STATISTICAL ANALYSIS OF DEI DATA

Patient Satisfaction Survey Analysis

OCTOBER 27, 2023

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Report Overview

Based on Press Ganey's key driver report for the service line Outpatient Oncology, we analyzed eleven questions to evaluate discrepancies in patient satisfaction scores for different socio-economic groups. We looked at 12 months' worth of Press Ganey survey received during the period that began 10/1/2022 and ended 9/30/2023.

The eleven questions are:

1. Care providers' concern for your questions and worries
2. Care providers' discussion of your treatment options
3. Care providers' efforts to include you in decisions about your treatment
4. Caring manner of the nurses
5. Efforts to include you in decisions about your treatment
6. How well the care providers kept you informed about your condition
7. How well the staff worked together to care for you
8. Likelihood of your recommending this facility to others
9. Nurses answer to your questions
10. Staff's sensitivity to the difficulties that your condition and treatment can cause
11. Your trust in the skill of the care providers

Patient characteristics are:

1. Age Group with eight (8) levels
2. Race/Ethnicity with five (5) levels
3. Payer with six (6) levels and
4. Sex with two (2) levels

Summary Statistics:

# Questions	506271
# Surveys	54251
# Survey Questions	11
# Patients	29907

Race/Ethnicity	Female	Male	Total
Asian	215	89	304
Black	970	621	1591
Hispanic	1559	869	2428
Missing	416	355	771
More than one race/Other	103	66	169
White	12854	11790	24644
Total	**16117**	**13790**	**29907**

Age				
Min	Q1	Med	Q3	Max
18	61	69	75	106

Age Groups	Frequency
15-24	89
25-34	318
35-44	953
45-54	2548
55-64	6529
65-74	11437
75-84	7140
85+	893
Total	**29907**

Payor	Frequency
CHARITY	399
HMOPPO	9022
MEDICAID	515
MEDICARE	18862
OTHINS	860
SELFPAY	248
UNKNOWN	1
Total	**29907**

Interpretations

Odds ratios (OR) are used to compare the relative odds of the occurrence of top box score for the given patient characteristic (i.e., race, payer, sex, age group) when compared to the control group.

- Control group for race is White.
- Control group for age group is 65 – 74 years old
- Control group for payer is Medicare
- Control group for sex is female.

An odds ratio of 1 is associated with not affecting the odds of giving Top Box.

An odds ratio > 1 is associated with a higher likelihood of giving Top Box scores than the control group.

An odds ratio < 1 is associated with a lower likelihood of giving Top Box scores than the control group.

The 95% confidence interval (CI) is used to estimate the precision of the OR. A large CI indicates a low level of precision of the OR, whereas a small CI indicates a higher precision of the OR.

The p-value is used to report a measure of statistical significance. We use an alpha level of 0.05. Any p-value less than 0.05 is considered statistically significant for the purpose of our analysis.

In practice, the 95% CI is used as a proxy for the presence of statistical significance if does overlap the null value (OR = 1). It is inappropriate to interpret an OR that spans the null value as evidence of the lack of association.

Summary Table of Odds Ratios and p-values

Characteristic	Levels	Care providers' concern for your questions and worries	Care providers' discussion of your treatment options	Caring manner of the nurses	CP efforts to include you in decisions about your treatment	Efforts to include you in decisions about your treatment
Age Group (control: 65- 74 year olds)	15-24					
	25-34		0.58 (p= 0.04)			0.58 (p= 0.04)
	35-44	0.57 (p= 0)	0.61 (p= 0)		0.57 (p= 0)	
	45-54	0.55 (p= 0)	0.64 (p= 0)		0.71 (p= 0.01)	0.71 (p= 0.01)
	55-64	0.78 (p= 0.01)				
	75-84					
	85+					
Payor (control: Medicare)	CHARITY					
	HMOPPO	1.24 (p= 0.02)	1.19 (p= 0.05)		1.24 (p= 0.02)	1.46 (p= 0)
	MEDICAID					
	OTHINS					
	SELFPAY					
Race/Ethnicity (control: White Non-Hispanic)	Asian	0.63 (p= 0.05)		0.54 (p= 0.01)		0.62 (p= 0.05)
	Black	0.79 (p= 0.04)	0.78 (p= 0.02)	0.69 (p= 0)		0.68 (p= 0)
	Hispanic		1.22 (p= 0.04)			
	More than one race/Other	0.5 (p= 0.02)	0.38 (p= 0)	0.32 (p= 0)	0.48 (p= 0.02)	0.37 (p= 0)
Sex (control: Female)	Male					

| How well the care providers kept you informed about your condition	How well the staff worked together to care for you	Likelihood of your recommending this facility to others	Nurses answer to your questions	Staff's sensitivity to the difficulties that your condition and treatment can cause	Your trust in the skill of the care providers
0.4 (p=0.05)		0.09 (p=0)		0.3 (p=0.01)	
0.56 (p=0.03)	0.52 (p=0.02)				
0.55 (p=0)	0.67 (p=0.02)				0.43 (p=0)
0.61 (p=0)	0.78 (p=0.04)	1.97 (p=0.01)			0.57 (p=0)
0.83 (p=0.05)	0.8 (p=0.02)	1.26 (p=0)			0.79 (p=0.02)
		1.69 (p=0)			
		3.9 (p=0.02)			
1.22 (p=0.03)	1.29 (p=0.01)	0.57 (p=0)		1.32 (p=0)	1.23 (p=0.04)
		0.17 (p=0)			
	0.56 (p=0.02)	0.16 (p=0)			0.52 (p=0.01)
	0.69 (p=0)		0.64 (p=0)	0.67 (p=0)	0.63 (p=0)
0.41 (p=0)	0.25 (p=0)	0.05 (p=0)	0.5 (p=0.02)	0.43 (p=0.01)	0.33 (p=0)
					1.15 (p=0.02)

Care providers' concern for your questions and worries

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.50	(0.19, 1.28)	0.15
	25-34	0.62	(0.37, 1.06)	0.08
	35-44	**0.57**	**(0.41, 0.79)**	**0.00***
	45-54	**0.55**	**(0.44, 0.7)**	**0.00***
	55-64	**0.78**	**(0.65, 0.94)**	**0.01***
	75-84	0.94	(0.83, 1.08)	0.38
	85+	0.78	(0.58, 1.05)	0.10
Payer	Charity	1.04	(0.67, 1.64)	0.85
	HMOPPO	**1.24**	**(1.04, 1.49)**	**0.02***
	Medicaid	0.79	(0.53, 1.17)	0.24
	Other Insurance	0.82	(0.61, 1.11)	0.20
	Self-Pay	0.71	(0.42, 1.23)	0.22
Race/Ethnicity	**Asian**	**0.63**	**(0.39, 0.99)**	**0.05***
	Black	**0.79**	**(0.64, 0.99)**	**0.04***
	Hispanic	1.13	(0.93, 1.37)	0.22
	More than one race/Other	**0.50**	**(0.27, 0.91)**	**0.02***
Sex	Male	0.95	(0.86, 1.06)	0.35

*Statistically significant at 0.05 level

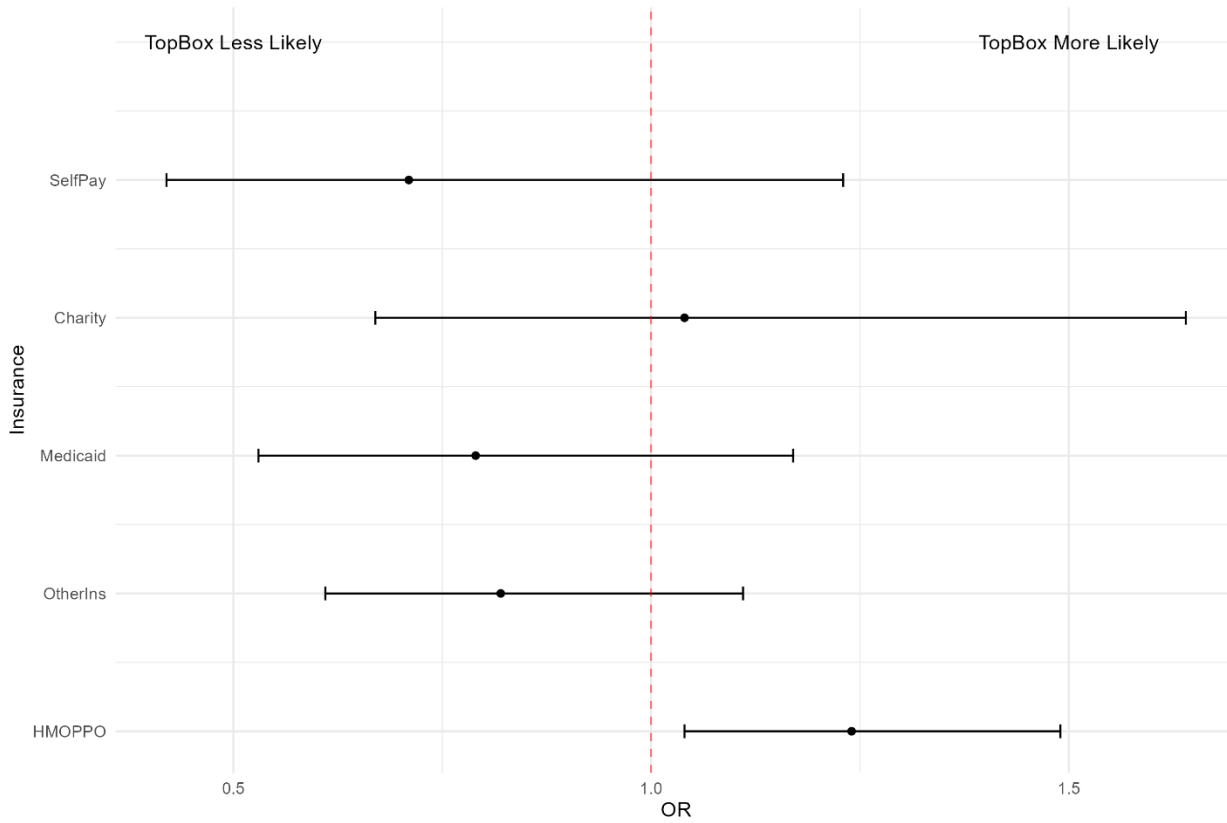## "CP concern for your questions and worries" by Age Group
Comparison Group: 65-74 yr olds
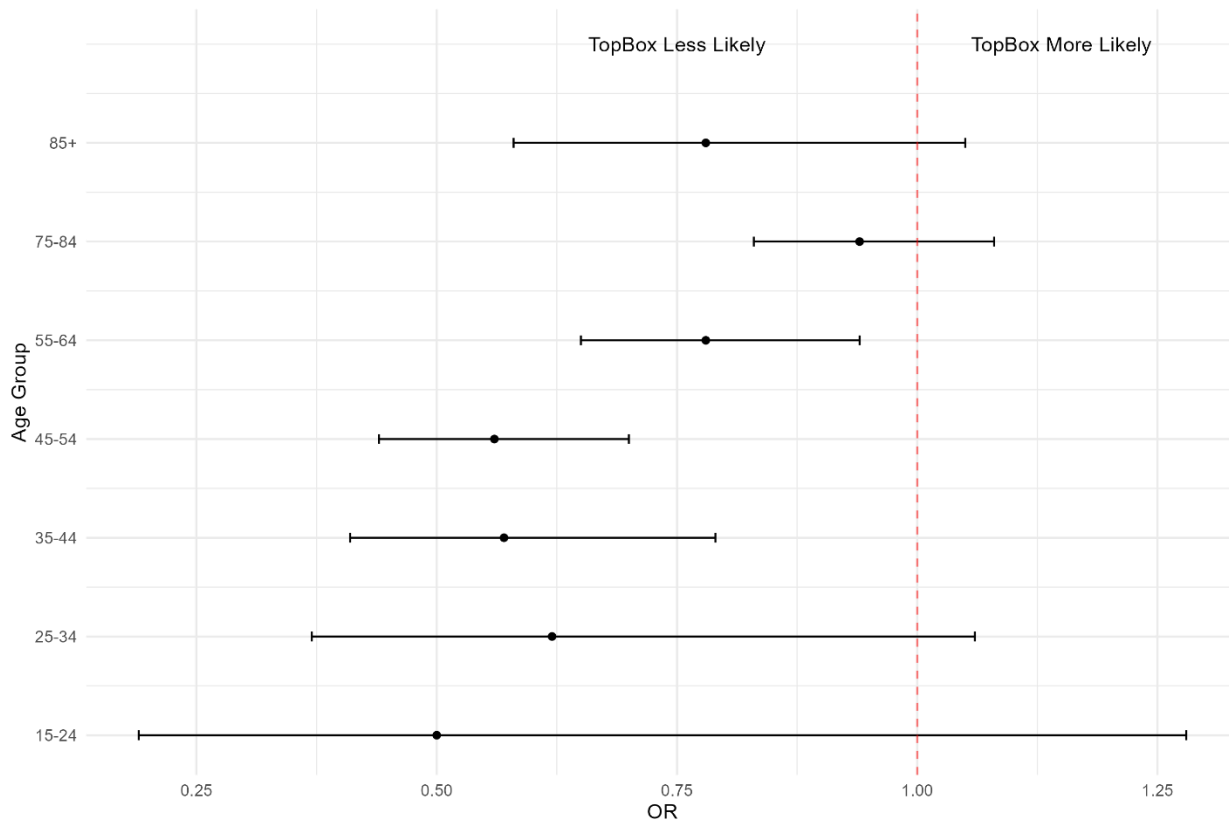
While all age groups have less likelihood of giving Top Box than those in the 65–74-year-old comparison group, the only groups that have a statistically significant difference at the 0.05 level are 35-64 year old age groups.

