

Appendix

Table 1. Codes for Cohort Definition

	ICD-9	ICD-10
Opioid Dependence or Abuse	304	F11 series
	304.01	
	304.02	
	304.03	
	304.7	
	304.71	
	304.72	
	304.73	
	305.5	
	305.51	
	305.52	
	305.53	
Opioid Overdose	965.00	T40.0
	965.01	T40.1
	965.02	T40.2
	965.09	T40.3
	E850.0	T40.4
	E850.1	T40.6
	E850.2	
Injection-Related infections:		
Endocarditis	36.42	B37.6
	98.84	I01.1
	112.81	I05.9
	115.04	I07.9
	115.14	I08.0
	115.94	I08.3
	421.X	I08.9
	424.9X	I33.0
	996.61	I33.9
		I35.8
		I37.8
		I38
		I39
		T82.6
Septic Arthritis	711.0	M00.x
	711.4	
	711.5	
	711.6	
	711.8	

	711.9	
Abscess/Cellulitis	681.x	L03.x
	682.x	
Infective Phlebitis	451.0	I80.0
	451.2	I80.1
	451.8	I80.2
	451.9	I80.3
		I80.8
		I80.9
HCV	70.51	B17.10
	70.54	B18.2
	70.7	B19.20
	70.41	B17.11
	70.44	B18.2
	70.71	B19.21

Table 2. Medication Codes

Direct Acting Antivirals for HCV Treatment	
Drug Name	NDC Code/s
Daclatasvir (Daklinza)	00003-0011-01 00003-0213-01 00003-0215-01
Elbasvir/grazoprevir (Zepatier)	0006-3074-02
Glecaprevir/pibrentasvir (Mavyret)	0074-2625-01 0074-2625-28 0074-2625-56 0074-2600-28 0074-2625-84 0074-2625-80
Ledipasvir-Sofosbuvir (Harvoni)	61958-1801-1 61958-1803-1 61958-1804-1 61958-1805-1
Ombitasvir-Paritaprevir-Ritonavir and Dasabuvir (Viekira Pak)	0074-3093-01 0074-3093-28
Sofosbuvir (alternative name: Sovaldi)	61958-1501-1 61958-1503-1 61958-1504-1 61958-1505-1
Sofosbuvir-Velpatasvir (Epclusa)	61958-2201-1 61958-2203-1 61958-2203-1 61958-2205-1
Sofosbuvir-Velpatasvir-Voxilaprevir (Vosevi)	61958-2401-1

Table 3. Codes for Identifying HCV Ab, HCV RNA, HCV Genotype, and Fibrosis Testing

LOINC Code	Test Name
HCV Ab tests	
75886-2	HCV antibody screening - Meaningful Use set
13955-0	Hepatitis C virus Ab [Presence] in Serum or Plasma by Immunoassay
16128-1	Hepatitis C virus Ab [Presence] in Serum
16129-9	Hepatitis C virus IgG Ab [Presence] in Serum
16936-7	Hepatitis C virus IgG Ab [Units/volume] in Serum
22324-8	Hepatitis C virus 100-3 Ab [Presence] in Serum
22325-5	Hepatitis C virus 22-3 Ab [Presence] in Serum
22326-3	Hepatitis C virus 5-1-1 Ab [Presence] in Serum
22327-1	Hepatitis C virus Ab [Units/volume] in Serum
22328-9	Hepatitis C virus superoxide dismutase Ab [Presence] in Serum
22329-7	Hepatitis C virus c33c Ab [Presence] in Serum
40726-2	Hepatitis C virus IgG Ab [Presence] in Serum or Plasma by Immunoassay
42506-6	Hepatitis C virus Ab [Presence] in Cerebral spinal fluid
44831-6	Hepatitis C virus c100p+5-1-1 Ab [Presence] in Serum
47365-2	Hepatitis C virus Ab [Presence] in Serum from Donor by Immunoassay
47441-1	Hepatitis C virus Ab [Presence] in Serum from Donor
48159-8	Hepatitis C virus Ab Signal/Cutoff in Serum or Plasma by Immunoassay
51656-7	Hepatitis C virus Ab Signal/Cutoff in Body fluid
51657-5	Hepatitis C virus Ab [Presence] in Body fluid
51824-1	Hepatitis C virus IgM Ab [Units/volume] in Serum by Immunoassay
5198-7	Hepatitis C virus Ab [Units/volume] in Serum by Immunoassay
53376-0	Hepatitis C virus IgM Ab [Units/volume] in Serum
57006-9	Hepatitis C virus IgG Ab [Units/volume] in Serum by Immunoassay
72376-7	Hepatitis C virus Ab [Presence] in Serum, Plasma or Blood by Rapid immunoassay
HCV RNA tests	
75888-8	HCV RNA screening tests - Meaningful Use set
10676-5	Hepatitis C virus RNA [Units/volume] (viral load) in Serum or Plasma by Probe with amplification
11011-4	Hepatitis C virus RNA [Units/volume] (viral load) in Serum or Plasma by NAA with probe detection
11259-9	Hepatitis C virus RNA [Presence] in Serum or Plasma by NAA with probe detection
20416-4	Hepatitis C virus RNA [# /volume] (viral load) in Serum or Plasma by NAA with probe detection
20571-6	Hepatitis C virus RNA [# /volume] (viral load) in Serum or Plasma by Probe with signal amplification
29609-5	Hepatitis C virus RNA [Units/volume] (viral load) in Serum or Plasma by Probe with signal amplification
34703-9	Hepatitis C virus RNA [Units/volume] (viral load) in Serum or Plasma by Probe and target amplification method detection limit = 500 IU/mL
34704-7	Hepatitis C virus RNA [Units/volume] (viral load) in Serum or Plasma by Probe and target amplification method detection limit = 50 IU/mL
38180-6	Hepatitis C virus RNA [log units/volume] (viral load) in Serum or Plasma by NAA with probe detection

38998-1		HIV 1+Hepatitis C virus RNA [Presence] in Serum or Plasma from Blood product unit by NAA with probe detection
42003-4		Hepatitis C virus RNA [Log #/volume] (viral load) in Serum or Plasma by Probe with signal amplification
42617-1		Hepatitis C virus RNA [log units/volume] (viral load) in Serum or Plasma by Probe with signal amplification
47252-2		Hepatitis C virus RNA [Log #/volume] (viral load) in Serum or Plasma by NAA with probe detection
48576-3		Hepatitis C virus RNA [Presence] in Specimen by Probe with signal amplification
49369-2		Hepatitis C virus RNA [# /volume] (viral load) in Cerebral spinal fluid by NAA with probe detection
49370-0		Hepatitis C virus RNA [# /volume] (viral load) in Bone marrow by NAA with probe detection
49371-8		Hepatitis C virus RNA [# /volume] (viral load) in Tissue by NAA with probe detection
49372-6		Hepatitis C virus RNA [Log #/volume] (viral load) in Specimen by NAA with probe detection
49373-4		Hepatitis C virus RNA [Log #/volume] (viral load) in Cerebral spinal fluid by NAA with probe detection
49374-2		Hepatitis C virus RNA [Log #/volume] (viral load) in Bone marrow by NAA with probe detection
49375-9		Hepatitis C virus RNA [Log #/volume] (viral load) in Tissue by NAA with probe detection
49376-7		Hepatitis C virus RNA [Units/volume] (viral load) in Specimen by NAA with probe detection
49377-5		Hepatitis C virus RNA [Units/volume] (viral load) in Cerebral spinal fluid by NAA with probe detection
49378-3		Hepatitis C virus RNA [Units/volume] (viral load) in Bone marrow by NAA with probe detection
49379-1		Hepatitis C virus RNA [Units/volume] (viral load) in Tissue by NAA with probe detection
49380-9		Hepatitis C virus RNA [# /volume] (viral load) in Specimen by NAA with probe detection
49603-4		Hepatitis C virus RNA [log units/volume] (viral load) in Cerebral spinal fluid by NAA with probe detection
49604-2		Hepatitis C virus RNA [log units/volume] (viral load) in Bone marrow by NAA with probe detection
49605-9		Hepatitis C virus RNA [log units/volume] (viral load) in Specimen by NAA with probe detection
49608-3		Hepatitis C virus RNA [log units/volume] (viral load) in Tissue by NAA with probe detection
49758-6		Hepatitis C virus RNA [Units/volume] (viral load) in Serum or Plasma by Probe and target amplification method detection limit = 5 iU/mL
50023-1		Hepatitis C virus RNA panel (viral load) in Serum or Plasma by NAA with probe detection
5010-4		Hepatitis C virus RNA [Presence] in Blood by NAA with probe detection
5011-2		Hepatitis C virus RNA [Presence] in Tissue by NAA with probe detection
5012-0		Hepatitis C virus RNA [Presence] in Specimen by NAA with probe detection
51655-9		Hepatitis C virus RNA [Presence] in Body fluid by NAA with probe detection
53825-6		HIV 1+Hepatitis C virus RNA [Presence] in Serum or Plasma by NAA with probe detection

