

Psychometric properties of the Intersectional Stigma in Healthcare Settings Scales

This mixed methods study examines serial cross-sectional survey data collected from PLWH who are clients of Pennsylvania's AIDS Drug Assistance Program. We received 1,410 unique individual survey responses from a diverse sample of PLWH from all seven Ryan White Coalition regions of the Commonwealth. This survey included a mix of closed and open-ended questions and all data were self-reported. Between February – May and September – November 2020, participants completed a self-administered anonymous online survey that took 20-30 minutes to complete. Following survey completion, participants were provided a \$20.00 gift card code for their participation. All study materials and protocols were approved by the University of Pittsburgh Institutional Review Board. Cronbach's alpha for the full survey increased after the second deployment (fall 2020) from 0.88 to 0.94. Reliability statistics for the overall scale; each component scale (enacted, anticipated, and internalized/U=U stigma); and each subscale underlying component scales can be found below.

Analysis 1: Enacted Stigma scale (overall)

- 20 items
- N=1095
- Cronbach's alpha: 0.92

Item Statistics			
	Mean	Std. Deviation	N
HIV doctors have not listened to my concerns	4.42	1.090	1095
HIV doctors have avoided touching me	4.63	.793	1095
HIV doctors have treated me with less respect	4.60	.848	1095
How often have you felt stigmatized (treated negatively or poorly) by HIV doctor	4.80	.563	1095
Case managers have not taken my needs seriously	4.13	1.287	1095
Case managers have discriminated against me	4.55	.862	1095

Case managers have denied me services	4.49	.940	1095
How often have you felt stigmatized (treated negatively or poorly) by case manag	4.69	.678	1095
Front desk staff have not taken my needs seriously	4.22	1.186	1095
Front desk staff have discriminated against me	4.44	.956	1095
Front desk staff have denied me services	4.51	.900	1095
How often have you felt stigmatized (treated negatively or poorly) by front desk	4.71	.652	1095
Medical care team members have not listened to my concerns	4.28	1.153	1095
Medical care team members have avoided touching me	4.45	.979	1095
Medical care team members have treated me with less respect	4.40	1.045	1095
How often have you felt stigmatized (treated negatively or poorly) by medical ca	4.63	.719	1095
Non-HIV doctors have not listened to my concerns	4.02	1.244	1095
Non-HIV doctors have avoided touching me	4.17	1.132	1095

Non-HIV doctors have treated me with less respect	4.09	1.209	1095
How often have you felt stigmatized (treated negatively or poorly) by non-HIV do	4.47	.869	1095

Overall Enacted Stigma Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
88.70	151.703	12.317	20

Analysis 2: Enacted Stigma: Case Managers Subscale

- 4 items
- N=1117
- Cronbach's alpha: 0.79

Item Statistics			
	Mean	Std. Deviation	N
Case managers have not taken my needs seriously	4.12	1.286	1117
Case managers have discriminated against me	4.55	.858	1117
Case managers have denied me services	4.49	.939	1117
How often have you felt stigmatized (treated negatively or poorly) by case managers	4.69	.677	1117

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
17.86	9.109	3.018	4

Analysis 3: Enacted Stigma: Front Desk Staff Subscale

- 4 items
- N=1409
- Cronbach's alpha: 0.87

Item Statistics			
	Mean	Std. Deviation	N
Front desk staff have not taken my needs seriously	4.20	1.171	1409
Front desk staff have discriminated against me	4.42	.960	1409
Front desk staff have denied me services	4.49	.895	1409
How often have you felt stigmatized (treated negatively or poorly) by front desk	4.70	.670	1409

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
17.80	10.292	3.208	4

Analysis 4: Enacted Stigma: Medical Care Team Subscale

- 4 items
- N=1414
- Cronbach's alpha: 0.88

Item Statistics			
	Mean	Std. Deviation	N
Medical care team members have not listened to my concerns	4.26	1.132	1414
Medical care team members have avoided touching me	4.42	.981	1414
Medical care team members have treated me with less respect	4.37	1.045	1414
How often have you felt stigmatized (treated negatively or poorly) by medical care team members?	4.63	.720	1414

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
17.69	11.293	3.360	4

Analysis 5: Enacted Stigma: Non-HIV Practitioners Subscale

- 4 items
- N=1412
- Cronbach's alpha: 0.91

Item Statistics			
	Mean	Std. Deviation	N
Non-HIV doctors have not listened to my concerns	4.01	1.235	1412
Non-HIV doctors have avoided touching me	4.17	1.119	1412