"CP concern for your questions and worries" by Payer
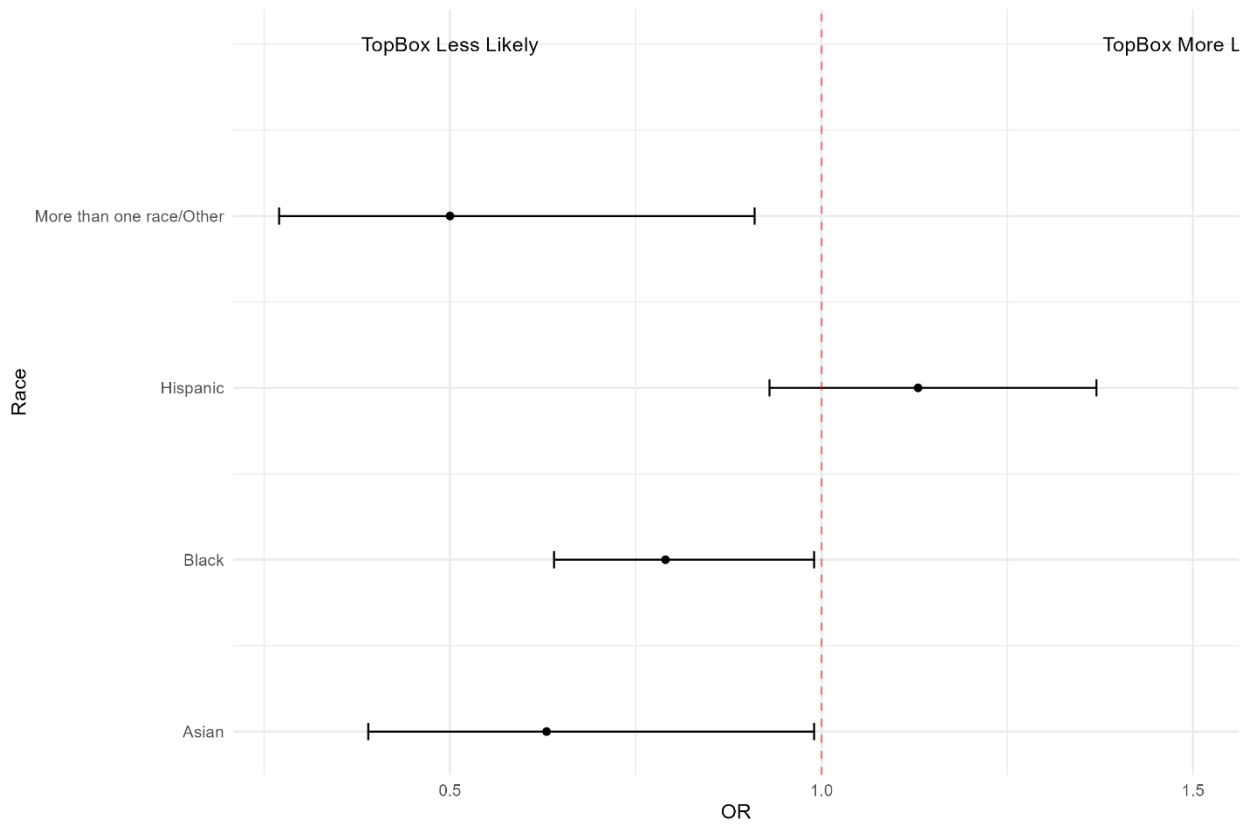Comparison Group: Medicare

There are no statistically significant difference among payer groups except HMOPPO.

HMOPPO groups are approx.. 1.25 times as likely to give TopBox than the Medicare groups.

"CP concern for your questions and worries" by Race
Comparison Group: White

All racial and ethnic groups, except Hispanic, have a lower likelihood of giving Top Box than White,Non-Hispanic patients.
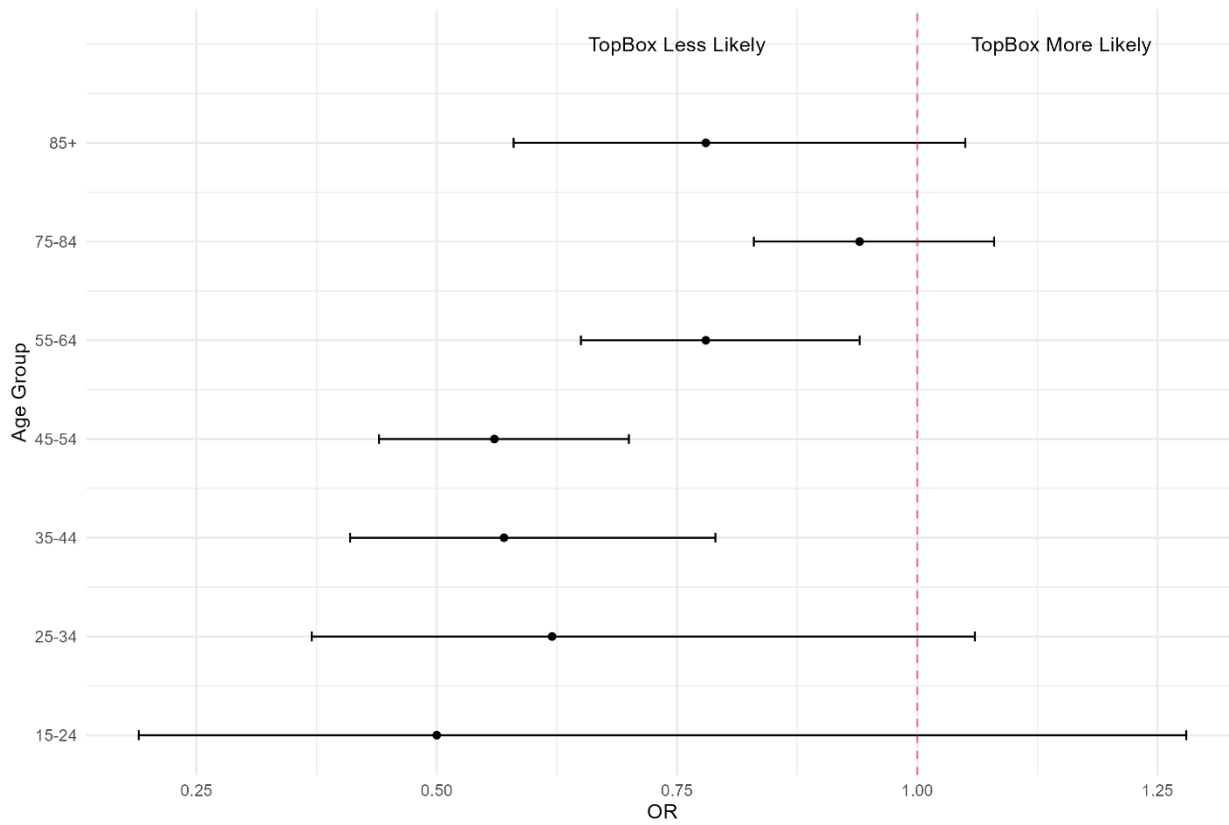
Care providers' discussion of your treatment options

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.50	(0.2, 1.25)	0.14
	25-34	0.58	(0.35, 0.97)	0.04*
	35-44	0.61	(0.44, 0.84)	0.00*
	45-54	0.64	(0.51, 0.81)	0.00*
	55-64	0.85	(0.71, 1.02)	0.09
	75-84	0.94	(0.83, 1.07)	0.32
	85+	0.95	(0.71, 1.28)	0.73
Payor	Charity	1.25	(0.79, 1.95)	0.34
	HMOPPO	1.19	(1, 1.42)	0.05*
	Medicaid	0.87	(0.58, 1.28)	0.48
	Other Insurance	1.00	(0.74, 1.34)	0.99
	Self-Pay	0.70	(0.41, 1.19)	0.18
Race/Ethnicity	Asian	0.67	(0.43, 1.06)	0.09
	Black	0.78	(0.63, 0.96)	0.02*
	Hispanic	1.22	(1.01, 1.48)	0.04*
	More than one race/Other	0.38	(0.22, 0.68)	0.00*
Sex	Male	0.97	(0.88, 1.07)	0.58