59052-1		HIV 1+Hepatitis C virus RNA+Hepatitis B virus DNA [Presence] in Serum or Plasma by NAA with probe detection
74856-6		HIV 1 group O RNA+HIV 1 group M RNA+HIV 2 RNA+Hepatitis C virus RNA+Hepatitis B virus DNA [Presence] in Serum or Plasma from Donor by NAA with probe detection
75888-8		HCV RNA screening tests - Meaningful Use set
HCV Genotype		
82525-7		Hepatitis C virus genotype and drug resistance panel
32286-7		Hepatitis C virus genotype [Identifier] in Serum or Plasma by NAA with probe detection
92731-9		Hepatitis C virus genotype in Serum or Plasma by Sequencing
Fibrosis/staging		
CPT Codes		
91200		Fibroscan®
0346T		Fibroscan®
76981		Fibroscan®
81596		Fibrosure®
LOINC codes		<i>There are six lab components of a fibrosure test (labeled types 1-6). We will label the occurrence of all six on the same day as a fibrosure test.</i>
1835-8	Alpha 2-Macroglobulins, Qn	1
40605-8	Alpha 2-Macroglobulins, Qn	1
29944-6	Alpha 2-Macroglobulins, Qn	1
4542-7	Haptoglobin	2
4543-5	Haptoglobin	2
46127-7	Haptoglobin	2
70209-2	Haptoglobin	2
40717-1	Haptoglobin	2
1869-7	Apolipoprotein A-1	3
55724-9	Apolipoprotein A-1	3
1975-2	Bilirubin, Total	4
1968-7	Bilirubin, Total	4
LP385272-2	Bilirubin, Total	4
LP385275-5	Bilirubin, Total	4
LP385283-9	Bilirubin, Total	4
LP385284-7	Bilirubin, Total	4
LP386833-0	Bilirubin, Total	4
14631-6	Bilirubin, Total	4
33898-8	Bilirubin, Total	4
34543-9	Bilirubin, Total	4
35194-0	Bilirubin, Total	4

42719-5	Bilirubin, Total	4
54363-7	Bilirubin, Total	4
59828-4	Bilirubin, Total	4
77137-8	Bilirubin, Total	4
89871-8	Bilirubin, Total	4
LP15448-1	Bilirubin, Total	4
LP285100-6	Bilirubin, Total	4
LP31608-0	Bilirubin, Total	4
LP31926-6	Bilirubin, Total	4
2324-2	GGT	5
1743-4	ALT (SGPT) P5P	6
1742-6	ALT (SGPT) P5P	6
16324-6	ALT (SGPT) P5P	6
1744-2	ALT (SGPT) P5P	6
44785-4	ALT (SGPT) P5P	6
48134-1	ALT (SGPT) P5P	6
76625-3	ALT (SGPT) P5P	6
77144-4	ALT (SGPT) P5P	6
LP15333-5	ALT (SGPT) P5P	6
LP382697-3	ALT (SGPT) P5P	6
LP382702-1	ALT (SGPT) P5P	6
LP382703-9	ALT (SGPT) P5P	6
LP382704-7	ALT (SGPT) P5P	6
LP382706-2	ALT (SGPT) P5P	6

Table 4. ICD and CPT Codes for Covariates

Covariate	ICD-9 Code	ICD-10 Code
Chronic Hepatitis B Virus	70.22	B18.0
	70.23	B18.1
	70.32	
	70.33	
	70.21	
HIV	42	B20
Other substance abuse or dependence:		
• Sedative	304.10-304.13	F13.2
• Cocaine	304.2-304.23	F14.2
• Cannabis	304.3-304.33	F12.2
• Amphetamine	304.4-304.43	F15.2
• Hallucinogen	304.5-304.53	F16.2
• Other drug dependence	304.6-304.63	F19.2
• Opioid + other drugs	304.7-304.73	
• Drug dependence combination, no opioids	304.8-304.83	
• Unspecified drug dependence	304.9-304.93	
Alcohol abuse or dependence	303.0x	F10.2
	303.9x	
Delivery Codes:		
• Normal/Uncomplicated delivery	650	O80.x-O81.x
• Cesarean or assisted delivery	669.7	O82.x
• Multiple Delivery	651.00-651.91	
• Forceps, Vacuum, And Breech Delivery	72.x	
• Other Procedures Inducing Or Assisting Delivery	73.x	
• Classical Cesarean Section	74	
• Low Cervical Cesarean Section	74.1	
• Extraperitoneal Cesarean Section	74.2	
• Cesarean Section Of Other Specified Type	74.4	
• Cesarean Section Of Unspecified Type	74.91	
• also includes hysterotomy to terminate pregnancy	74.99	
• Delivery of Products of Conception, External Approach		10E0XZZ
Products of Conception		10D00Z0
• Extraction of Products of Conception, High, Open Approach		10D00Z1
• Extraction of Products of Conception, Low, Open Approach		10D00Z2 10D00Z3

<ul style="list-style-type: none"> • Extraction of Products of Conception, Extraperitoneal, Open Approach • Extraction of Products of Conception, Low Forceps, Via Natural or Artificial Opening • Extraction of Products of Conception, Mid Forceps, Via Natural or Artificial Opening • Extraction of Products of Conception, High Forceps, Via Natural or Artificial Opening • Extraction of Products of Conception, Vacuum, Via Natural or Artificial Opening • Extraction of Products of Conception, Internal Version, Via Natural or Artificial Opening • Extraction of Products of Conception, Other, Via Natural or Artificial Opening 		10D00Z4 10D00Z5 10D00Z6 10D00Z7 10D00Z8
<ul style="list-style-type: none"> • Manual Extraction of Products of Conception, Retained, Via Natural or Artificial Opening • Extraction of Products of Conception, Retained, Via Natural or Artificial Opening • Manual Extraction of Products of Conception, Retained, Via Natural or Artificial Opening Endoscopic • Extraction of Products of Conception, Retained, Via Natural or Artificial Opening Endoscopic 		10D17Z9 10D17ZZ 10D18Z9 10D18ZZ
	CPT CODES	
<ul style="list-style-type: none"> • Vaginal delivery • Vaginal delivery with postpartum care • Cesarean delivery • Vaginal delivery only, after previous cesarean delivery • Vaginal delivery only, after previous cesarean delivery (with or without episiotomy and/or forceps) • [Vaginal delivery only] including postpartum care • Cesarean delivery only • Cesarean delivery, including postpartum care 	59409 59410 59514 59515 59612 59614 59620 59622	
Mental Health Diagnosis:		
<ul style="list-style-type: none"> • Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders 	295-298	F20-F29
<ul style="list-style-type: none"> ○ schizophrenia 	295.0-295.6, 295.8-295.9	F20
<ul style="list-style-type: none"> ○ schizotypal 		F21
<ul style="list-style-type: none"> ○ delusional 	297	F22
<ul style="list-style-type: none"> ○ brief psychotic disorder 	298.8–298.9	F23
<ul style="list-style-type: none"> ○ shared psychotic 	298.8–298.9	F24
<ul style="list-style-type: none"> ○ Schizoaffective disorder 	295.7	F25

○ Other psychotic disorder not due to a substance or known physiological condition		F28
○ Unspecified psychosis not due to a substance or known physiological condition		F29
● Mood disorders		F30-F39
○ manic episode		F30
○ bipolar	296.0-296.1, 296.4-296.8	F31
○ depressive episode	296.2, 296.3, 300.4, 311	F32
○ major depressive disorder	296.2-296.3	F33
○ Persistent mood [affective] disorders		F34
○ Unspecified mood [affective] disorder	296.9	F39
● Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders	300	F40-F48
○ phobic anxiety disorders	300.2	F40
○ other anxiety disorders	300.0, 300.1, 300.4-300.7	F41
○ Obsessive-compulsive disorder	300.3	F42
○ Reaction to severe stress, and adjustment disorders	308	F43
○ Dissociative and conversion disorders		F44
○ Somatoform disorders	300.8	F45
○ Other nonpsychotic mental disorders	300.9	F48

Appendix Table 5. STROBE Statement—Checklist of items that should be included in reports of *cohort studies*

	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	5-6
Objectives	3	State specific objectives, including any prespecified hypotheses	6
Methods			
Study design	4	Present key elements of study design early in the paper	6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up (b) For matched studies, give matching criteria and number of exposed and unexposed	6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6-7
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-8
Bias	9	Describe any efforts to address potential sources of bias	8
Study size	10	Explain how the study size was arrived at	6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	7-8
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) If applicable, explain how loss to follow-up was addressed (e) Describe any sensitivity analyses	8
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed (b) Give reasons for non-participation at each stage (c) Consider use of a flow diagram	n/a
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders (b) Indicate number of participants with missing data for each variable of interest (c) Summarise follow-up time (eg, average and total amount)	8-9
Outcome data	15*	Report numbers of outcome events or summary measures over time	9, Appendix
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included (b) Report category boundaries when continuous variables were categorized (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	9-11
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	10-11
Discussion			
Key results	18	Summarise key results with reference to study objectives	11-12
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	13
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	14
Generalisability	21	Discuss the generalisability (external validity) of the study results	13-14
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	1

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at <http://www.strobe-statement.org>.

