SUPPLEMENTAL MATERIAL

Drug Use Stigma Scale

Enacted stigma items (responses: *never* [0] / *rarely* [1] / *sometimes* [2] / *frequently* [3] / *refused* [998])

1. How often has a hospital worker mistreated you because of your drug use?
2. How often have you been refused medical care or denied hospital services because of your drug use?
3. How often have you been asked to stay away from children because of your drug use?
4. How often have family members forced you to move out of your home because of your drug use?
5. How often has someone threatened to hurt you physically because of your drug use?
6. How often have you been refused housing because people suspect that you use drugs?

Vicarious stigma items (responses: *never* [0] / *rarely* [1] / *sometimes* [2] / *frequently* [3] / *refused* [998])

7. How often have you heard studies about people being mistreated by hospital workers because of their drug use?
8. How often have you heard stories about people being mistreated when getting HIV testing because of their drug use?
9. How often have you heard stories about people being mistreated when getting HIV treatment because of their drug use?
10. How often have you heard stories about someone being refused care from their family when they were sick because of their drug use?
11. How often have you heard stories about people being forced by family members to leave their home because they used drugs?
12. How often have you heard stories about a village or community ostracizing someone because they used drugs?

Felt normative stigma items (responses: *no one* [0] / *very few people* [1] / *some people* [2] / *most people* [3] / *refused* [998])

13. In your community, how many people avoid visiting the homes of people who use drugs?
14. In your community, how many people think that family members who use drugs have brought shame on their families?
15. In your community, how many people think that people who use drugs should feel guilty about it?
16. In your community, how many people think that people who use drugs are disgusting?
17. In your community, how many people think that people who use drugs are paying for their karma or sins?

Internalized stigma items (responses: *not at all* [0] / *a little* [1] / *a fair amount* [2] / *a great deal* [3] / *refused* [998])

18. How much do you feel that you should avoid visiting people because of their drug use?
19. How much do you feel that you have brought shame on your family because of your drug use?
20. How much do you feel guilty about your drug use?
21. How much do you feel disgusting because of your drug use?
22. How much do you feel that you use drugs because you are paying for your karma or sins?

Supplemental Figure 1. Maps of study sites and corresponding sample sizes in the analytic sample.

City / Study site	Overall (n=11,663)	HCV RNA- (n=6,617)	HCV RNA+ (n=5,046)
Aizawl	1000	272	728
Amritsar	999	450	549
Bilaspur	1000	525	475
Chandigarh	991	531	460
Churachandpur	994	364	630
New Delhi	999	447	552
Dimapur	999	947	52
Imphal	997	501	496
Kanpur	995	642	353
Ludhiana	974	534	440
Lunglei	999	859	140
Mumbai	716	545	171