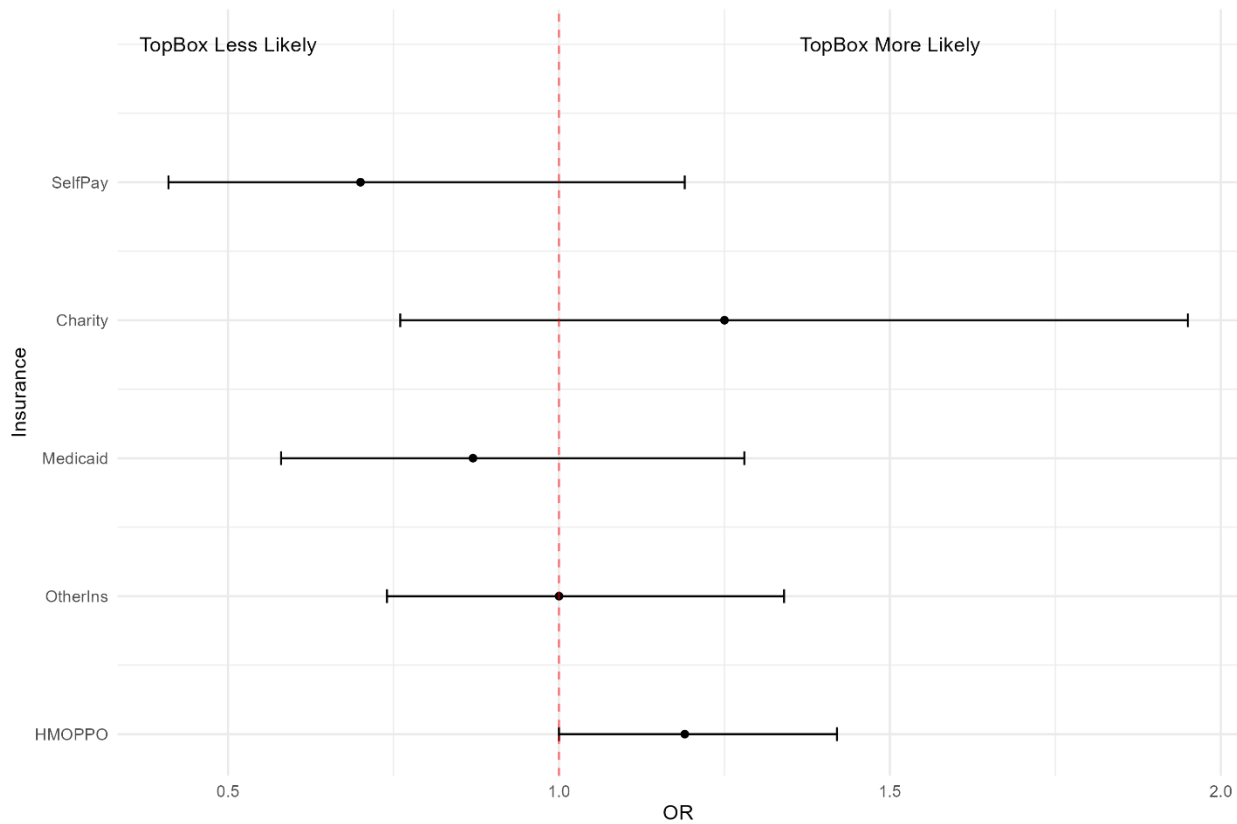*Statistically significant at 0.05 level

"CP discussion of your treatment options" by Age Group
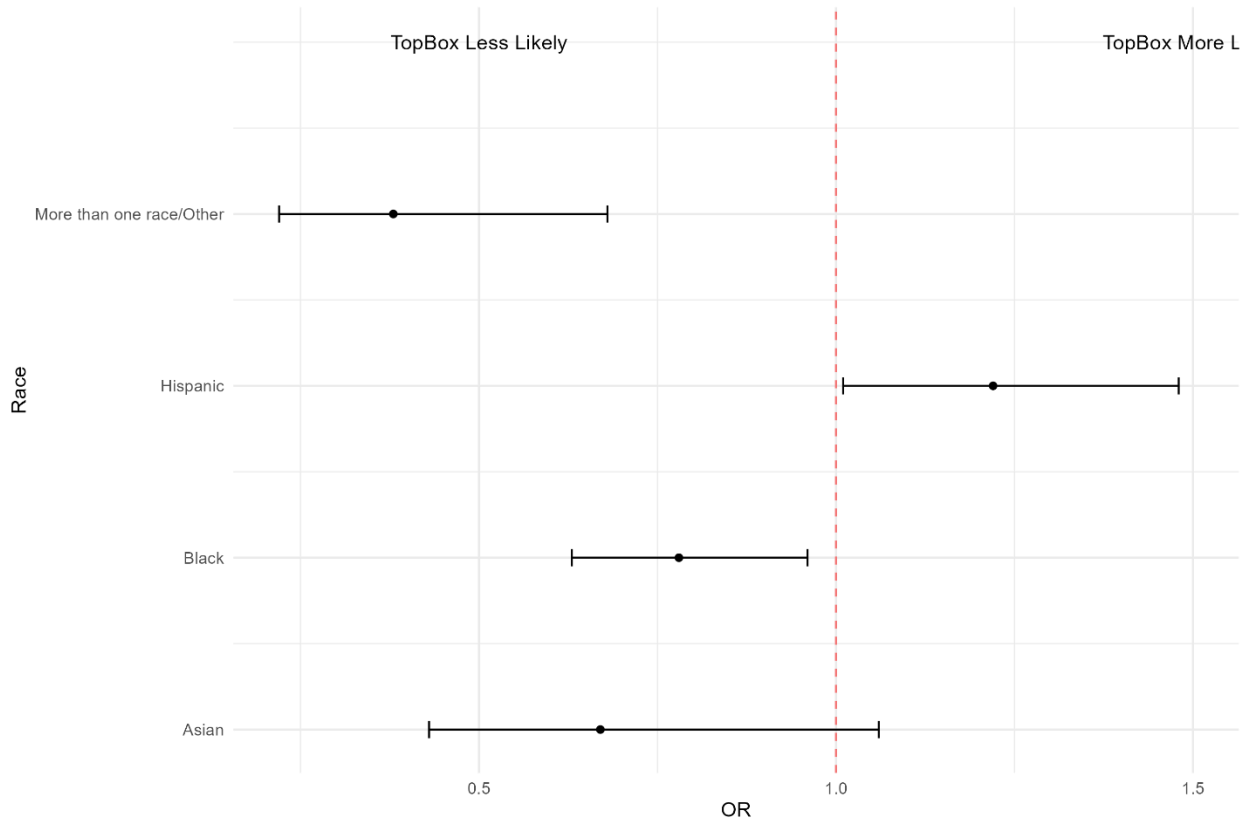Comparison Group: 65-74 yr olds

"CP discussion of your treatment options" by Payer
Comparison Group: Medicare

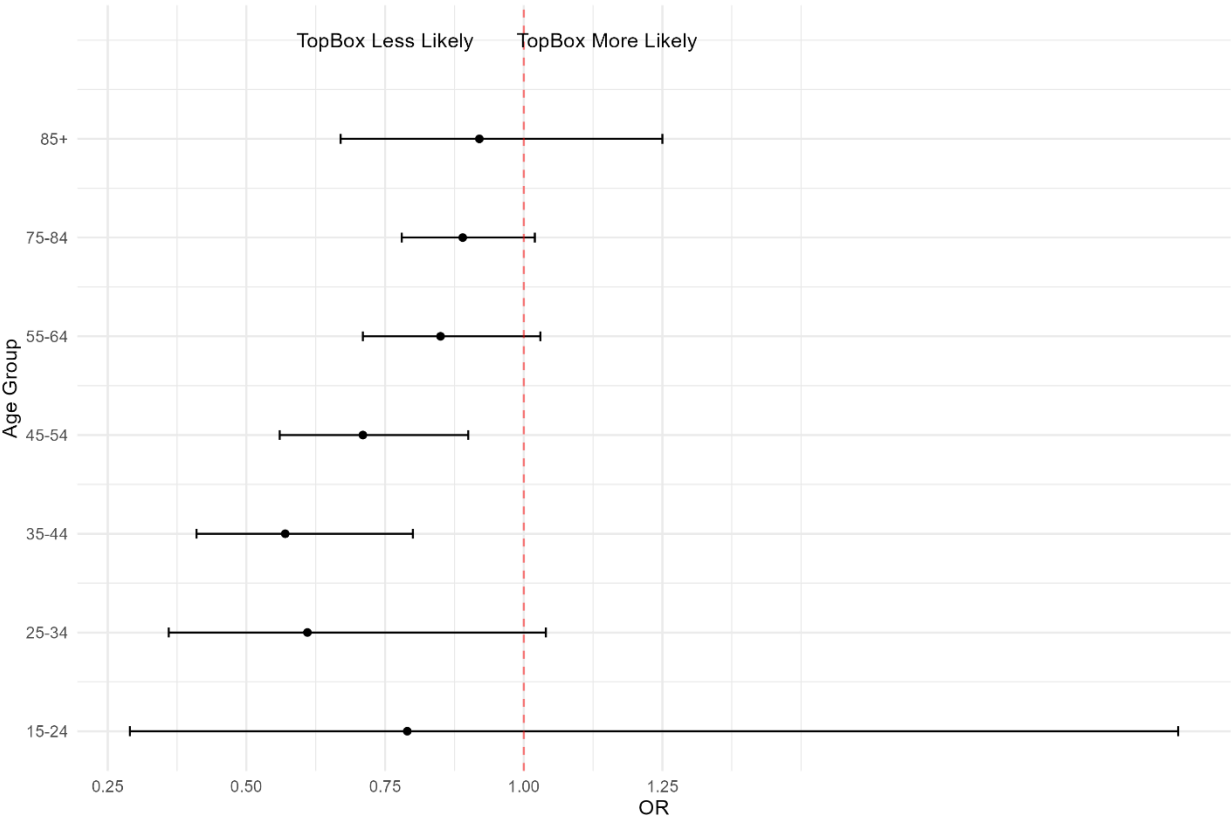"CP discussion of your treatment options" by Race
Comparison Group: White