Table 6. Number (Percent) of patients who completed each HCV Cascade of Care Stage, by Demographics

	Total	HCV Ab Tested	HCV Ab positive	HCV RNA positive	Linked to Care ^a	Linked to Care ^b (without genotype)	DAA treatment	SVR Test	HCV cure
Race									
White	81394	36952 (45.4)	19716 (24.2)	13810 (17)	7457 (9.2)	4785 (5.9)	1329 (1.6)	602 (0.7)	488 (0.6)
American Indian or Alaska Native	900	533 (59.2)	239 (26.6)	169 (18.8)	129 (14.3)	24 (2.7)	13 (1.4)	7 (0.8)	5 (0.6)
Asian	337	119 (35.3)	48 (14.2)	37 (11)	30 (8.9)	18 (5.3)	7 (2.1)	3 (0.9)	3 (0.9)
Black/African American	9938	3436 (34.6)	1183 (11.9)	913 (9.2)	477 (4.8)	325 (3.3)	115 (1.2)	66 (0.7)	50 (0.5)
Unknown	12056	5657 (46.9)	2765 (22.9)	2039 (16.9)	1274 (10.6)	315 (2.6)	81 (0.7)	41 (0.3)	33 (0.3)
Ethnicity									
Not Hispanic or Latino	77408	34111 (44.1)	17641 (22.8)	12549 (16.2)	6682 (8.6)	4256 (5.5)	1213 (1.6)	536 (0.7)	412 (0.5)
Hispanic or Latino	5958	2321 (39)	1040 (17.5)	807 (13.5)	348 (5.8)	209 (3.5)	77 (1.3)	40 (0.7)	37 (0.6)
Unknown	21342	10265 (48.1)	5270 (24.7)	3612 (16.9)	2339 (11)	1002 (4.7)	255 (1.2)	143 (0.7)	130 (0.6)
Ever gave birth	24600	15130 (61.5)	7366 (29.9)	5507 (22.4)	2954 (12)	1447 (5.9)	386 (1.6)	205 (0.8)	174 (0.7)
Mental Health									
Diagnosis	35271	18640 (52.8)	8909 (25.3)	6190 (17.5)	3683 (10.4)	1968 (5.6)	640 (1.8)	350 (1)	290 (0.8)
HIV Diagnosis	3530	2481 (70.3)	1422 (40.3)	1018 (28.8)	705 (20)	379 (10.7)	129 (3.7)	60 (1.7)	40 (1.1)
Alcohol Use Disorder	3345	1984 (59.3)	915 (27.4)	626 (18.7)	397 (11.9)	191 (5.7)	68 (2)	40 (1.2)	38 (1.1)
Other SUD	4331	2472 (57.1)	1287 (29.7)	902 (20.8)	504 (11.6)	267 (6.2)	110 (2.5)	68 (1.6)	61 (1.4)
Injection drug related infection	16914	10336 (61.1)	6633 (39.2)	4611 (27.3)	2438 (14.4)	1320 (7.8)	350 (2.1)	203 (1.2)	168 (1)
HBV Diagnosis	1800	1385 (76.9)	995 (55.3)	761 (42.3)	497 (27.6)	285 (15.8)	54 (3)	37 (2.1)	29 (1.6)
Region									
South	40406	17561 (43.5)	8858 (21.9)	7018 (17.4)	3074 (7.6)	2249 (5.6)	497 (1.2)	160 (0.4)	80 (0.2)
Northeast	31475	12818 (40.7)	7167 (22.8)	4220 (13.4)	2085 (6.6)	1150 (3.7)	499 (1.6)	296 (0.9)	267 (0.8)
Midwest	17066	8220 (48.2)	5058 (29.6)	3817 (22.4)	2576	1643 (9.6)	461 (2.7)	238 (1.4)	212 (1.2)

					(15.1)				
					1632				
West	15677	8098 (51.7)	2868 (18.3)	1913 (12.2)	(10.4)	425 (2.7)	88 (0.6)	25 (0.2)	20 (0.1)

Abbreviations: HCV=hepatitis C virus, DAA=direct acting antivirals, SVR=sustained viral response, SUD=substance use disorder, HBV= Hepatitis B Virus.

^a Linked to care definition: completed HCV genotype testing, fibrosis staging, or a visit with an HCV ICD-9/10 code as the primary diagnosis

^b Linked to care definition: Completed fibrosis staging or a visit with an HCV ICD-9/10 code as the primary diagnosis

Table 7. Log Binomial Regression Results for HCV Cascade of Care Stages by HIV Status

Variable	Antibody Test (N=104,625)		HCV Diagnosis (N=23,951)		Linkage to Care (N=13,329)		DAA Treatment (N=9,357)	
	Risk Ratio	95% CI	Risk Ratio	95% CI	Risk Ratio	95% CI	Risk Ratio	95% CI
White (ref)								
Am Indian or Alaska Native	1.287***	1.082 - 1.530	1.014	0.833 - 1.233	1.084	0.911 - 1.289	0.662	0.187 - 2.350
Asian	0.793**	0.637 - 0.986	1.113	0.913 - 1.357			1.258	0.750 - 2.111
Black/African American	0.750***	0.618 - 0.911	1.102**	1.005 - 1.208	0.89	0.690 - 1.148	1.281	0.904 - 1.816
Unknown	1.02	0.782 - 1.332	1.074	0.947 - 1.218	0.688	0.326 - 1.455	0.362	0.122 - 1.075
HIV	1.676***	1.423 - 1.975	0.996	0.876 - 1.133	1.327***	1.138 - 1.548	0.993	0.684 - 1.441
White * HIV (ref)								
American Indian or Alaska Native * HIV	0.804*	0.631 - 1.023	1.071	0.816 - 1.406	0.524	0.181 - 1.519		
Asian * HIV	0.426	0.0788 - 2.300						
Black/AA * HIV	0.938	0.825 - 1.067	1.034	0.893 - 1.198	1.111	0.844 - 1.462	1.407	0.889 - 2.227
unknown * HIV	0.979	0.806 - 1.190	0.992	0.841 - 1.170	1.281	0.717 - 2.290	1.706	0.583 - 4.992
Non-Hispanic/Latinx*HIV (ref)								
Hispanic or Latinx * HIV	0.839	0.640 - 1.101	1.068	0.854 - 1.335	0.826	0.474 - 1.440	1.648**	1.015 - 2.677
Unknown	1.085	0.867 - 1.358	0.939	0.821 - 1.074			0.844	0.473 - 1.506
Non-Hispanic/Latinx * HIV (ref)								
Hispanic or Latinx * HIV	1.154	0.930 - 1.432	0.908	0.717 - 1.149	1.047	0.837 - 1.310	0.864	0.404 - 1.845
Unknown * HIV	0.943	0.788 - 1.127	1.07	0.905 - 1.264			0.83	0.476 - 1.447

*** p<0.01, ** p<0.05

Abbreviations: HCV=hepatitis C virus, DAA=direct acting antivirals

Table 8. Log Binomial Regression Results for HCV Cascade of Care Stages by Injection Drug-Related Infection (IDI) Status