Supplemental Table 1. Distribution of responses for each stigma item in the overall study population (n=11,663).
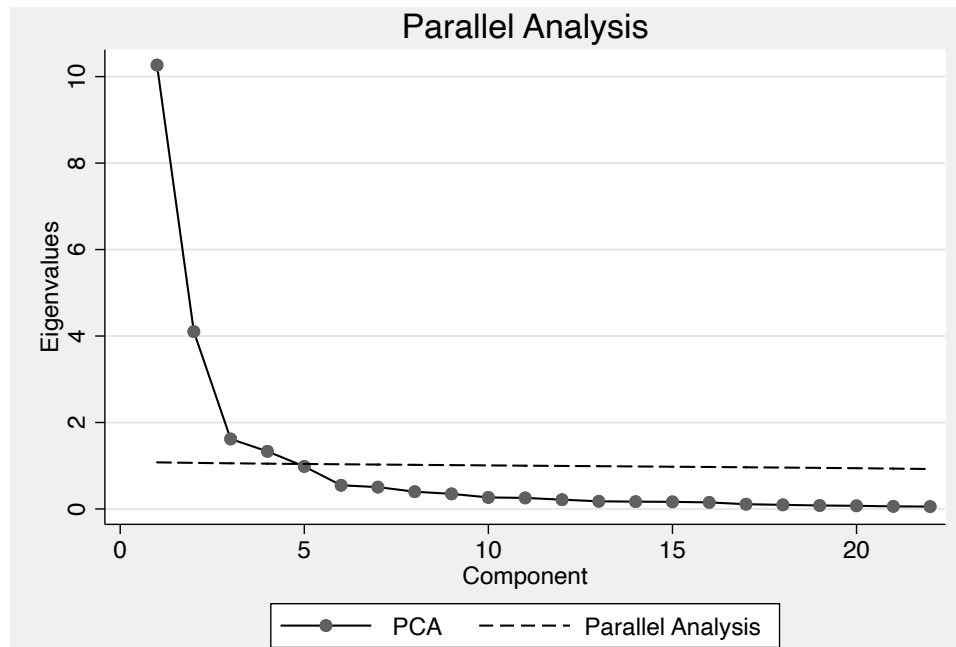
	No. of Participants (%)				
Enacted stigma items	*Never*	*Rarely*	*Sometimes*	*Frequently*	*Refused*
1. Mistreated by hospital worker	9829 (84.3)	938 (8.0)	659 (5.7)	165 (1.4)	72 (0.6)
2. Denied medical care or hospital services	10003 (85.8)	885 (7.6)	590 (5.1)	151 (1.3)	34 (0.3)
3. Told to stay away from children	9028 (77.4)	1020 (8.7)	1224 (10.5)	344 (2.9)	47 (0.4)
4. Forced to move out of home by family	8417 (72.2)	1231 (10.6)	1419 (12.2)	532 (4.6)	64 (0.5)
5. Received threat of physical harm	7827 (67.1)	1496 (12.8)	1722 (14.8)	572 (4.9)	46 (0.4)
6. Denied housing	9346 (80.1)	884 (7.6)	972 (8.3)	400 (3.4)	61 (0.5)
Vicarious stigma items	*Never*	*Rarely*	*Sometimes*	*Frequently*	*Refused*
7. Mistreated by hospital workers	7909 (67.8)	1583 (13.6)	1622 (13.9)	502 (4.3)	47 (0.4)
8. Mistreated when getting HIV testing	8591 (73.7)	1371 (11.8)	1254 (10.8)	402 (3.4)	45 (0.4)
9. Mistreated when getting HIV treatment	8514 (73.0)	1413 (12.1)	1249 (10.7)	426 (3.7)	61 (0.5)
10. Refused care from family when sick	5767 (49.4)	2014 (17.3)	2698 (23.1)	1128 (9.7)	56 (0.5)
11. Forced to move out of home by family	5037 (43.2)	1950 (16.7)	3131 (26.8)	1481 (12.7)	64 (0.5)
12. Ostracized by community or village	5726 (49.1)	1841 (15.8)	2898 (24.8)	1135 (9.7)	63 (0.5)
Felt normative stigma items	*No One*	*Very few people*	*Some people*	*Most people*	*Refused*
13. Avoid visiting homes of PWUD	3480 (29.8)	2210 (18.9)	3069 (26.3)	2796 (24.0)	108 (0.9)
14. PWUD bring shame to their families	2452 (21.0)	2293 (19.7)	3134 (26.9)	3654 (31.3)	130 (1.1)
15. PWUD should feel guilty	2250 (19.3)	2202 (18.9)	3073 (26.3)	4004 (34.3)	134 (1.1)
16. PWUD are disgusting	2159 (18.5)	2327 (20.0)	3104 (26.6)	3955 (33.9)	118 (1.0)
17. PWUD are paying for their karma or sins	3259 (27.9)	2206 (18.9)	3097 (26.6)	2947 (25.3)	154 (1.3)
Internalized stigma items	*No One*	*Very few people*	*Some people*	*Most people*	*Refused*
18. Feels need to avoid visiting people due to drug use	3239 (27.8)	2165 (18.6)	2840 (24.4)	3350 (28.7)	69 (0.6)
19. Feels shame brought to family due to drug use	2455 (21.0)	2030 (17.4)	3110 (26.7)	3997 (34.3)	71 (0.6)
20. Feels guilty about drug use	2123 (18.2)	1939 (16.6)	3095 (26.5)	4446 (38.1)	60 (0.5)
21. Feels disgusting about drug use	2551 (21.9)	2141 (18.4)	2966 (25.4)	3945 (33.8)	60 (0.5)
22. Uses drugs as a payment for karma or sins	4445 (38.1)	1757 (15.1)	2259 (19.4)	3128 (26.8)	74 (0.6)

Note: Data are unweighted. There were 11,213 participants who had complete data on all stigma item measures when considering refusals as missing dada.
Abbreviation(s): PWUD, people who use drugs

Supplemental Figure 2. Principal components analysis, visualization of Cattell's scree plot, and Horn's parallel analysis of the stigma items (n=11,213). Analyses were conducted using a polychoric correlation matrix. Horn's parallel analysis was conducted with 10000 replications. There were four factors with an eigenvalue >1.0 (Kaiser criterion) and these four factors explained 78.7% of the total variance.