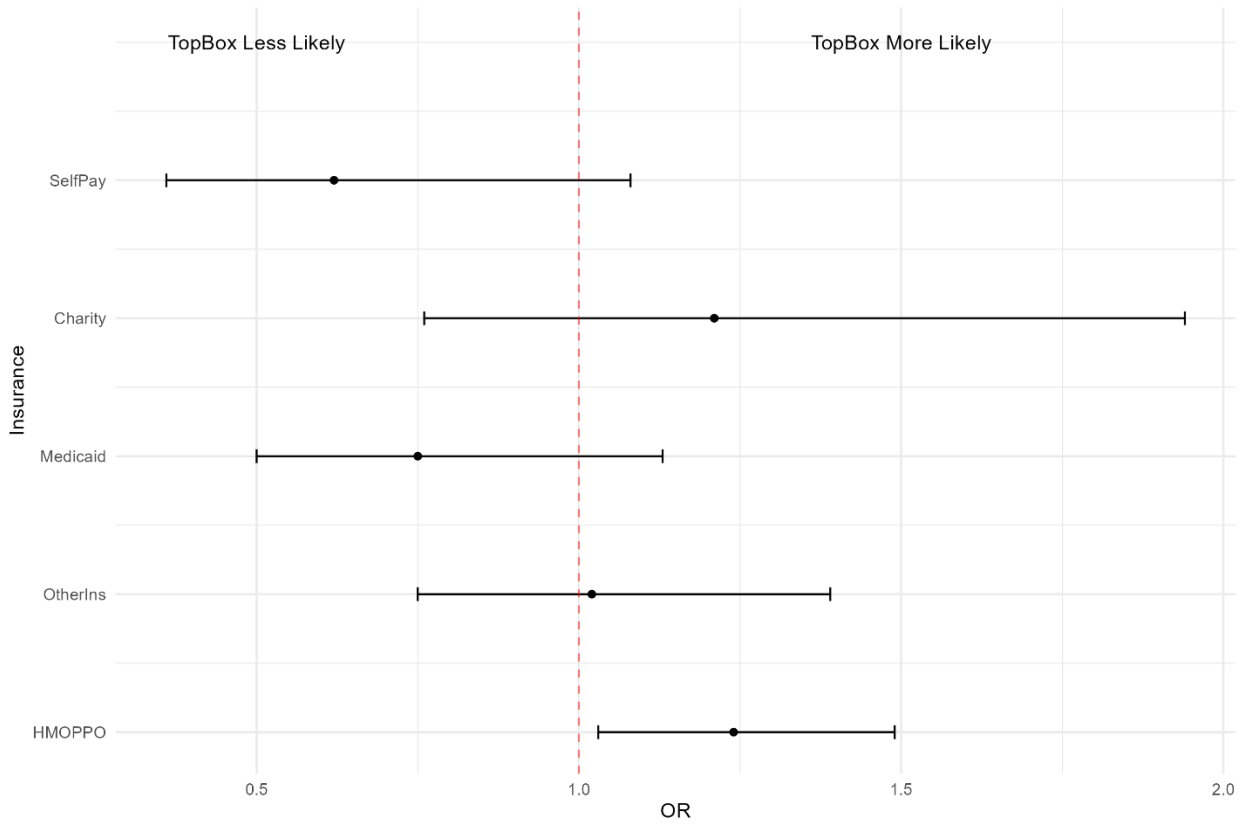## CP efforts to include you in decisions about your treatment

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.79	(0.29, 2.18)	0.65
	25-34	0.61	(0.36, 1.04)	0.07
	35-44	**0.57**	**(0.41, 0.8)**	**0.00***
	45-54	**0.71**	**(0.56, 0.9)**	**0.01***
	55-64	0.85	(0.71, 1.03)	0.10
	75-84	0.89	(0.78, 1.02)	0.09
	85+	0.92	(0.67, 1.25)	0.58
Payor	Charity	1.21	(0.76, 1.94)	0.43
	HMOPPO	**1.24**	**(1.03, 1.49)**	**0.02***
	Medicaid	0.75	(0.5, 1.13)	0.17
	Other Insurance	1.02	(0.75, 1.39)	0.88
	Self-Pay	0.62	(0.36, 1.08)	0.09
Race/Ethnicity	Asian	0.68	(0.43, 1.1)	0.11
	Black	0.87	(0.7, 1.09)	0.22
	Hispanic	1.20	(0.99, 1.46)	0.07
	More than one race/Other	**0.48**	**(0.26, 0.89)**	**0.02***
Sex	Male	0.96	(0.87, 1.07)	0.47

"CP efforts to include you in decisions about your treatment" by Age Group
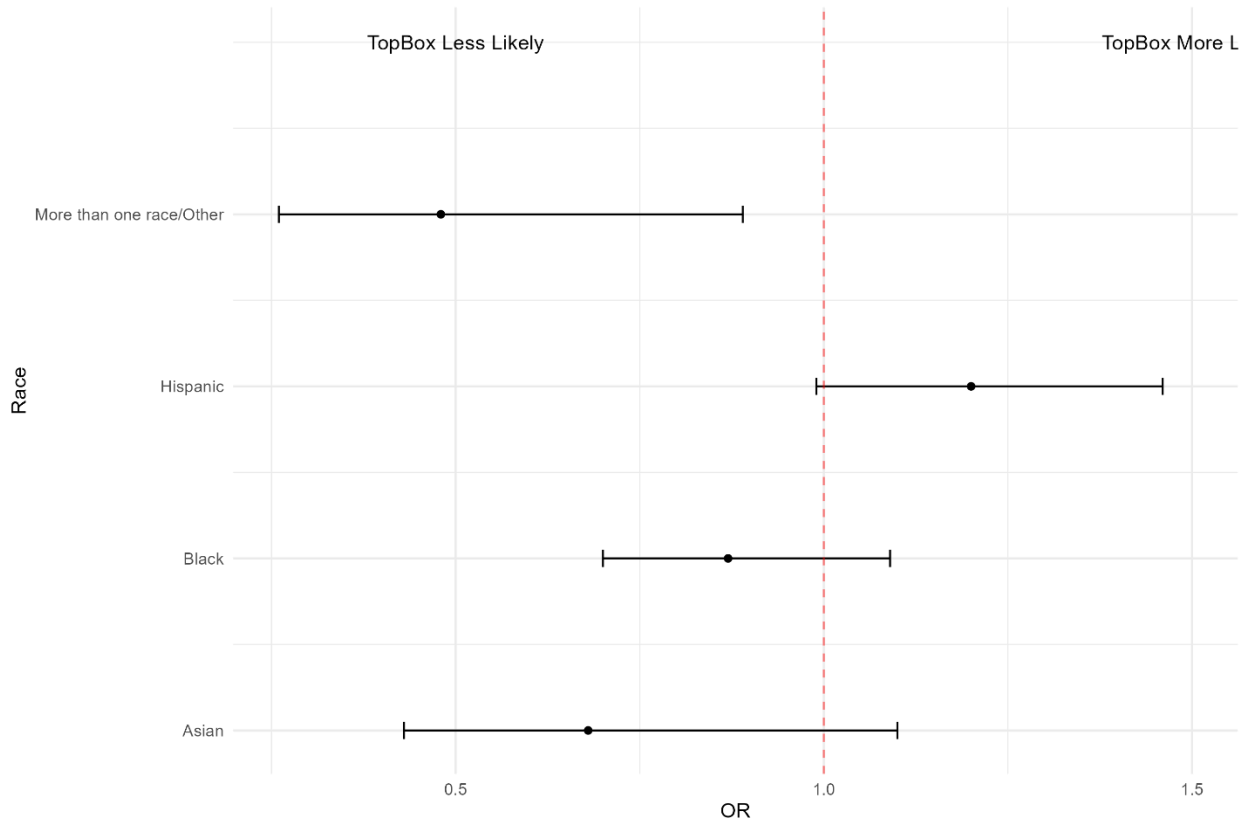Comparison Group: 65-74 yr olds

"CP efforts to include you in decisions about your treatment" by Payer
Comparison Group: Medicare

"CP efforts to include you in decisions about your treatment" by Race
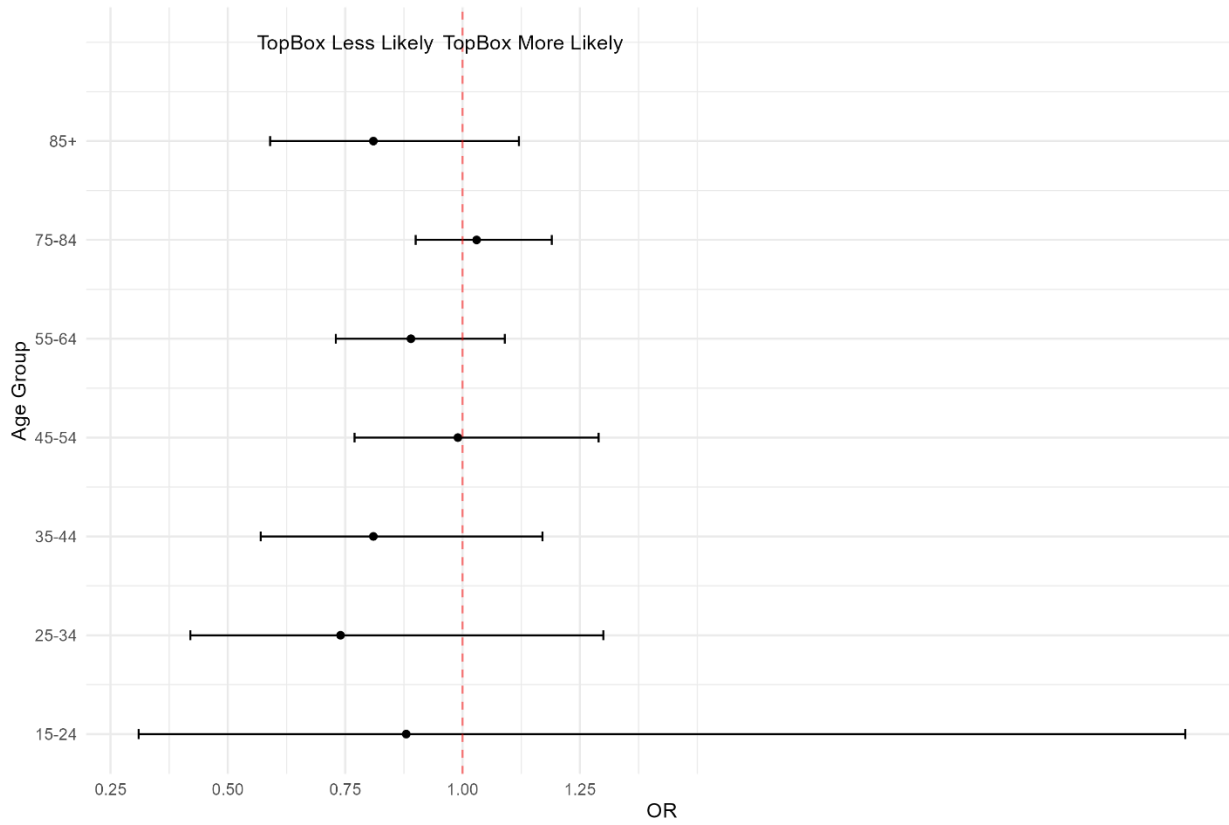Comparison Group: White