Variable	Antibody Test (N=104,625)		Linkage to Care (N=13,329)		DAA Treatment (N=9,367)	
	Risk Ratio	95% CI	Risk Ratio	95% CI	Risk Ratio	95% CI
White (ref)						
American Indian or Alaska Native	1.354***	1.144 - 1.603	1.069	0.915 - 1.248	0.581	0.167 - 2.029
Asian	0.762**	0.586 - 0.990			1.555	0.854 - 2.832
Black/African American	0.746***	0.616 - 0.904	0.899	0.716 - 1.130	1.337	0.895 - 1.997
Unknown	1.057	0.801 - 1.394	0.758	0.431 - 1.335	0.34	0.109 - 1.054
IDI	1.513***	1.428 - 1.603	0.943	0.841 - 1.057	0.739	0.530 - 1.031
White * IDI (ref)						
Am Indian or Alaska Native * IDI	0.786***	0.701 - 0.882	0.721	0.335 - 1.553	1.358	0.635 - 2.908
Asian * IDI	1.12	0.814 - 1.542			0.415	0.0780 - 2.213
Black/AA * IDI	1.093	0.963 - 1.242	1.084	0.872 - 1.348	1.111	0.711 - 1.735
unknown * IDI	0.843**	0.717 - 0.991	0.849	0.545 - 1.322	1.591	0.842 - 3.008
Non-Hispanic/Latinx (ref)						
Hispanic or Latinx	0.889	0.659 - 1.200	0.809	0.450 - 1.456	1.566	0.965 - 2.542
Unknown	1.09	0.870 - 1.365			0.794	0.436 - 1.446
Non-Hispanic/Latinx * IDI (ref)						
Hispanic or Latinx * IDI	0.888	0.720 - 1.096	1.133	0.801 - 1.604	1.134	0.698 - 1.842
Unknown * IDI	0.983	0.860 - 1.124			1.233	0.840 - 1.809

*** p<0.01, ** p<0.05

Abbreviations: IDI= Injection Drug-Related Infection

Table 9. Log Binomial Regression Results for HCV Cascade of Care Outcomes by Region

Variable	Ab Test (N=104,625)	
	Risk Ratio	95% CI
White (ref)	-	-
Am Indian or Alaska Native	0.624**	0.415 - 0.938
Asian	0.489***	0.348 - 0.686
Black/AA	0.639***	0.483 - 0.844
unknown	0.754	0.519 - 1.096
south (ref)		
northeast	0.84	0.523 - 1.348
midwest	1.059	0.749 - 1.498
west	1.022	0.741 - 1.408
Am Indian or Alaska Native * South (ref)		
Am Indian or Alaska Native * Northeast	2.101***	1.370 - 3.222
Am Indian or Alaska Native * Midwest	2.116***	1.351 - 3.315
Am Indian or Alaska Native * West	2.222***	1.441 - 3.426
Asian * South (ref)		
Asian * Northeast	1.925***	1.201 - 3.087
Asian * Midwest	1.548	0.931 - 2.576
Asian * West	2.078***	1.310 - 3.297
Black/AA * South (ref)		
Black/AA * Northeast	1.303	0.801 - 2.117
Black/AA * Midwest	1.338	0.931 - 1.922
Black/AA * West	1.812***	1.333 - 2.462
unknown * South (ref)		
unknown * Northeast	1.238	0.829 - 1.848
unknown * Midwest	1.072	0.704 - 1.632
unknown * West	1.810***	1.176 - 2.784
Non-Hispanic/Latinx * IDI (ref)		
Hispanic or Latinx	0.533***	0.370 - 0.768
Unknown ethnicity	1.228	0.933 - 1.618

Hispanic or Latinx * South (ref)		
Hispanic or Latinx * Northeast	2.317***	1.544 - 3.476
Hispanic or Latinx * Midwest	1.812***	1.193 - 2.752
Hispanic or Latinx * West	1.905***	1.288 - 2.818
unknown ethnicity * South (ref)		
unknown ethnicity * Northeast	0.939	0.566 - 1.557
unknown ethnicity * Midwest	0.681**	0.492 - 0.942
unknown ethnicity * West	0.733	0.527 - 1.020

*** p<0.01, ** p<0.05

Table 10. Sensitivity Analysis: Linkage to Care without genotype testing included in the definition

	Linkage to Care		DAA Treatment	
	Risk Ratio	95% CI	Risk Ratio	95% CI
White (ref)				
Am Indian/Alaskan Native	0.828	0.552 - 1.243	1.862**	1.137 - 3.049
Asian			1.349	0.854 - 2.132
Black/AA	1.075	0.822 - 1.405	1.27	0.858 - 1.879
Unknown	0.602	0.276 - 1.313	0.879	0.602 - 1.283
Non Hispanic/Latinx (ref)				
Hispanic/Latinx	0.84	0.415 - 1.703	1.349	0.810 - 2.245
Unknown			0.919	0.529 - 1.596
Observations	13,329		5,467	

*** p<0.01, ** p<0.05

^All standard errors were clustered at the HCO level

Figure 1a.

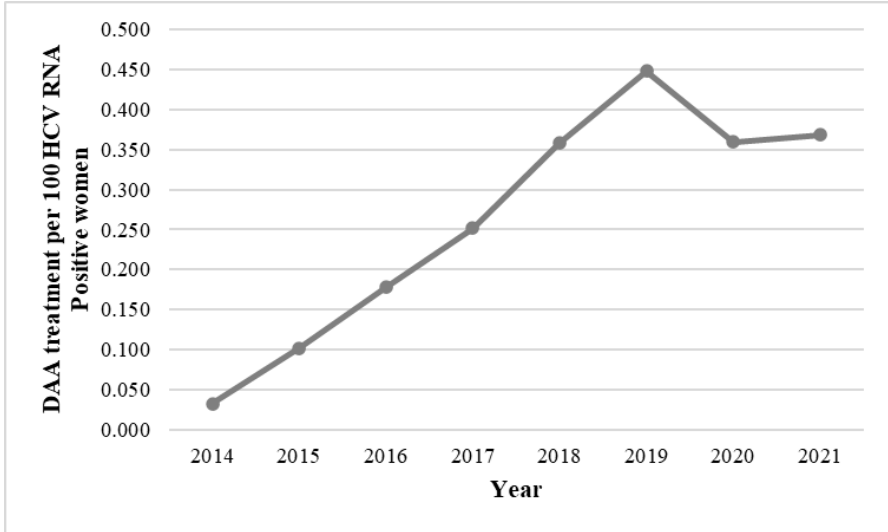
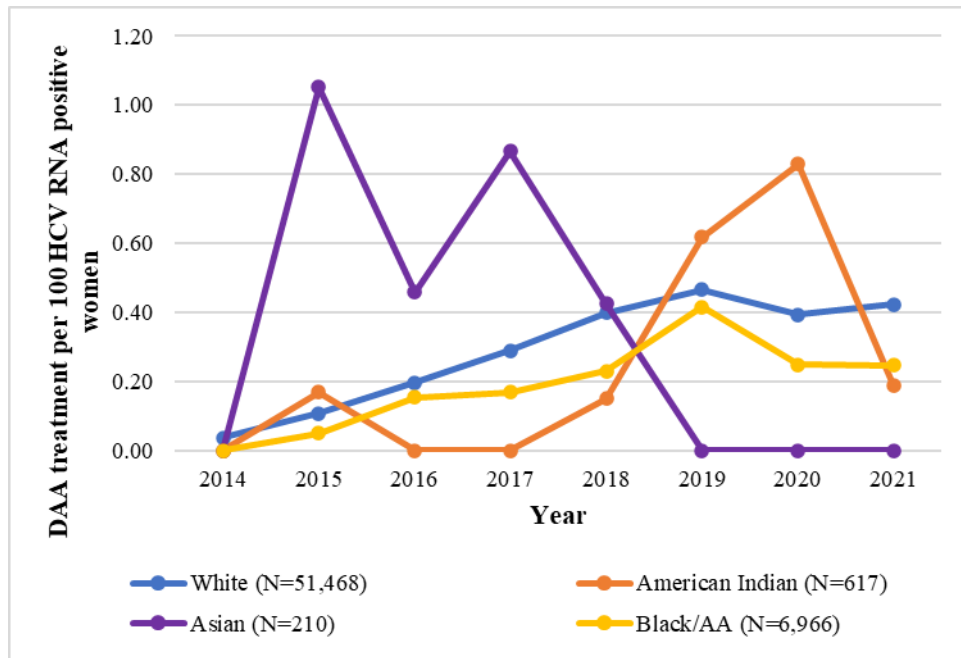
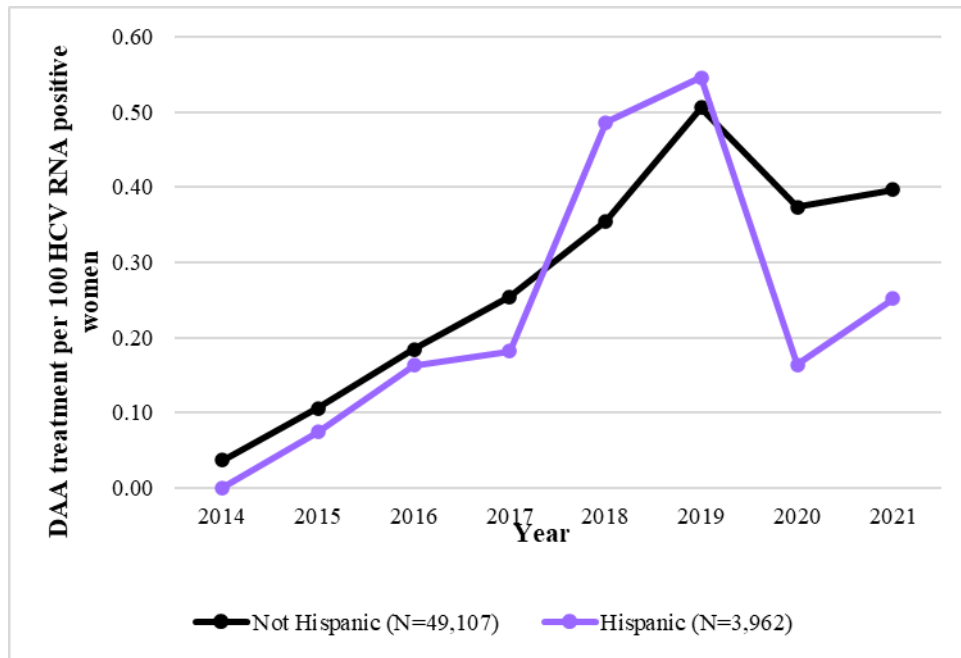