	Factor 1	Factor 2	Factor 3	Factor 4
Eigenvalue	10.27	4.10	1.62	1.33
Percentage of Variance Explained	46.7%	18.7%	7.4%	6.1%

Supplemental Table 2. Pattern matrix and communalities of each stigma item (n=11,213).

	Factor 1	Factor 2	Factor 3	Factor 4	h^2
Enacted stigma items					
1. Mistreated by hospital worker	**0.70**	0.21	-0.11	0.01	0.67
2. Denied medical care or hospital services	**0.74**	0.24	-0.15	0.03	0.77
3. Told to stay away from children	**0.82**	-0.01	0.07	0.02	0.71
4. Forced to move out of home by family	**0.89**	-0.09	0.10	-0.02	0.75
5. Received threat of physical harm	**0.84**	-0.08	0.10	0.00	0.70
6. Denied housing	**0.75**	0.18	-0.05	0.00	0.74
Vicarious stigma items					
7. Mistreated by hospital workers	0.27	**0.63**	0.06	-0.03	0.69
8. Mistreated when getting HIV testing	0.05	**0.92**	-0.11	0.03	0.85
9. Mistreated when getting HIV treatment	-0.02	**0.98**	-0.13	0.04	0.88
10. Refused care from family when sick	0.05	**0.69**	0.23	-0.02	0.66
11. Forced to move out of home by family	0.07	**0.60**	0.27	-0.02	0.59
12. Ostracized by community or village	0.05	**0.57**	0.17	0.01	0.47
Felt normative stigma items					
13. Avoid visiting homes of PWUD	0.01	0.18	**0.75**	0.02	0.71
14. PWUD bring shame to their families	0.00	0.02	**0.94**	-0.01	0.87
15. PWUD should feel guilty	-0.02	-0.01	**0.95**	0.03	0.92
16. PWUD are disgusting	-0.01	-0.02	**0.88**	0.10	0.87
17. PWUD are paying for their karma or sins	0.08	-0.04	**0.57**	0.32	0.66
Internalized stigma items					
18. Feels need to avoid visiting people due to drug use	-0.03	0.07	0.24	**0.64**	0.67
19. Feels shame brought to family due to drug use	-0.01	0.00	0.11	**0.84**	0.82
20. Feels guilty about drug use	-0.03	-0.02	0.07	**0.90**	0.86
21. Feels disgusting about drug use	-0.03	0.00	0.05	**0.91**	0.86
22. Uses drugs as a payment for karma or sins	0.11	0.01	-0.10	**0.82**	0.66

Note: Factor loadings were estimated via iterated principal factors analysis using a polychoric correlation matrix and an oblique (promax) rotation with Kaiser normalization. Factor loadings >0.4 are shown in bold.

Supplemental Table 3. Structure matrix: correlations between items and promax rotated common factors (n=11,213).

	Factor 1	Factor 2	Factor 3	Factor 4
Enacted stigma items				
1. Mistreated by hospital worker	0.80	0.60	0.17	0.25
2. Denied medical care or hospital services	0.85	0.65	0.16	0.27
3. Told to stay away from children	0.84	0.52	0.31	0.34
4. Forced to move out of home by family	0.86	0.48	0.31	0.31
5. Received threat of physical harm	0.83	0.47	0.32	0.33
6. Denied housing	0.85	0.63	0.23	0.28
Vicarious stigma items				
7. Mistreated by hospital workers	0.66	0.80	0.32	0.30
8. Mistreated when getting HIV testing	0.58	0.92	0.22	0.28
9. Mistreated when getting HIV treatment	0.55	0.93	0.21	0.28
10. Refused care from family when sick	0.52	0.78	0.46	0.36
11. Forced to move out of home by family	0.51	0.73	0.48	0.36
12. Ostracized by community or village	0.45	0.66	0.37	0.31
Felt normative stigma items				
13. Avoid visiting homes of PWUD	0.34	0.44	0.83	0.52
14. PWUD bring shame to their families	0.28	0.32	0.93	0.54
15. PWUD should feel guilty	0.26	0.30	0.96	0.58
16. PWUD are disgusting	0.26	0.30	0.93	0.61
17. PWUD are paying for their karma or sins	0.33	0.30	0.76	0.67
Internalized stigma items				
18. Feels need to avoid visiting people due to drug use	0.30	0.34	0.63	0.79
19. Feels shame brought to family due to drug use	0.31	0.30	0.60	0.90
20. Feels guilty about drug use	0.28	0.27	0.58	0.92
21. Feels disgusting about drug use	0.30	0.30	0.57	0.93
22. Uses drugs as a payment for karma or sins	0.36	0.31	0.41	0.80

Supplemental Table 4. Correlation matrix of the promax rotated common factors (n=11,213).

