00	-	1.00	-
30-44	0.67	0.31- 1.47	0.94	0.53 – 1.68	0.98	0.49 – 1.96
45-64	0.71	0.35 – 1.43	0.90	0.53 – 1.52	1.04	0.52 – 2.10
65+	0.26	0.12 – 0.55	0.38	0.20 – 0.73	1.22	0.48 – 3.12

**Table 2: Logistic regression models predicting psychological distress (serious)**

	Non-Hispanic White		Non-Hispanic Black		Hispanic	
	OR	95% CI	OR	95% CI	OR	95% CI
<i>Poverty</i>						
<133%	28.58	8.22 – 99.33	3.12	1.22 – 8.06	3.40	0.88 – 13.13
133-399%	10.30	2.67 – 39.73	0.89	0.30 – 2.66	1.83	0.39 – 8.48
>400%	1.00	-	1.00	-	1.00	-
<i>Gender</i>						
Male	1.00	-	1.00	-	1.00	-
Female	0.74	0.32 – 1.73	1.09	0.60 – 1.99	2.63	1.03 – 6.76
<i>Age</i>						
18-29	1.00	-	1.00	-	1.00	-
30-44	1.06	0.28 – 3.96	0.75	0.29 – 1.90	0.88	0.29 – 2.65
45-64	0.93	0.29 – 3.01	0.92	0.40 – 2.14	0.82	0.28 – 2.40
65+	0.41	0.11 – 1.51	0.36	0.10 – 1.29	0.99	0.25 – 3.92

**Figure 1: Association between psychological distress and receiving treatment for a mental health condition**



## Conclusions

In Chicago, the burden of psychological distress is heavily patterned by a social gradient. Equity-based interventions must address the structural and social barriers that create this burden and that limit access to treatment. Future research should explore community-level factors that may influence the steepness of the social gradient in psychological distress.

## Acknowledgements

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