Figure 1b.



Ns refer to the average number of individuals per race from 2014-2021

Figure 1c.



Ns refer to the average number of individuals per ethnicity from 2014-2021

Figure 2a. Predicted Probability of HCV antibody testing by Race and Ethnicity, interacted with HIV Status

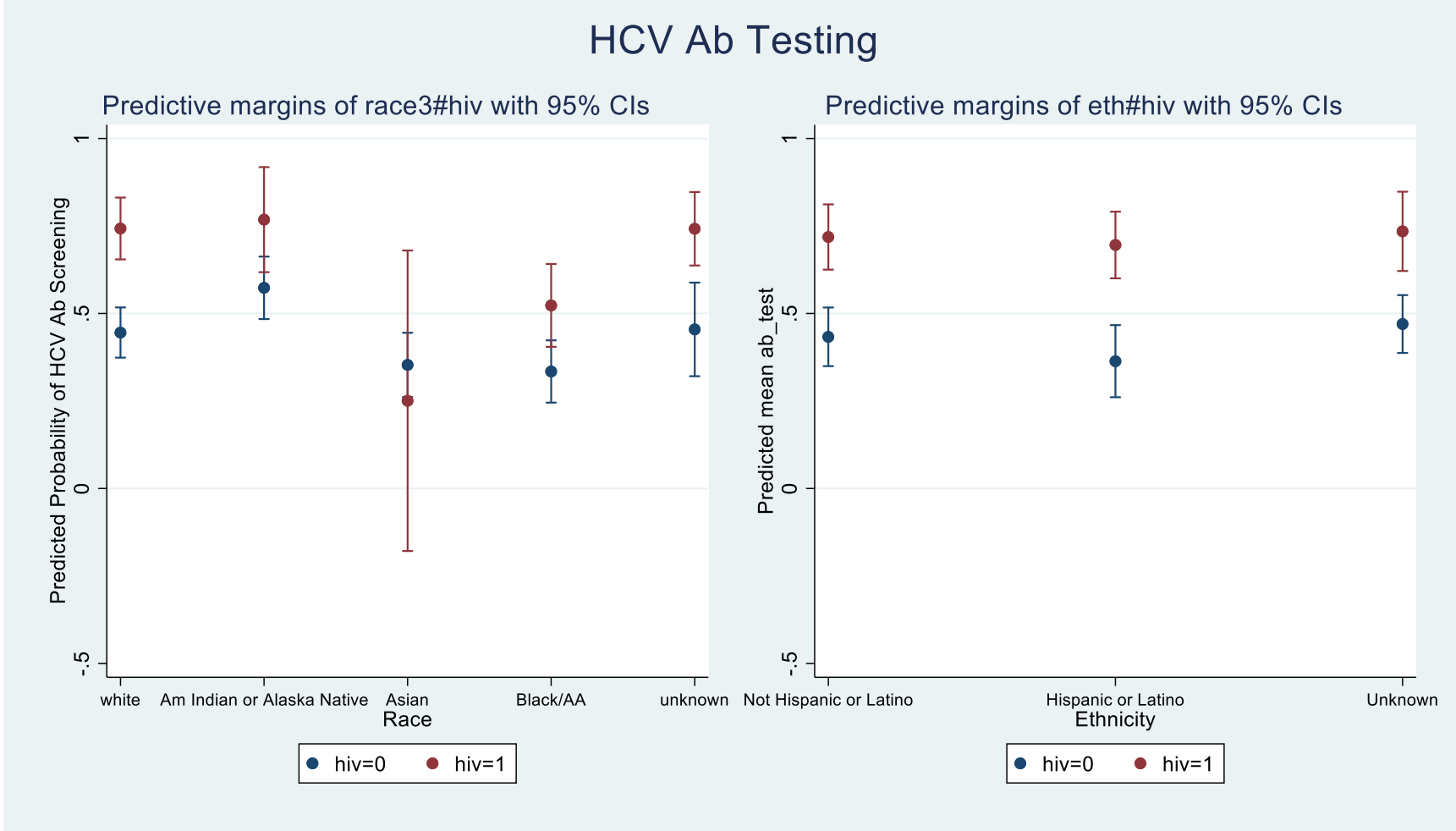


Figure 2b. Predicted Probability of HCV diagnosis (RNA positive) by Race and Ethnicity, interacted with HIV Status