Factors	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1	-	-	-
Factor 2	0.61	1	-	-
Factor 3	0.29	0.33	1	-
Factor 4	0.34	0.33	0.59	1

Supplemental Table 5. Distribution of standardized stigma subscale scores and internal consistency.

Stigma subscale	N	No. of items	Theoretical score range	Unweighted median score (IQR)	Cronbach's α
Enacted stigma	11,502	6	0-3	0.0 (0.0, 0.5)	0.85
Vicarious stigma	11,503	6	0-3	0.7 (0.0, 1.2)	0.86
Felt normative stigma	11,351	5	0-3	1.8 (0.8, 2.4)	0.92
Internalized stigma	11,510	5	0-3	1.8 (1.0, 2.4)	0.90

Note: Data are unweighted. Final subscale scores were calculated by taking the mean (summed item responses / no. of items).

Supplemental Table 6. Site-specific distribution of standardized stigma subscale scores and internal consistency.

Study site	*Enacted stigma*					*Felt normative stigma*			
	n	Unweighted Median (IQR)	Weighted Median (IQR)	score > 0, no. (weighted %)	α	n	Unweighted median (IQR)	Weighted median (IQR	α
Aizawl	999	0.0 (0.0-0.3)	0.0 (0.0-0.2)	474 (35.2%)	0.53	901	1.2 (0.0-2.2)	0.8 (0.0-1.6)	0.92
Amritsar	999	0.5 (0.2-0.8)	0.3 (0.0-0.8)	753 (69.7%)	0.71	994	2.8 (2.2-3.0)	2.8 (2.2-3.0)	0.80
Bilaspur	998	0.0 (0.0-0.3)	0.0 (0.0-0.2)	354 (28.4%)	0.92	1000	0.6 (0.0-1.4)	0.2 (0.0-1.2)	0.92
Chandigarh	990	0.0 (0.0-0.3)	0.0 (0.0-0.3)	378 (33.8%)	0.74	984	2.0 (1.6-2.6)	2.2 (1.6-2.6)	0.84
Churachandpur	993	0.8 (0.0-1.5)	0.8 (0.0-1.3)	667 (72.7%)	0.94	993	2.0 (1.6-2.8)	2.0 (1.2-2.0)	0.95
New Delhi	992	0.2 (0.0-0.7)	0.0 (0.0-0.7)	509 (49.6%)	0.78	996	1.4 (0.6-2.0)	1.4 (0.6-2.0)	0.94
Dimapur	994	0.0 (0.0-0.0)	0.0 (0.0-0.0)	127 (14.2%)	0.84	998	1.6 (1.0-2.0)	1.4 (1.0-2.0)	0.85
Imphal	995	0.0 (0.0-0.3)	0.0 (0.0-0.3)	390 (33.5%)	0.81	995	1.0 (0.4-2.2)	1.2 (0.2-2.2)	0.91
Kanpur	965	0.3 (0.0-0.8)	0.3 (0.0-0.8)	576 (60.7%)	0.70	975	2.0 (1.4-2.4)	2.0 (1.4-2.4)	0.74
Ludhiana	971	0.0 (0.0-0.3)	0.0 (0.0-0.0)	265 (21.8%)	0.96	972	3.0 (1.2-3.0)	2.6 (0.8-3.0)	0.95
Lunglei	898	0.0 (0.0-0.0)	0.0 (0.0-0.0)	144 (11.7%)	0.80	871	1.2 (0.6-2.0)	2.0 (1.0-2.0)	0.93
Mumbai	708	0.5 (0.0-1.0)	0.5 (0.0-1.0)	493 (68.1%)	0.74	672	1.8 (1.0-2.6)	1.6 (0.8-2.4)	0.90