Non-HIV doctors have treated me with less respect	4.08	1.203	1412
How often have you felt stigmatized (treated negatively or poorly) by non-HIV do	4.46	.881	1412

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
16.72	15.783	3.973	4

Analysis 6: Enacted Stigma: HIV Practitioners Subscale

- 4 items
- N=1414
- Cronbach's alpha: 0.85

Item Statistics			
	Mean	Std. Deviation	N
HIV doctors have not listened to my concerns	4.42	1.052	1414
HIV doctors have avoided touching me	4.61	.815	1414
HIV doctors have treated me with less respect	4.57	.868	1414
How often have you felt stigmatized (treated negatively or poorly) by HIV doctor	4.80	.551	1414

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items

18.40	7.823	2.797	4
-------	-------	-------	---

Analysis 7: Anticipated Stigma in Healthcare Settings (overall scale)

- 15 items
- N=1107
- Cronbach's alpha: 0.93

Item Statistics			
	Mean	Std. Deviation	N
HIV doctors will not listen to my concerns	4.45	1.106	1107
HIV doctors will avoid touching me	4.60	.923	1107
HIV doctors will treat me with less respect	4.56	.967	1107
Case managers will not take my needs seriously	4.24	1.246	1107
Case managers will discriminate against me	4.48	.958	1107
Case managers will deny me services	4.45	1.001	1107
Front desk staff workers will not take my needs seriously	4.29	1.161	1107
Front desk staff will discriminate against me	4.41	1.036	1107
Front desk staff will deny me services	4.48	.961	1107
Medical care team members will not listen to my concerns	4.31	1.157	1107

Medical care team members will avoid touching me	4.39	1.053	1107
Medical care team members will treat me with less respect	4.35	1.090	1107
Non-HIV doctors will not listen to my concerns	4.15	1.197	1107
Non-HIV doctors will avoid touching me	4.23	1.102	1107
Non-HIV doctors will treat me with less respect	4.18	1.163	1107

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
65.59	129.625	11.385	15

Analysis 8: Anticipated Stigma: Case Managers Subscale

- 3 items
- N=1120
- Cronbach's alpha: 0.87

Item Statistics			
	Mean	Std. Deviation	N
Case managers will not take my needs seriously	4.24	1.245	1120
Case managers will discriminate against me	4.49	.955	1120
Case managers will deny me services	4.45	.999	1120

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
13.18	8.223	2.868	3

Analysis 9: Anticipated Stigma: Front Desk Staff Subscale

- 3 items
- N=1411
- Cronbach's alpha: 0.93

Item Statistics				
	Mean	Std. Deviation	N	
Front desk staff workers will not take my needs seriously	4.26	1.165	1411	
Front desk staff will discriminate against me	4.37	1.066	1411	
Front desk staff will deny me services	4.44	.996	1411	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
13.07	9.141	3.023	3

Analysis 10: Anticipated Stigma: Medical Care Team Subscale

- 3 items
- N=1418
- Cronbach's alpha: 0.93

Item Statistics			
	Mean	Std. Deviation	N

Medical care team members will not listen to my concerns	4.28	1.155	1418
Medical care team members will avoid touching me	4.37	1.056	1418
Medical care team members will treat me with less respect	4.33	1.097	1418

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
12.98	9.524	3.086	3

Analysis 11: Anticipated Stigma: Non-HIV Practitioner Subscale

- 3 items
- N=1415
- Cronbach's alpha: 0.94

Item Statistics			
	Mean	Std. Deviation	N
Non-HIV doctors will not listen to my concerns	4.14	1.184	1415
Non-HIV doctors will avoid touching me	4.23	1.092	1415
Non-HIV doctors will treat me with less respect	4.18	1.153	1415

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
12.55	10.528	3.245	3

Analysis 12: Anticipated Stigma: HIV Practitioner Subscale

- 3 items
- N=1417
- Cronbach's alpha: 0.92

Item Statistics			
	Mean	Std. Deviation	N
HIV doctors will not listen to my concerns	4.44	1.080	1417
HIV doctors will avoid touching me	4.59	.906	1417
HIV doctors will treat me with less respect	4.54	.964	1417

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
13.57	7.540	2.746	3

Analysis 13a: U=U Internalized Stigma Scale

- 5 items
- N=1408
- Cronbach's alpha: 0.58

Item Statistics			
	Mean	Std. Deviation	N
Knowing that U=U makes it easier for me to accept my HIV status	1.9659	1.08172	1408
Knowing that U=U makes me feel like my HIV is manageable	1.7493	.94275	1408