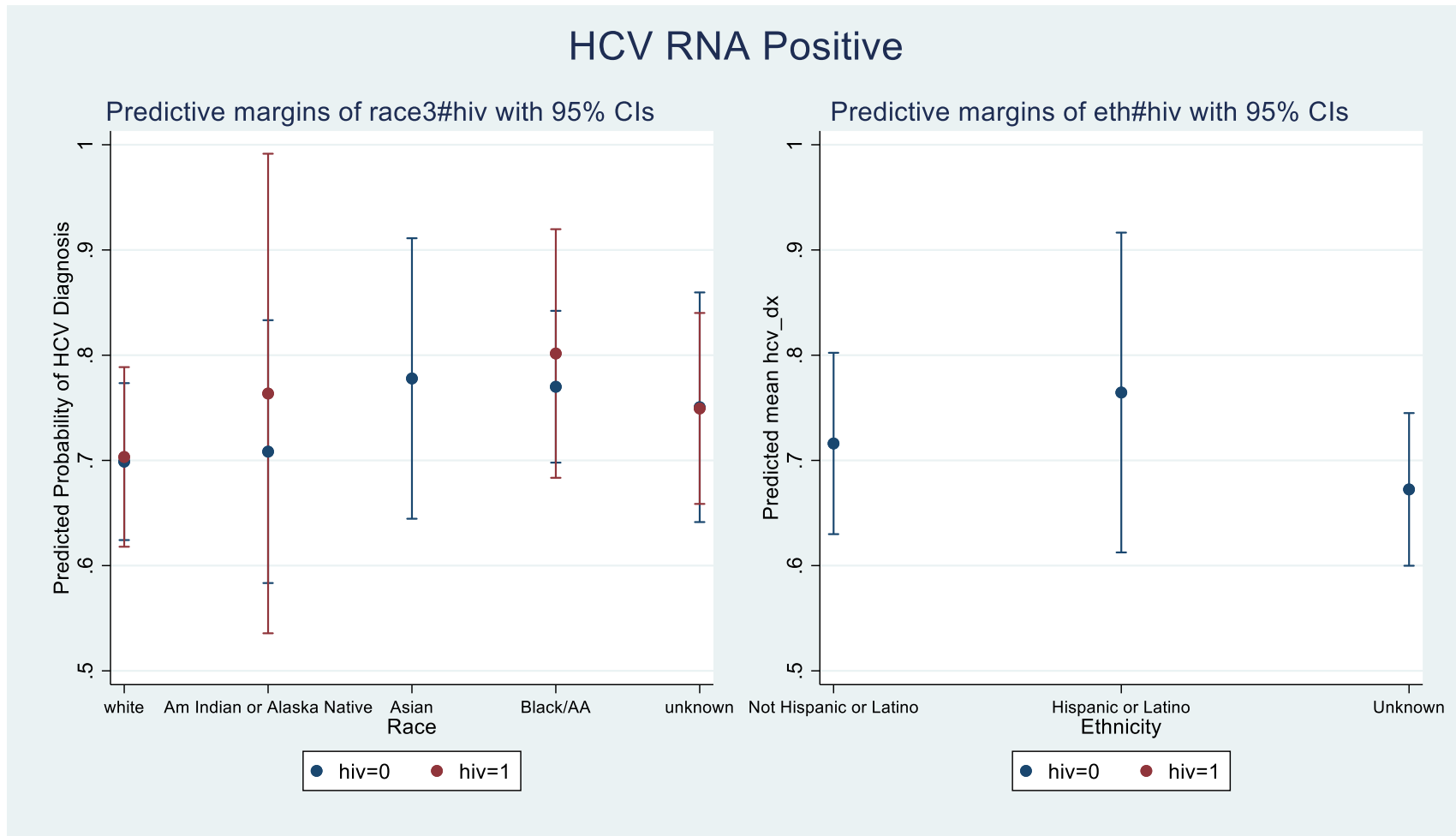


Figure 2c. Predicted Probability of Linkage to Care by Race and Ethnicity, interacted with HIV Status

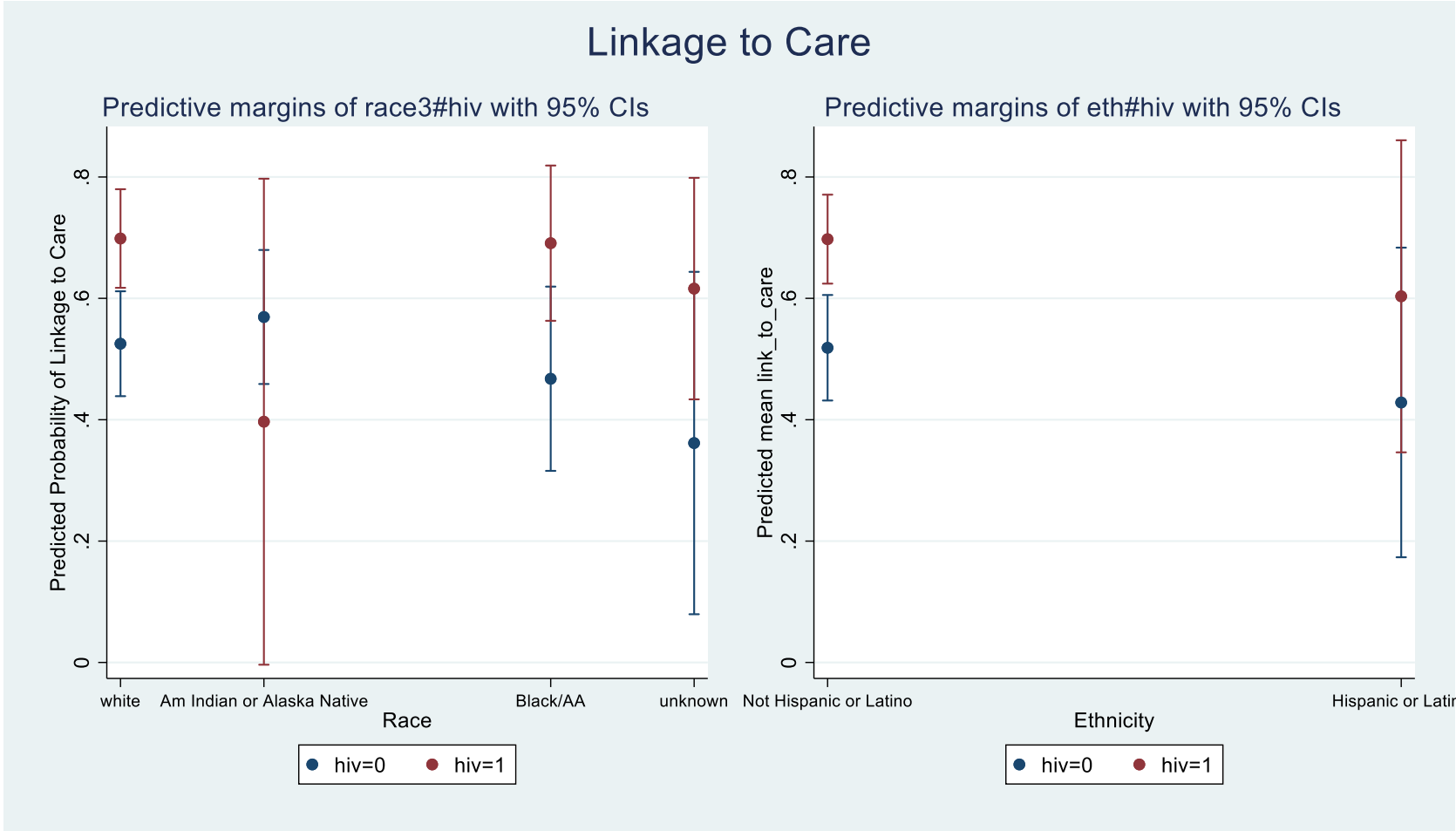
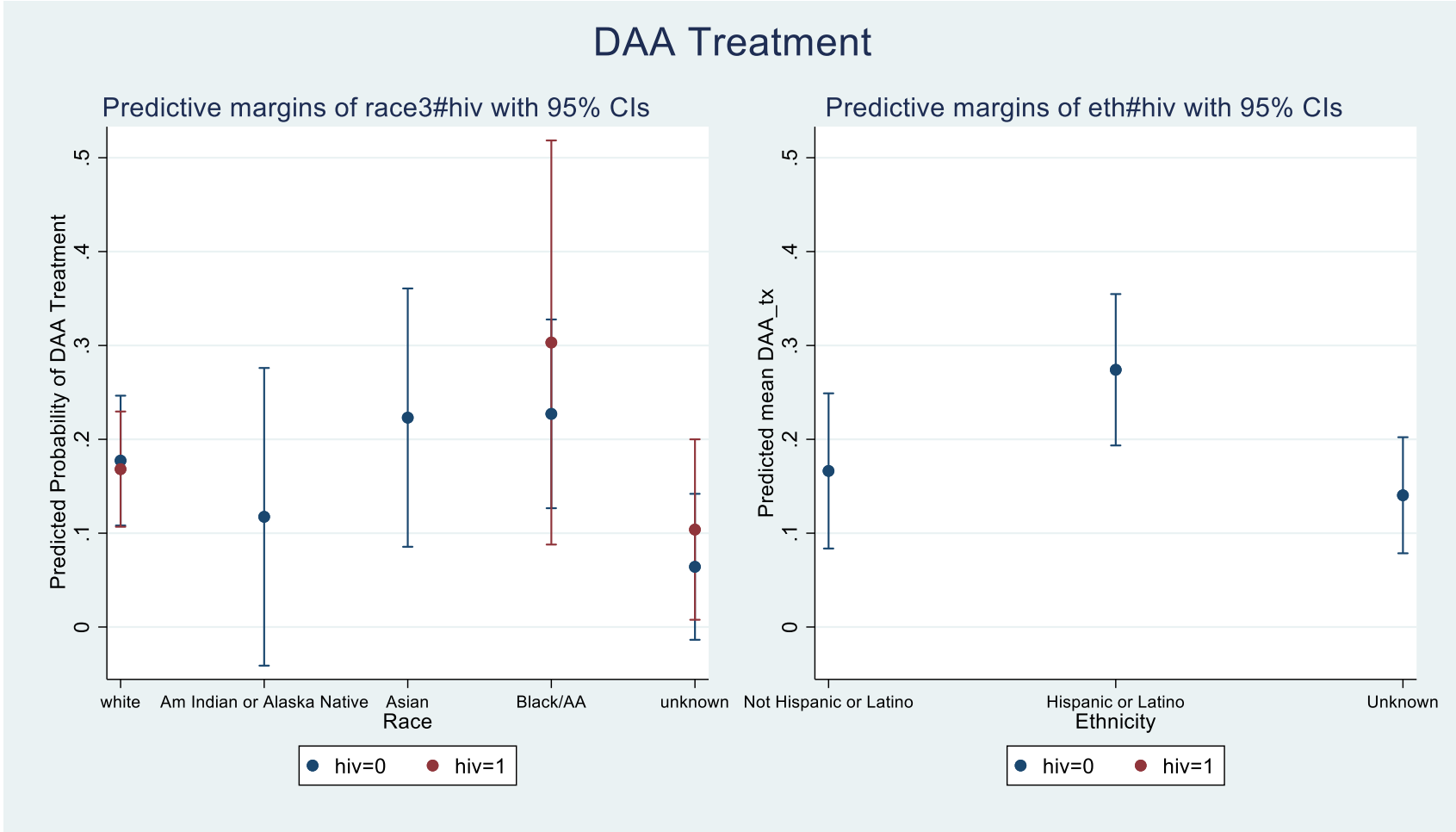
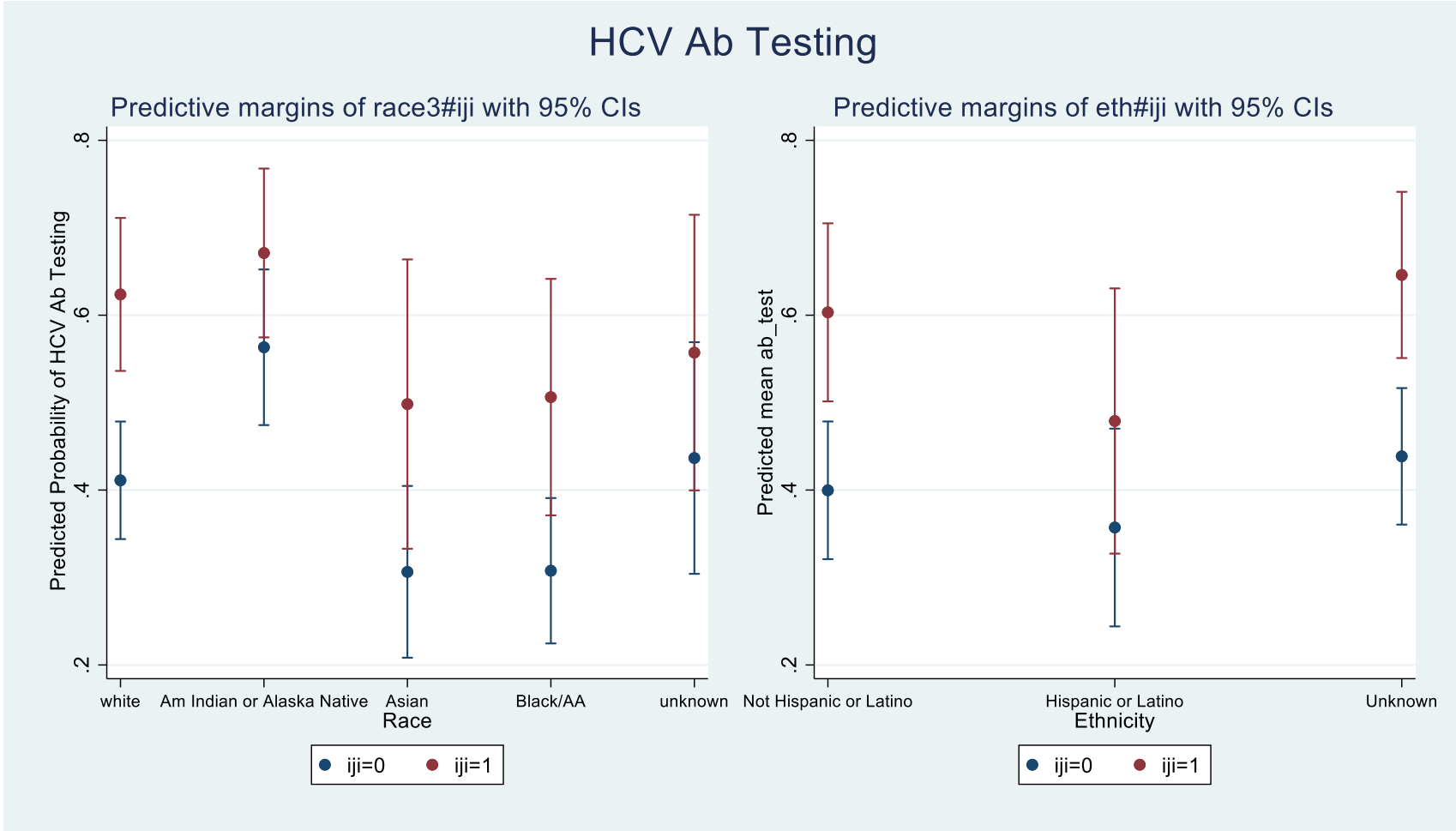