Study site	*Vicarious stigma*					*Internalized stigma*			
	n	Unweighted median (IQR)	Weighted median (IQR)	score > 0, no. (weighted %)	α	n	Unweighted median (IQR)	Weighted median (IQR)	α
Aizawl	995	0.3 (0.0-0.7)	0.2 (0.0-0.5)	674 (61.6%)	0.75	986	1.6 (1.2-2.0)	1.6 (1.0-2.0)	0.70
Amritsar	995	1.0 (0.7-1.5)	1.0 (0.7-1.7)	956 (94.4%)	0.79	999	2.6 (2.0-3.0)	2.8 (2.2-3.0)	0.82
Bilaspur	1000	0.2 (0.0-1.0)	0.0 (0.0-1.0)	530 (43.0%)	0.92	1000	0.4 (0.0-1.6)	0.2 (0.0-1.2)	0.93
Chandigarh	988	0.7 (0.0-1.2)	0.7 (0.0-1.3)	650 (64.2%)	0.82	987	1.6 (1.2-2.0)	1.8 (1.2-2.0)	0.73
Churachandpur	992	1.0 (0.3-1.8)	1.0 (0.5-1.7)	817 (91.6%)	0.93	993	2.0 (1.4-3.0)	2.0 (1.0-2.8)	0.95
New Delhi	998	1.0 (0.3-1.5)	1.0 (0.3-1.5)	823 (81.2%)	0.82	997	1.8 (1.0-2.2)	1.8 (1.0-2.2)	0.88
Dimapur	998	0.2 (0.0-0.7)	0.2 (0.0-0.7)	537 (54.7%)	0.79	996	1.0 (0.2-1.6)	1.0 (0.0-1.6)	0.87
Imphal	995	0.2 (0.0-0.8)	0.0 (0.0-0.7)	527 (48.0%)	0.90	997	1.2 (0.4-2.0)	1.0 (0.2-1.8)	0.88
Kanpur	989	1.0 (0.5-1.5)	1.0 (0.5-1.7)	889 (88.7%)	0.75	989	2.4 (1.8-2.8)	2.4 (1.8-2.8)	0.74
Ludhiana	973	0.0 (0.0-0.8)	0.0 (0.0-0.7)	325 (29.1%)	0.96	973	3.0 (2.4-3.0)	3.0 (1.8-3.0)	0.96
Lunglei	875	0.3 (0.0-1.0)	0.5 (0.2-1.0)	579 (79.9%)	0.83	878	0.8 (0.4-2.0)	1.6 (0.8-2.2)	0.94
Mumbai	705	0.8 (0.3-1.2)	0.8 (0.3-1.2)	594 (83.4%)	0.72	715	1.8 (1.0-2.4)	1.6 (0.8-2.4)	0.85

Note: Data are unweighted, unless noted otherwise. Weighted score distributions and percentages where indicated were calculated using RDS-II weights.

Supplemental Table 7. Association of drug use stigma subscale scores and active HCV infection (unweighted sensitivity analysis).

Drug use stigma subscale	% (n/N)	Outcome: HCV RNA-positive		
		Univariable OR (95% CI) [a]	Multivariable Model 1: aOR (95% CI) [a,b]	Multivariable Model 2: aOR (95% CI) [a,c]
Categorical variables				
Enacted stigma				
Never	37.9% (2414/6372)	Ref.	Ref.	Ref.
Ever	50.6% (2598/5130)	1.28 (1.17-1.39)	1.28 (1.17-1.40)	1.17 (1.07-1.28)
Vicarious stigma				
Never	40.8% (1471/3602)	Ref.	Ref.	Ref.
Ever	44.9% (3544/7901)	1.06 (0.97-1.17)	1.11 (1.00-1.22)	1.02 (0.92-1.13)
Felt/normative stigma				
< 25th percentile	44.6% (1029/2305)	Ref.	Ref.	Ref.
25-75th percentile	41.4% (2668/6446)	1.00 (0.90-1.12)	1.01 (0.90-1.13)	0.92 (0.82-1.04)
> 75th percentile	47.8% (1243/2600)	1.05 (0.91-1.20)	1.05 (0.91-1.21)	0.96 (0.83-1.12)
Internalized stigma				
< 25th percentile	34.5% (982/2850)	Ref.	Ref.	Ref.
25-75th percentile	45.8% (2715/5933)	1.21 (1.09-1.35)	1.22 (1.09-1.36)	1.11 (0.99-1.24)
> 75th percentile	48.5% (1323/2727)	1.33 (1.16-1.52)	1.32 (1.15-1.51)	1.23 (1.07-1.42)
Continuous variables				
Enacted stigma	n = 11,502	1.13 (1.06-1.22)	1.17 (1.08-1.26)	1.11 (1.02-1.19)
Vicarious stigma	n = 11,503	1.03 (0.97-1.09)	1.05 (0.99-1.11)	1.02 (0.96-1.08)
Felt/normative stigma	n = 11,351	1.01 (0.96-1.05)	1.00 (0.95-1.05)	0.97 (0.93-1.02)
Internalized stigma	n = 11,510	1.12 (1.06-1.17)	1.11 (1.06-1.17)	1.07 (1.02-1.13)

Note: Data are unweighted. Percentile-based categories are based on the unweighted distribution in the overall study population.