Caring manner of the nurses

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.88	(0.31, 2.54)	0.81
	25-34	0.74	(0.42, 1.3)	0.29
	35-44	0.81	(0.57, 1.17)	0.26
	45-54	0.99	(0.77, 1.29)	0.95
	55-64	0.89	(0.73, 1.09)	0.25
	75-84	1.03	(0.9, 1.19)	0.67
	85+	0.81	(0.59, 1.12)	0.21
Payor	Charity	1.36	(0.82, 2.24)	0.23
	HMOPPO	1.14	(0.94, 1.38)	0.20
	Medicaid	0.82	(0.53, 1.26)	0.37
	Other Insurance	0.88	(0.64, 1.22)	0.45
	Self-Pay	0.63	(0.36, 1.13)	0.12
Race/Ethnicity	Asian	0.54	(0.33, 0.88)	0.01*
	Black	0.69	(0.55, 0.87)	0.00*
	Hispanic	0.95	(0.77, 1.16)	0.58
	More than one race/Other	0.32	(0.17, 0.59)	0.00*
Sex	Male	1.06	(0.95, 1.19)	0.30

*Statistically significant at 0.05 level

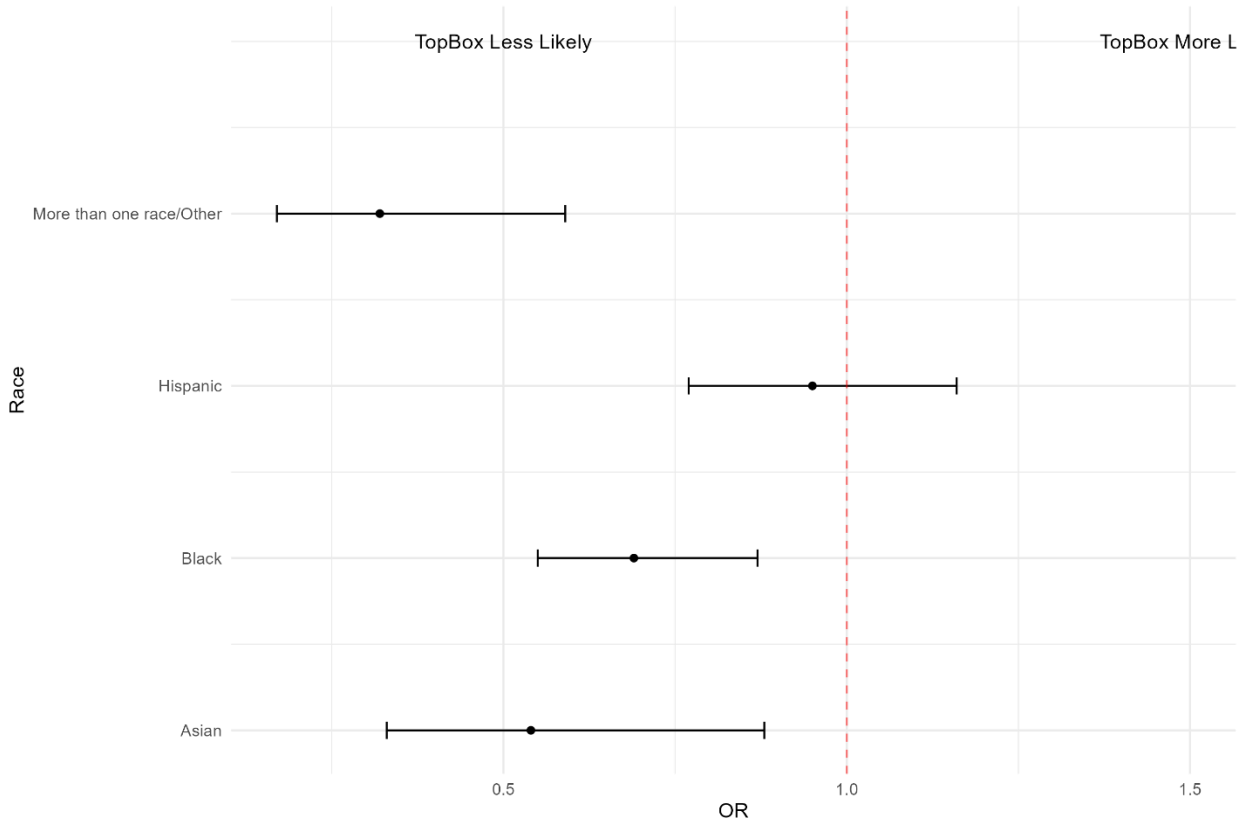"Caring manner of the nurses" by Age Group
Comparison Group: 65-74 yr olds

TopBox Less Likely   TopBox More Likely

"Caring manner of the nurses" by Payer
Comparison Group: Medicare

TopBox Less Likely   TopBox More Likely

SelfPay

Charity

Medicaid

OtherIns

HMOPPO

Insurance

0.5   1.0   1.5   2.0

OR
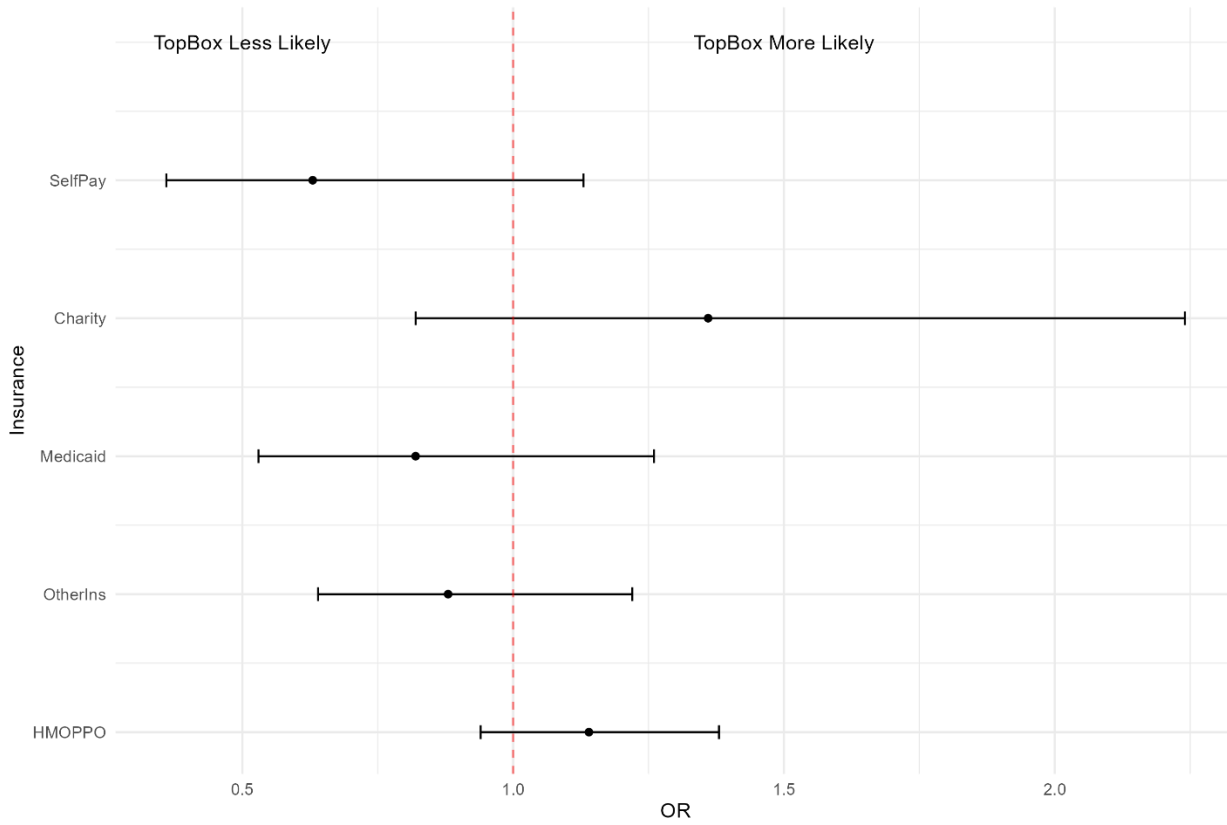
"Caring manner of the nurses" by Race
Comparison Group: White