Figure 2d. Predicted Probability of DAA treatment by Race and Ethnicity, interacted with HIV Status



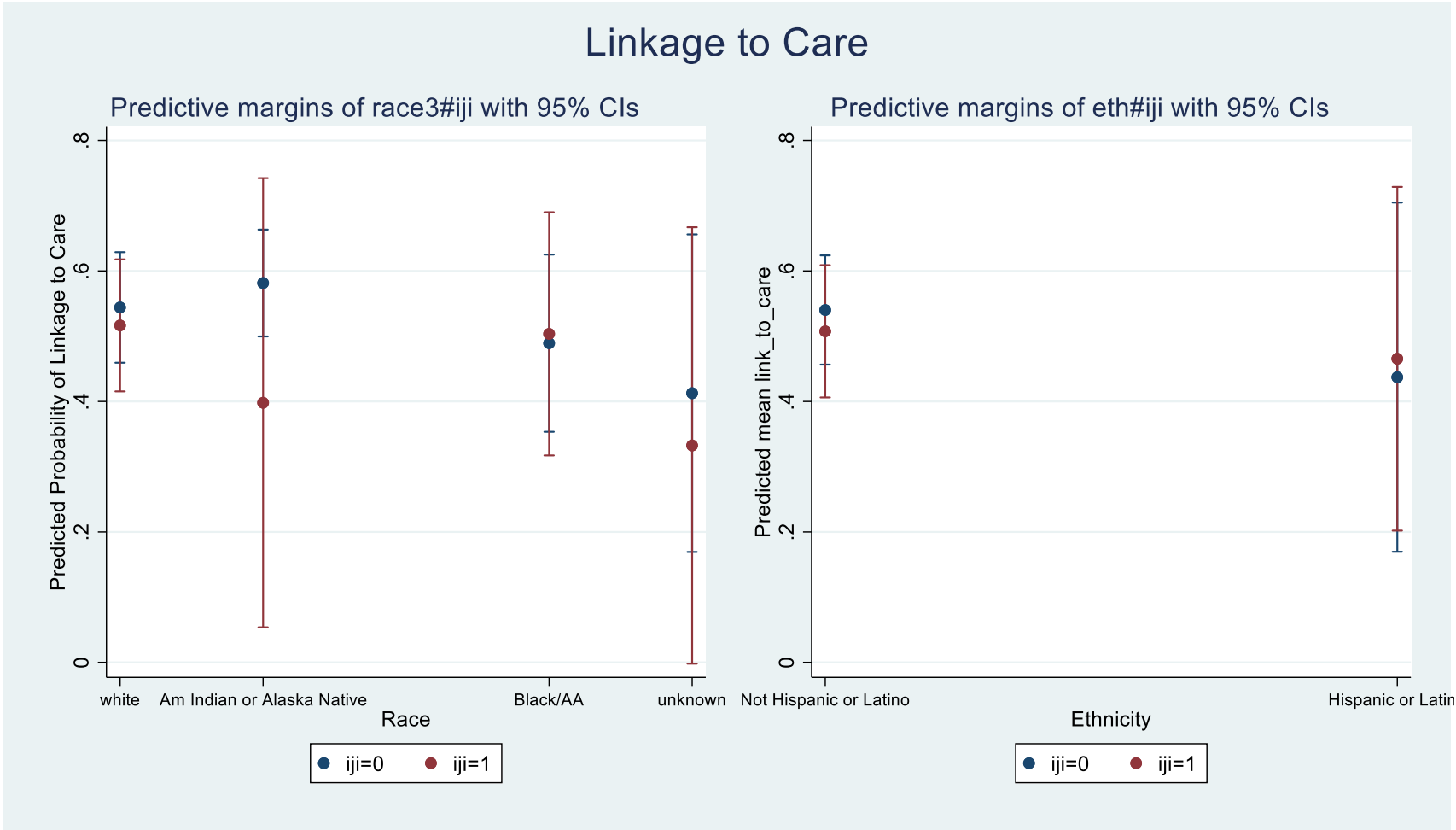
Legend text: The circles represent marginal effect (predicted probability) of each outcome, and the error bars represent 95% CIs.