[a] Odds ratios (OR) were estimated from multilevel logistic regression models with a random-intercept for each site.

[b] Multivariable model 1: age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), northeast region and HIV status.

[c] Multivariable model 2: age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), northeast region, HIV status, frequency of injection in the past 6 mo. (none, yes-non-daily, yes-daily) and ever sharing needles.

Supplemental Table 8. Association of individual drug use stigma items with active HCV infection (<u>unweighted sensitivity analysis</u>).

Drug use stigma items	Outcome: HCV RNA-positive				
	% HCV RNA+ (n/N)	% HCV RNA+ (n/N)	Univariable OR (95% CI) [a]	Multivariable Model 1: aOR (95% CI) [a,b]	Multivariable Model 2: aOR (95% CI) [a,c]
Enacted stigma items (Ref: never)	*Never (0)*	*Ever (1-3)*			
1. Mistreated by hospital worker	41.7% (4127/9901)	52.2% (919/1762)	1.15 (1.02-1.28)	1.12 (1.00-1.26)	1.11 (0.99-1.25)
2. Denied medical care or hospital services	42.0% (4214/10037)	51.2% (832/1626)	1.15 (1.03-1.29)	1.13 (1.00-1.27)	1.13 (1.00-1.28)
3. Told to stay away from children	41.3% (3749/9075)	50.1% (1297/2588)	1.14 (1.03-1.26)	1.18 (1.07-1.32)	1.12 (1.00-1.24)
4. Forced to move out of home by family	40.7% (3455/8481)	50.0% (1591/3182)	1.16 (1.06-1.27)	1.22 (1.11-1.35)	1.15 (1.04-1.27)
5. Received threat of physical harm	39.7% (3128/7873)	50.6% (1918/3790)	1.16 (1.07-1.27)	1.18 (1.07-1.29)	1.09 (1.00-1.20)
6. Denied housing	41.9% (3943/9407)	48.9% (1103/2256)	1.15 (1.04-1.27)	1.19 (1.06-1.32)	1.15 (1.03-1.29)
Vicarious stigma items (Ref: never)	*Never (0)*	*Ever (1-3)*			
7. Mistreated by hospital workers	41.0% (3261/7956)	48.2% (1785/3707)	1.10 (1.01-1.20)	1.12 (1.02-1.23)	1.08 (0.98-1.18)
8. Mistreated when getting HIV testing	42.0% (3626/8636)	46.9% (1420/3027)	1.02 (0.93-1.12)	1.03 (0.93-1.13)	1.02 (0.92-1.12)
9. Mistreated when getting HIV treatment	42.0% (3600/8575)	46.8% (1446/3088)	1.04 (0.95-1.14)	1.04 (0.95-1.14)	1.03 (0.94-1.14)
10. Refused care from family when sick	40.1% (2337/5823)	46.4% (2709/5840)	1.07 (0.98-1.17)	1.11 (1.01-1.21)	1.05 (0.96-1.15)
11. Forced to move out of home by family	40.5% (2068/5101)	45.4% (2978/6562)	1.07 (0.98-1.17)	1.10 (1.01-1.21)	1.04 (0.94-1.14)
12. Ostracized by community or village	42.1% (2439/5789)	44.4% (2607/5874)	1.09 (1.00-1.18)	1.11 (1.02-1.21)	1.06 (0.97-1.16)
Felt/normative stigma items (Ref: no one/very few people)	*No one / very few people (0-1)*	*Some / most people (2-3)*			
13. Avoid visiting homes of PWUD	42.3% (2454/5798)	44.2% (2592/5865)	1.00 (0.92-1.09)	1.00 (0.92-1.10)	0.97 (0.88-1.06)
14. PWUD bring shame to their families	41.8% (2036/4875)	44.3% (3010/6788)	1.02 (0.93-1.11)	1.00 (0.92-1.10)	0.95 (0.87-1.05)
15. PWUD should feel guilty	42.0% (1928/4586)	44.1% (3118/7077)	1.01 (0.93-1.11)	1.00 (0.91-1.10)	0.96 (0.87-1.06)
16. PWUD are disgusting	42.5% (1957/4604)	43.8% (3089/7059)	0.99 (0.90-1.08)	0.99 (0.90-1.08)	0.94 (0.85-1.03)
17. PWUD are paying for their karma or sins	42.6% (2393/5619)	43.9% (2653/6044)	0.99 (0.91-1.08)	0.97 (0.89-1.07)	0.96 (0.87-1.05)
Internalized stigma items (Ref: not at all/a little)	*Not at all / a little (0-1)*	*A fair amount / a great deal (2-3)*			
18. Feels need to avoid visiting people due to drug use	40.0% (2188/5473)	46.2% (2858/6190)	1.13 (1.04-1.23)	1.12 (1.02-1.22)	1.07 (0.98-1.17)
19. Feels shame brought to family due to drug use	37.0% (1685/4556)	47.3% (3361/7107)	1.21 (1.10-1.32)	1.20 (1.09-1.32)	1.11 (1.01-1.23)
20. Feels guilty about drug use	35.1% (1445/4122)	47.8% (3601/7541)	1.23 (1.12-1.35)	1.26 (1.15-1.39)	1.19 (1.08-1.32)
21. Feels disgusting about drug use	37.9% (1801/4752)	47.0% (3245/6911)	1.13 (1.03-1.23)	1.12 (1.02-1.23)	1.06 (0.97-1.17)
22. Uses drugs as a payment for karma or sins	39.1% (2456/6276)	48.1% (2590/5387)	1.13 (1.03-1.23)	1.13 (1.03-1.24)	1.10 (1.01-1.21)