TopBox Less Likely   TopBox More L

More than one race/Other

Hispanic

Black

Asian

Race

0.5   1.0   1.5

OR

Efforts to include you in decisions about your treatment

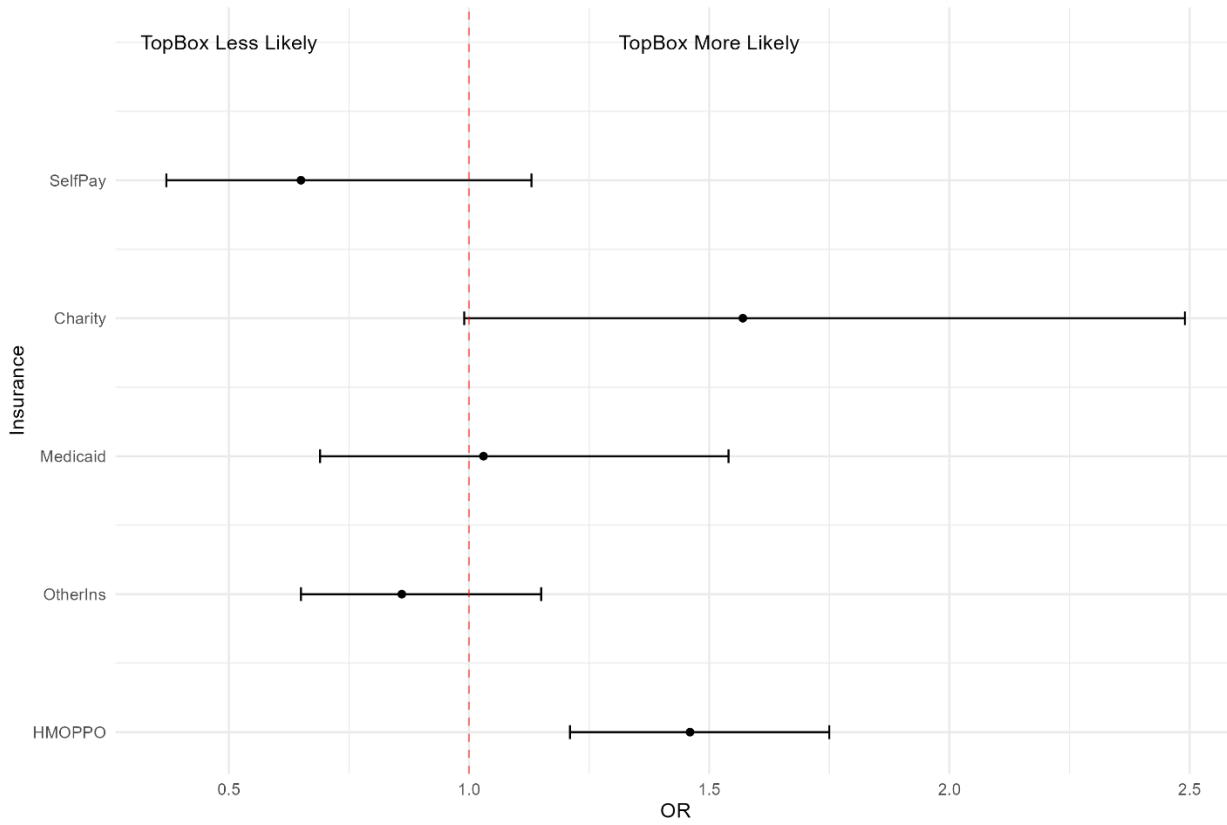| Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.43	(0.17, 1.08)	0.07
	25-34	**0.58**	**(0.35, 0.98)**	**0.04***
	35-44	0.80	(0.57, 1.12)	0.20
	45-54	**0.71**	**(0.56, 0.91)**	**0.01***
	55-64	0.84	(0.69, 1.01)	0.07
	75-84	1.03	(0.9, 1.18)	0.68
	85+	1.12	(0.82, 1.53)	0.48
Payor	Charity	1.57	(0.99, 2.49)	0.06
	HMOPPO	**1.46**	**(1.21, 1.75)**	**0.00***
	Medicaid	1.03	(0.69, 1.54)	0.89
	Other Insurance	0.86	(0.65, 1.15)	0.31
	Self-Pay	0.65	(0.37, 1.13)	0.13
Race/Ethnicity	**Asian**	**0.62**	**(0.38, 1)**	**0.05***
	Black	**0.68**	**(0.55, 0.85)**	**0.00***
	Hispanic	1.00	(0.83, 1.21)	0.98
	More than one race/Other	**0.37**	**(0.2, 0.67)**	**0.00***
Sex	Male	0.99	(0.89, 1.1)	0.88

*Statistically significant at 0.05 level

"Efforts to include you in decisions about your treatment" by Age Group
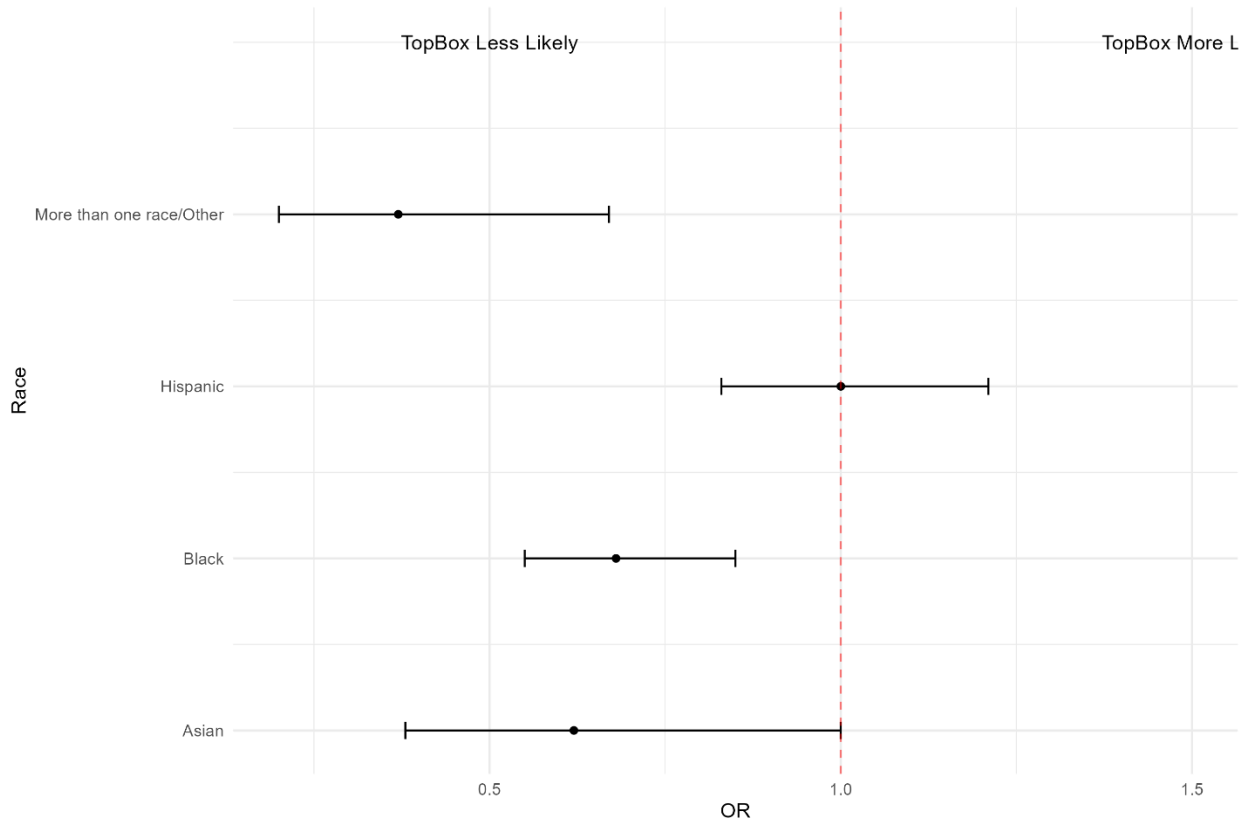Comparison Group: 65-74 yr olds
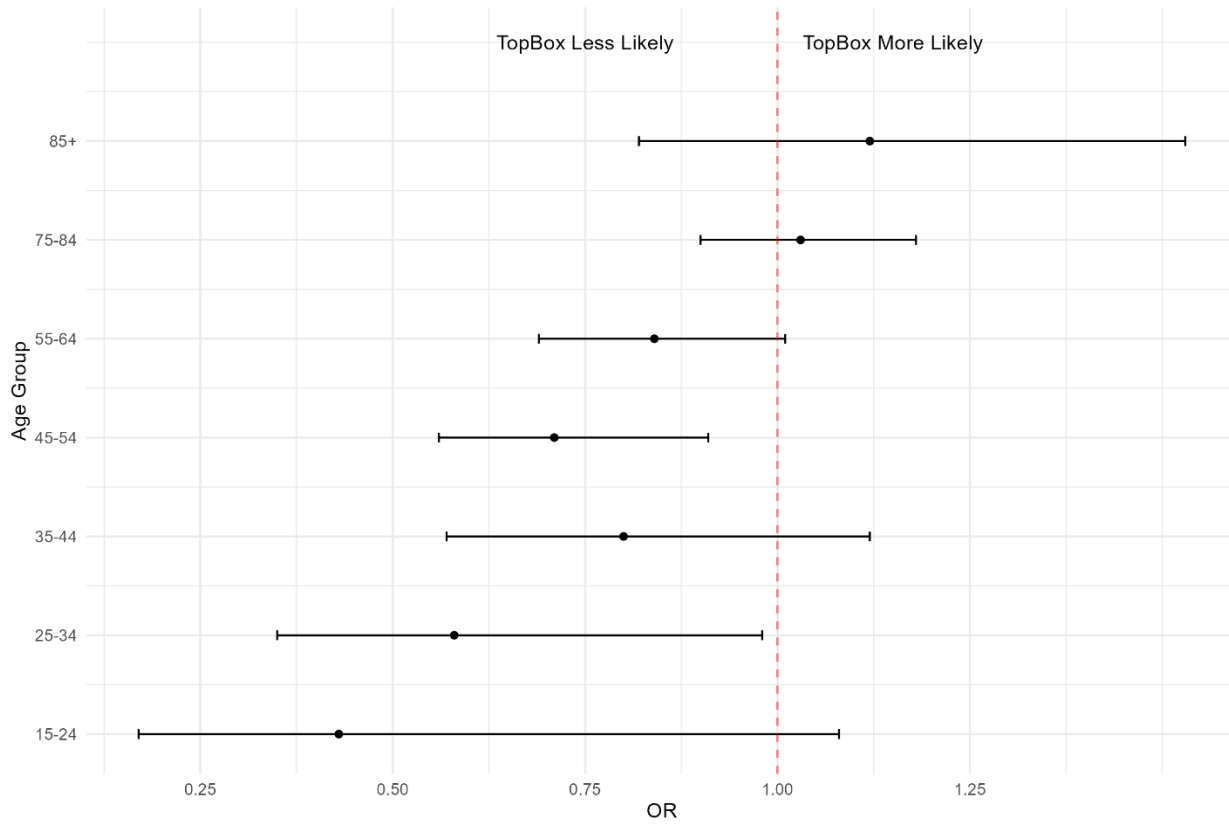
"Efforts to include you in decisions about your treatment" by Payer
Comparison Group: Medicare

"Efforts to include you in decisions about your treatment" by Race
Comparison Group: White