Knowing I cannot transmit HIV if my viral load is undetectable makes me feel more confident in my sexual choices	2.1108	1.15677	1408
Knowing I cannot transmit HIV if my viral load is undetectable makes me feel more confident about my sexual choices (recoded for harmonious valences)	2.2997	1.23544	1408
Even though I know U=U, I still feel ashamed when I think about disclosing my HIV status to a sexual partner (recoded for harmonious valences)	3.3736	1.36914	1408

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
11.4993	12.591	3.54843	5

Analysis 13b: U=U Internalized Stigma Scale with negative items removed

- 3 items
- N=1413
- Cronbach's alpha: 0.79

Item Statistics			
	Mean	Std. Deviation	N
Knowing that U=U makes it easier for me to accept my HIV status	1.96	1.081	1413

Knowing that U=U makes me feel like my HIV is manageable	1.75	.942	1413
Knowing I cannot transmit HIV if my viral load is undetectable makes me feel more confident in my sexual choices	2.11	1.159	1413

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
5.82	7.223	2.688	3

Analysis 14: Overall Intersectional Stigma in Healthcare Settings Scale (Anticipated, Enacted, and Internalized/U=U)

- 40 items
- N=1075
- Cronbach's alpha: 0.94

Item Statistics			
	Mean	Std. Deviation	N
Case managers have not taken my needs seriously	4.12	1.284	1075
Case managers have discriminated against me	4.54	.861	1075
Case managers have denied me services	4.49	.941	1075
How often have you felt stigmatized (treated negatively or poorly) by case manag	4.69	.683	1075

Case managers will not take my needs seriously	4.24	1.248	1075
Case managers will discriminate against me	4.47	.966	1075
Case managers will deny me services	4.44	1.008	1075
Front desk staff have not taken my needs seriously	4.22	1.186	1075
Front desk staff have discriminated against me	4.44	.955	1075
Front desk staff have denied me services	4.51	.898	1075
How often have you felt stigmatized (treated negatively or poorly) by front desk	4.70	.655	1075
Front desk staff workers will not take my needs seriously	4.29	1.167	1075
Front desk staff will discriminate against me	4.41	1.039	1075
Front desk staff will deny me services	4.48	.965	1075
Medical care team members have not listened to my concerns	4.27	1.156	1075
Medical care team members have avoided touching me	4.44	.986	1075
Medical care team members have treated me with less respect	4.39	1.051	1075

How often have you felt stigmatized (treated negatively or poorly) by medical ca	4.62	.723	1075
Medical care team members will not listen to my concerns	4.30	1.155	1075
Medical care team members will avoid touching me	4.39	1.049	1075
Medical care team members will treat me with less respect	4.35	1.086	1075
Non-HIV doctors have not listened to my concerns	4.02	1.245	1075
Non-HIV doctors have avoided touching me	4.17	1.135	1075
Non-HIV doctors have treated me with less respect	4.08	1.210	1075
How often have you felt stigmatized (treated negatively or poorly) by non-HIV do	4.46	.873	1075
Non-HIV doctors will not listen to my concerns	4.15	1.194	1075
Non-HIV doctors will avoid touching me	4.23	1.102	1075
Non-HIV doctors will treat me with less respect	4.18	1.162	1075
HIV doctors have not listened to my concerns	4.42	1.088	1075
HIV doctors have avoided touching me	4.63	.790	1075

HIV doctors have treated me with less respect	4.60	.846	1075
How often have you felt stigmatized (treated negatively or poorly) by HIV doctor	4.80	.567	1075
HIV doctors will not listen to my concerns	4.45	1.107	1075
HIV doctors will avoid touching me	4.60	.919	1075
HIV doctors will treat me with less respect	4.56	.965	1075
Knowing that U=U makes it easier for me to accept my HIV status	4.07	1.065	1075
Knowing that U=U makes me feel like my HIV is manageable	4.29	.908	1075
U=U puts too much pressure on me to attain/maintain an undetectable viral load.	3.69	1.252	1075
Knowing I cannot transmit HIV if my viral load is undetectable makes me feel more comfortable about my sexual choices	3.95	1.140	1075
Even though I know U=U, I still feel ashamed when I think about disclosing my HIV status	2.57	1.360	1075

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
172.73	526.843	22.953	40

Next steps for the Intersectional Stigma in Healthcare Settings Scale

- 1) Test-retest reliability (repeated sub-sample)
- 2) Random split for principal axis factoring and confirmatory factor analysis (50% PCA; 50% CFA) for overall scale and each of the anticipated, enacted, and internalized/U=U scales
- 3) Regressing scale values on depression symptoms and HIV continuum of care outcomes
- 4) Assessing reliability of Spanish-language version (n=86)