Note: Data are unweighted.

[a] Odds ratios (OR) were estimated from multilevel logistic regression models with a random-intercept for each site.

[b] Multivariable model 1: age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), and HIV status.

[c] Multivariable model 2: age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), HIV status, frequency of injection in the past 6 mo. (none, yes-non-daily, yes-daily) and ever sharing needles/syringes.

Supplemental Table 9. Association of drug use stigma subscale scores with injection drug use behaviors in the past 6 months among active people who inject drugs in the past 6 months (<u>unweighted sensitivity analysis</u>).

Drug use stigma	Outcome: *Daily injection drug use*			Outcome: *Shared needles/syringes*		
	% (n/N)	OR (95% CI) [a]	aOR (95% CI) [a,b]	% (n/N	OR (95% CI) [a]	aOR (95% CI) [a,b]
Enacted						
Never	59.5% (2800/4706)	Ref.	Ref.	35.1% (1651/4706)	Ref.	Ref.
Ever	73.3% (3265/4455)	1.33 (1.20-1.47)	1.31 (1.18-1.45)	49.2% (2192/4455)	1.54 (1.40-1.69)	1.47 (1.33-1.62)
Vicarious						
Never	60.1% (1572/2614)	Ref.	Ref.	34.9% (913/2614)	Ref.	Ref.
Ever	68.7% (4501/6548)	1.21 (1.08-1.35)	1.22 (1.09-1.37)	44.8% (2935/6548)	1.32 (1.19-1.47)	1.33 (1.19-1.48)
Felt normative						
<25th	60.3% (1060/1757)	Ref.	Ref.	33.4% (587/1757)	Ref.	Ref.
25-75th	66.8% (3390/5075)	1.15 (1.01-1.32)	1.17 (1.02-1.34)	41.3% (2097/5075)	1.43 (1.26-1.62)	1.45 (1.27-1.65)
>75th	71.0% (1563/2202)	1.05 (0.89-1.24)	1.06 (0.90-1.26)	50.0% (1100/2202)	1.46 (1.25-1.71)	1.47 (1.25-1.73)
Internalized						
<25th	54.3% (1084/1995)	Ref.	Ref.	28.4% (566/1995)	Ref.	Ref.
25-75th	69.1% (3328/4813)	1.16 (1.02-1.32)	1.17 (1.03-1.33)	44.8% (2158/4813)	1.47 (1.30-1.67)	1.54 (1.35-1.75)
>75th	70.7% (1668/2360)	0.96 (0.82-1.12)	0.96 (0.82-1.13)	47.9% (1131/2360)	1.43 (1.23-1.66)	1.49 (1.28-1.74)