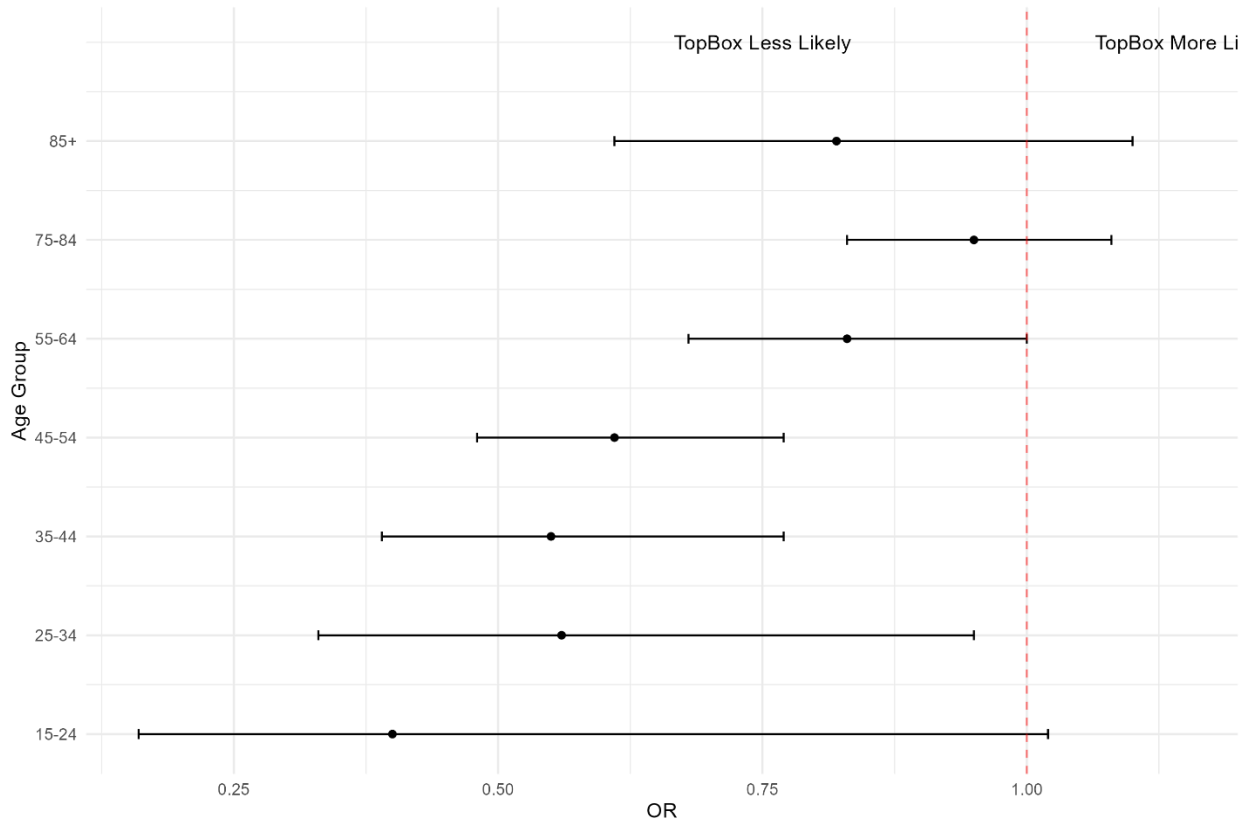## How well the care providers kept you informed about your condition

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.40	(0.16, 1.02)	0.05*
	25-34	0.56	(0.33, 0.95)	0.03*
	35-44	0.55	(0.39, 0.77)	0.00*
	45-54	0.61	(0.48, 0.77)	0.00*
	55-64	0.83	(0.68, 1)	0.05*
	75-84	0.95	(0.83, 1.08)	0.44
	85+	0.82	(0.61, 1.1)	0.18
Payor	Charity	1.15	(0.73, 1.81)	0.56
	HMOPPO	1.22	(1.02, 1.46)	0.03*
	Medicaid	1.15	(0.76, 1.75)	0.52
	Other Insurance	0.98	(0.72, 1.33)	0.89
	Self-Pay	0.65	(0.38, 1.11)	0.12
Race/Ethnicity	Asian	0.87	(0.54, 1.41)	0.57
	Black	0.90	(0.72, 1.13)	0.37
	Hispanic	1.21	(1, 1.47)	0.06
	More than one race/Other	0.41	(0.23, 0.74)	0.00*
Sex	Male	0.93	(0.84, 1.03)	0.18

*Statistically significant at 0.05 level

"How well the CPs kept you informed about your condition" by Age Group
Comparison Group: 65-74 yr olds

TopBox Less Likely   TopBox More Li
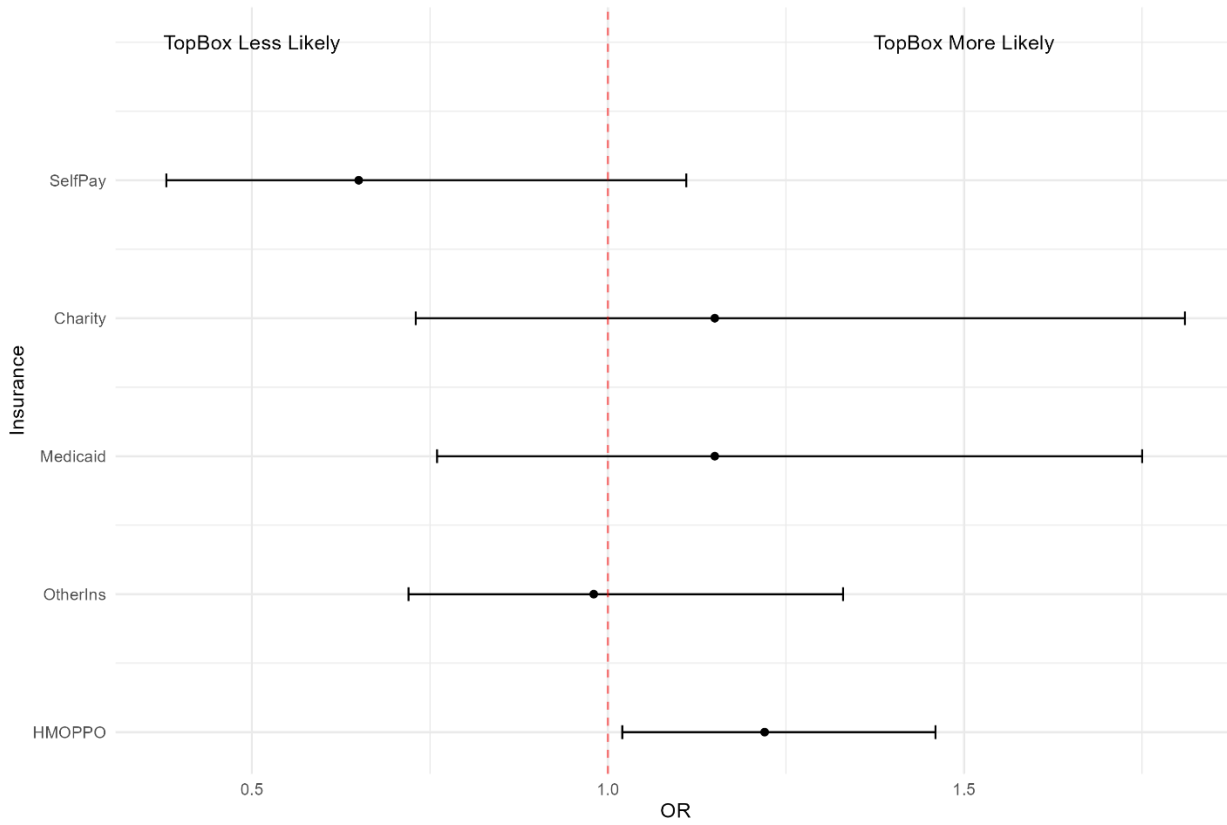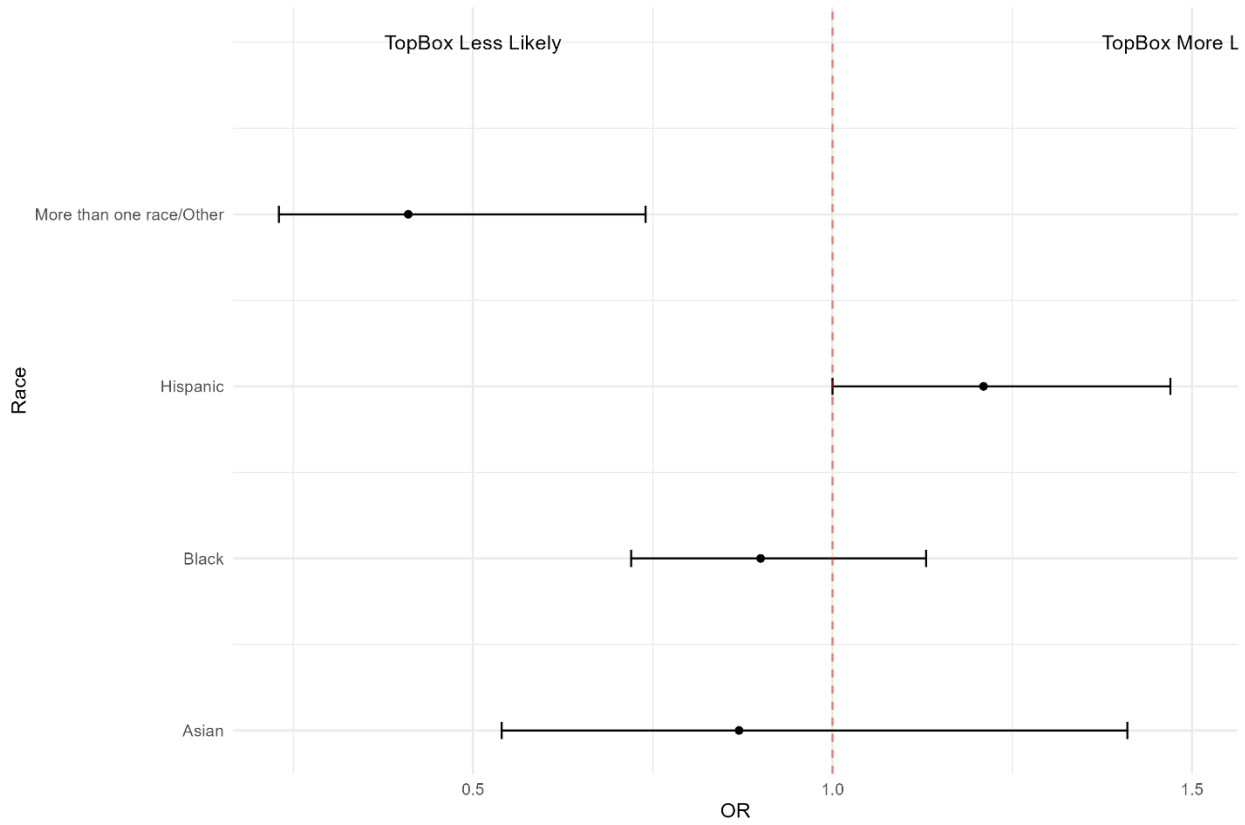
"How well the CPs kept you informed about your condition" by Payer
Comparison Group: Medicare