Figure 3a. Predicted Probability of HCV antibody testing by Race and Ethnicity, interacted with Injection Drug-Related Infection (IDI)



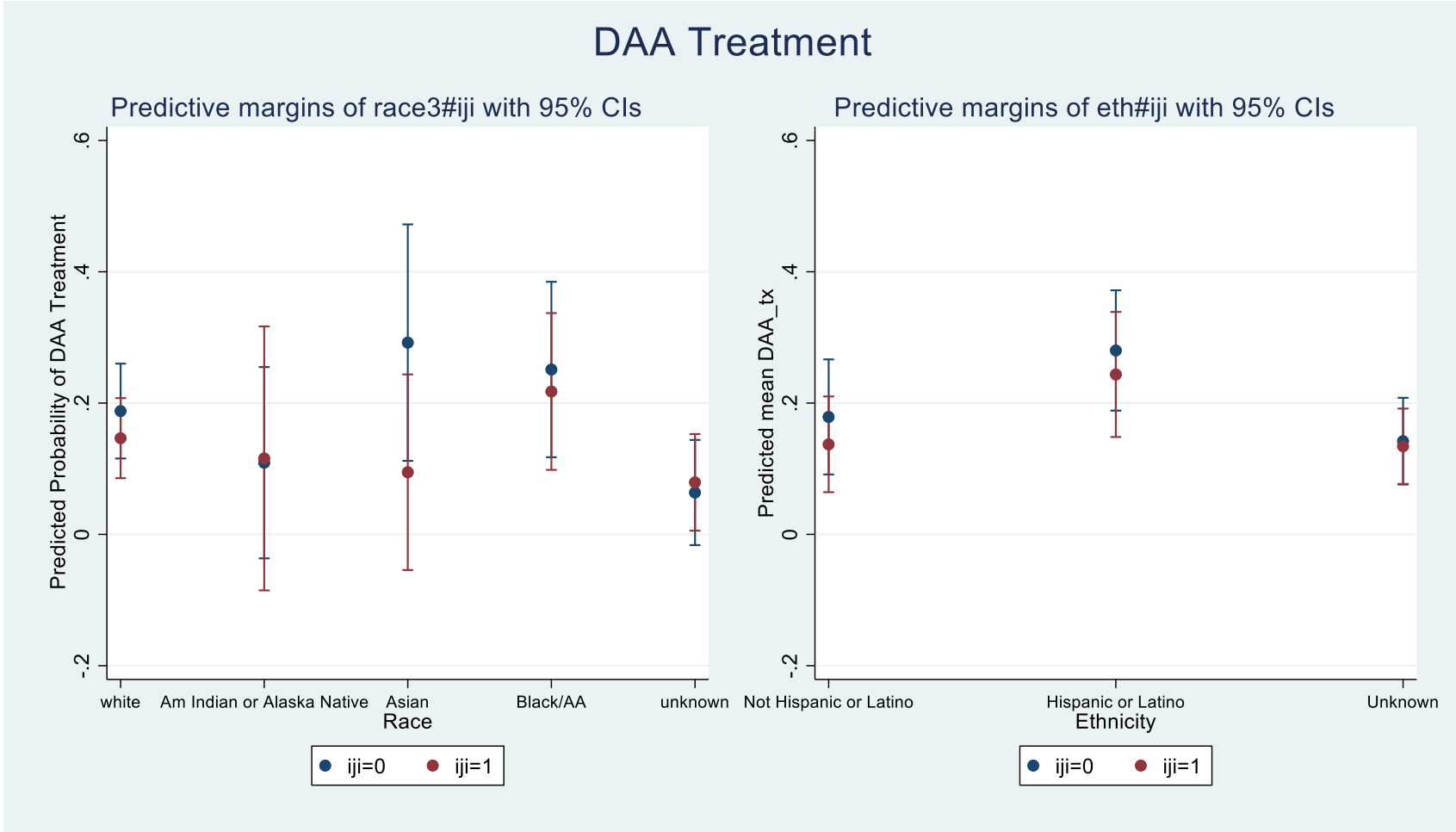
Abbreviations: *iji* =injection drug related infection

Figure 3b. Predicted Probability of Linkage to care by Race and Ethnicity, interacted with Injection Drug-Related Infection (IDI)



Abbreviations: iji =injection drug related infection

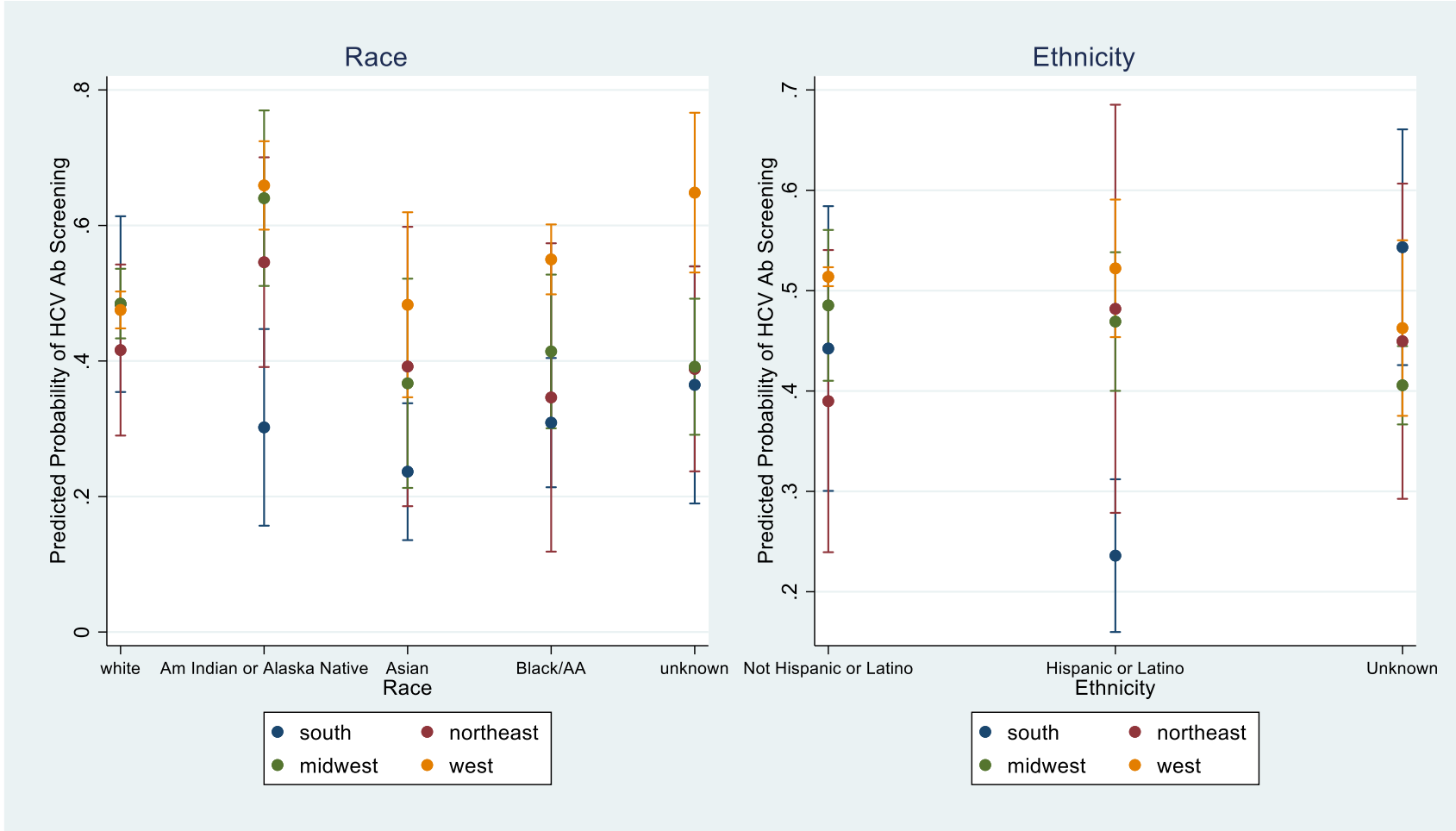
Figure 3c. Predicted Probability of DAA treatment by Race and Ethnicity, interacted with Injection Drug-Related Infection (IDI)



Legend text: The circles represent marginal effect (predicted probability) of each outcome, and the error bars represent 95% CIs.

Abbreviations: *iji* =injection drug related infection

Figure 4. Predicted Probability of HCV antibody testing by Race and Ethnicity, interacted with Region



Legend text: The circles represent marginal effect (predicted probability) of each outcome, and the error bars represent 95% CIs.