Drug use stigma	Outcome: *Multiple injection partners*			Outcome: *Injection drug use in public spaces*		
	% (n/N)	OR (95% CI) [a]	aOR (95% CI) [a,b]	% (n/N	OR (95% CI) [a]	aOR (95% CI) [a,b]
Enacted						
Never	66.2% (3101/4686)	Ref.	Ref.	72.8% (3426/4706)	Ref.	Ref.
Ever	76.4% (3401/4451)	1.65 (1.49-1.83)	1.57 (1.42-1.74)	79.7% (3549/4455)	1.24 (1.11-1.38)	1.13 (1.01-1.27)
Vicarious						
Never	66.3% (1729/2606)	Ref.	Ref.	67.8% (1772/2614)	Ref.	Ref.
Ever	73.2% (4782/6530)	1.54 (1.38-1.72)	1.50 (1.34-1.68)	79.5% (5204/6548)	1.54 (1.37-1.73)	1.50 (1.33-1.70)
Felt normative						
<25th	64.7% (1133/1752)	Ref.	Ref.	68.4% (1201/1757)	Ref.	Ref.
25-75th	71.1% (3599/5059)	1.34 (1.18-1.52)	1.31 (1.15-1.49)	76.8% (3896/5075)	1.59 (1.38-1.83)	1.56 (1.35-1.81)
>75th	78.1% (1720/2201)	1.47 (1.25-1.73)	1.42 (1.20-1.68)	82.4% (1815/2202)	2.47 (2.06-2.96)	2.40 (1.99-2.90)
Internalized						
<25th	63.5% (1257/1981)	Ref.	Ref.	69.2% (1381/1995)	Ref.	Ref.
25-75th	73.8% (3548/4808)	1.48 (1.31-1.68)	1.50 (1.32-1.70)	76.8% (3698/4813)	1.31 (1.15-1.51)	1.33 (1.16-1.53)
>75th	72.7% (1716/2359)	1.19 (1.02-1.39)	1.19 (1.02-1.39)	81.2% (1917/2360)	2.02 (1.70-2.40)	2.01 (1.68-2.40)

Note: Data are unweighted. Percentile-based categories are based on the unweighted distribution in the <u>overall</u> study population.

[a] Odds ratios (OR) were estimated from multilevel logistic regression models with a random-intercept for each site.
[b] Multivariable model: age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), and HIV status.

Supplemental Table 10. Association of drug use stigma subscale scores with hepatitis C virus antibody serostatus (sensitivity analysis).

Drug use stigma	n	%[a]	Univariable OR (95% CI)[b]	Multivariable Model 1: aOR (95% CI)[b,c]	Multivariable Model 2: aOR (95% CI)[b,d]
			Outcome: HCV antibody positive		
Categorical variables					
Enacted stigma					
Never	6,372	36.1	Ref.	Ref.	Ref.
Ever	5,130	55.0	1.56 (1.29-1.88)	1.61 (1.37-1.90)	1.50 (1.25-1.81)
Vicarious stigma					
Never	3,602	40.1	Ref.	Ref.	Ref.
Ever	7,901	44.9	1.09 (0.90-1.31)	1.14 (0.95-1.37)	1.08 (0.92-1.28)
Felt/normative stigma					
< 25th percentile	2,862	44.5	Ref.	Ref.	Ref.
25-75th percentile	5,889	39.2	1.11 (0.88-1.41)	1.10 (0.86-1.41)	1.04 (0.83-1.30)
> 75th percentile	2,600	52.9	1.11 (0.83-1.48)	1.03 (0.76-1.41)	0.99 (0.71-1.37)
Internalized stigma					
< 25th percentile	2,850	28.8	Ref.	Ref.	Ref.
25-75th percentile	6,338	45.6	1.52 (1.14-2.03)	1.49 (1.15-1.94)	1.41 (1.08-1.83)
> 75th percentile	2,322	55.4	1.79 (1.25-2.57)	1.65 (1.10-2.48)	1.60 (1.04-2.45)
***Continuous* variables**					
Enacted stigma	11,502	-	1.29 (1.13-1.47)	1.36 (1.24-1.48)	1.28 (1.15-1.43)
Vicarious stigma	11,503	-	1.18 (1.00-1.40)	1.21 (1.05-1.40)	1.18 (1.01-1.39)
Felt/normative stigma	11,351	-	1.06 (0.96-1.17)	1.03 (0.94-1.14)	1.01 (0.91-1.11)
Internalized stigma	11,510	-	1.24 (1.09-1.40)	1.20 (1.06-1.38)	1.16 (1.02-1.32)

[a] Seroprevalence of HCV antibody was estimated using a composite weight of the relative city size and RDS-II weights.

[b] Separately for each stigma subscale, odds ratios (OR) of hepatitis C virus infection were estimated from a multilevel logistic regression model with a random-intercept for each site and scaled RDS-II weights.

[c] Multivariable model 1 included adjustment for age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), and HIV status.

[d] Multivariable model 2 included adjustment for age group, gender, northeast region, educational attainment, experiencing homelessness, history of incarceration in the past 6 months, alcohol use/dependence (AUDIT), HIV status, frequency of injection in the past 6 months and a history of ever sharing needles/syringes.