"How well the CPs kept you informed about your condition" by Race
Comparison Group: White
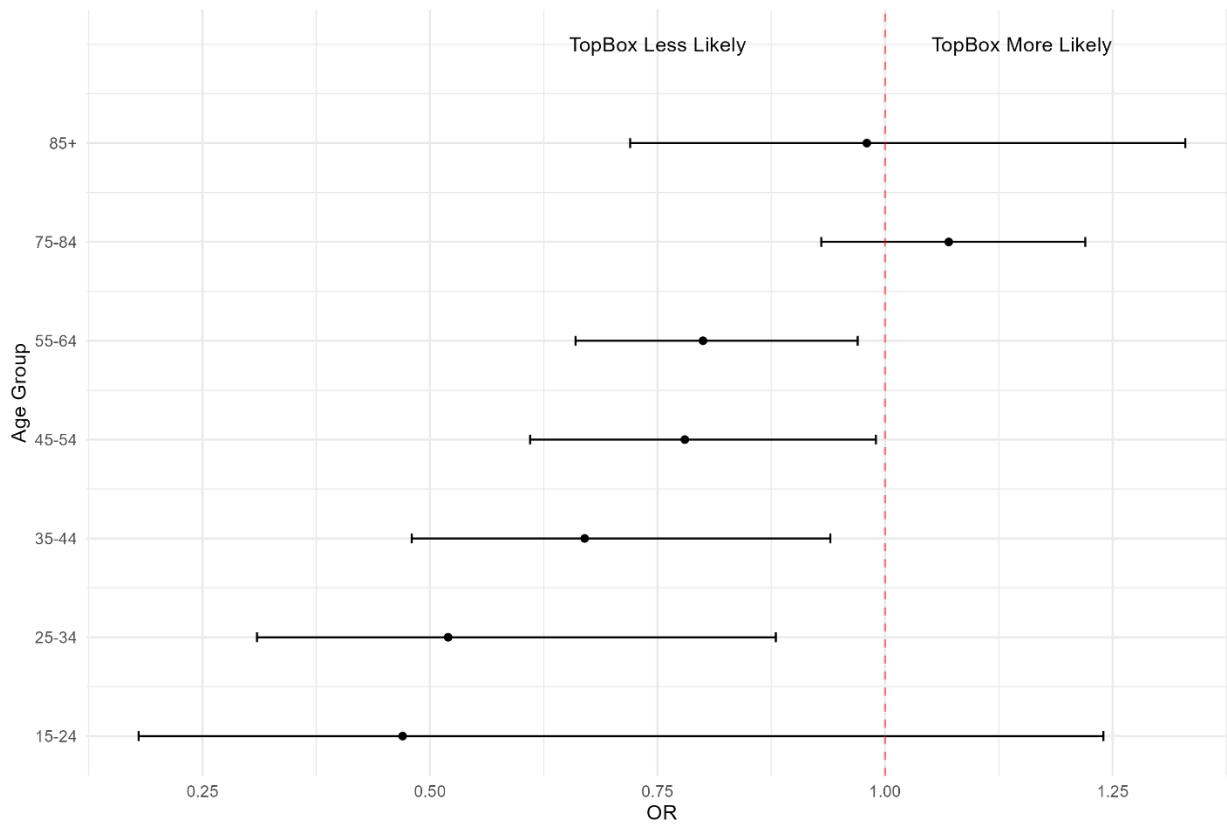
How well the staff worked together to care for you

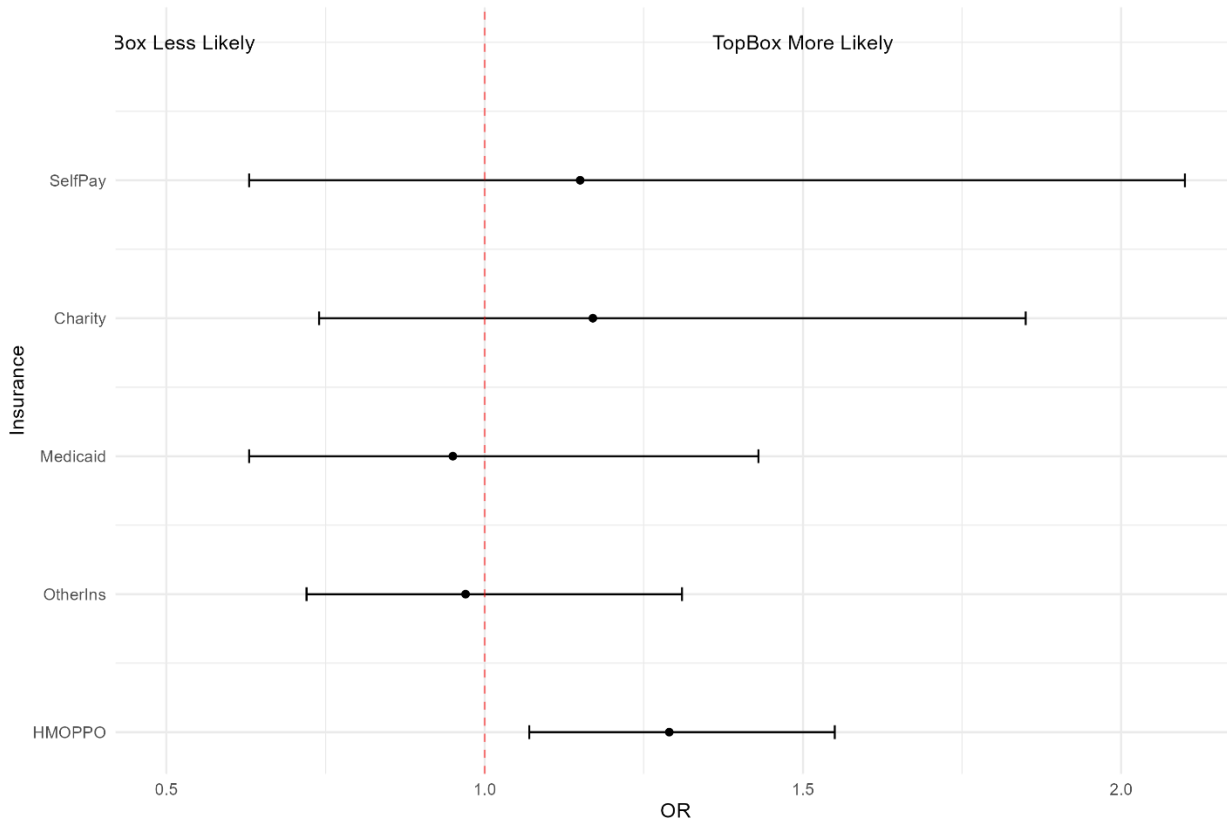| Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.47	(0.18, 1.24)	0.13
	25-34	0.52	(0.31, 0.88)	0.02*
	35-44	0.67	(0.48, 0.94)	0.02*
	45-54	0.78	(0.61, 0.99)	0.04*
	55-64	0.80	(0.66, 0.97)	0.02*
	75-84	1.07	(0.93, 1.22)	0.33
	85+	0.98	(0.72, 1.33)	0.88
Payor	Charity	1.17	(0.74, 1.85)	0.50
	HMOPPO	1.29	(1.07, 1.55)	0.01*
	Medicaid	0.95	(0.63, 1.43)	0.81
	Other Insurance	0.97	(0.72, 1.31)	0.84
	Self-Pay	1.15	(0.63, 2.1)	0.64
Race/Ethnicity	Asian	0.56	(0.35, 0.9)	0.02*
	Black	0.69	(0.55, 0.86)	0.00*
	Hispanic	1.06	(0.87, 1.29)	0.56
	More than one race/Other	0.25	(0.14, 0.44)	0.00*
Sex	Male	1.02	(0.92, 1.14)	0.68

*Statistically significant at 0.05 level

"How well the staff worked together to care for you" by Age Group
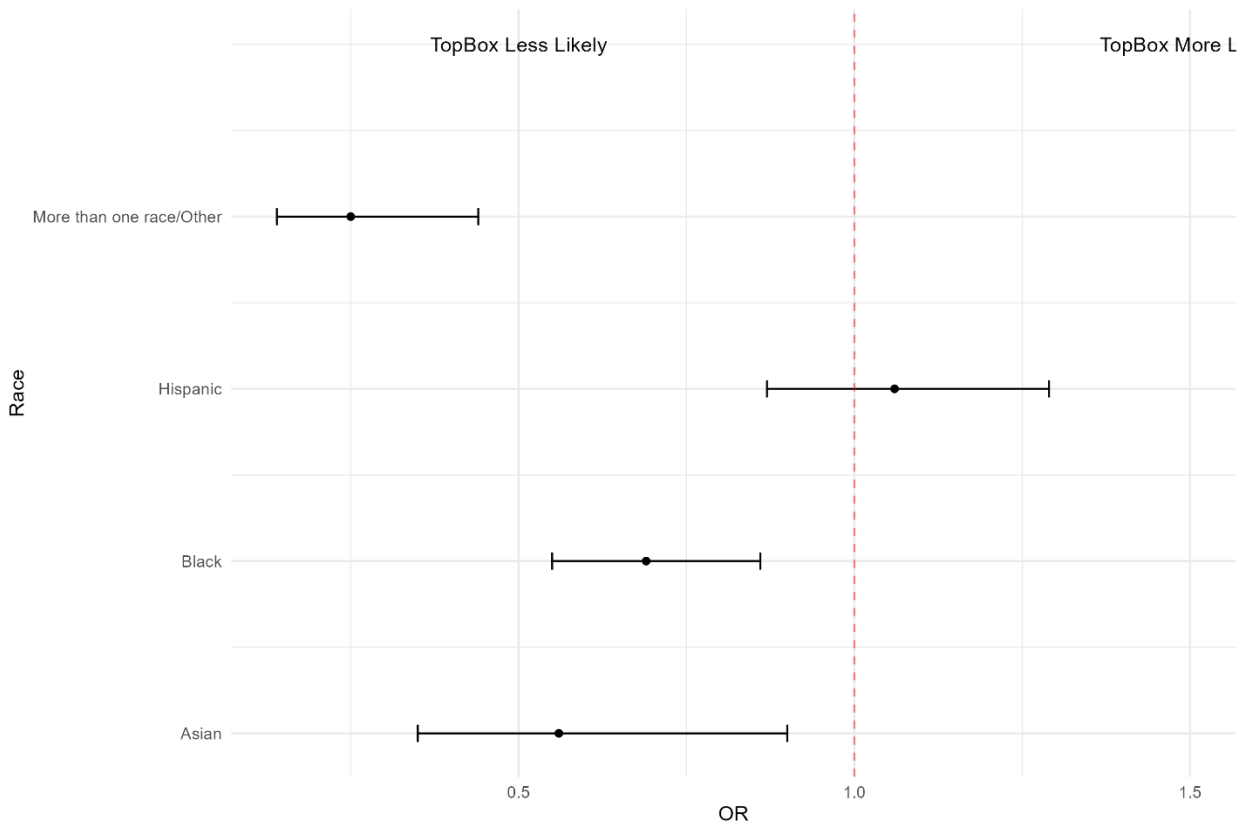Comparison Group: 65-74 yr olds

"How well the staff worked together to care for you" by Payer
Comparison Group: Medicare

"How well the staff worked together to care for you" by Race
Comparison Group: White

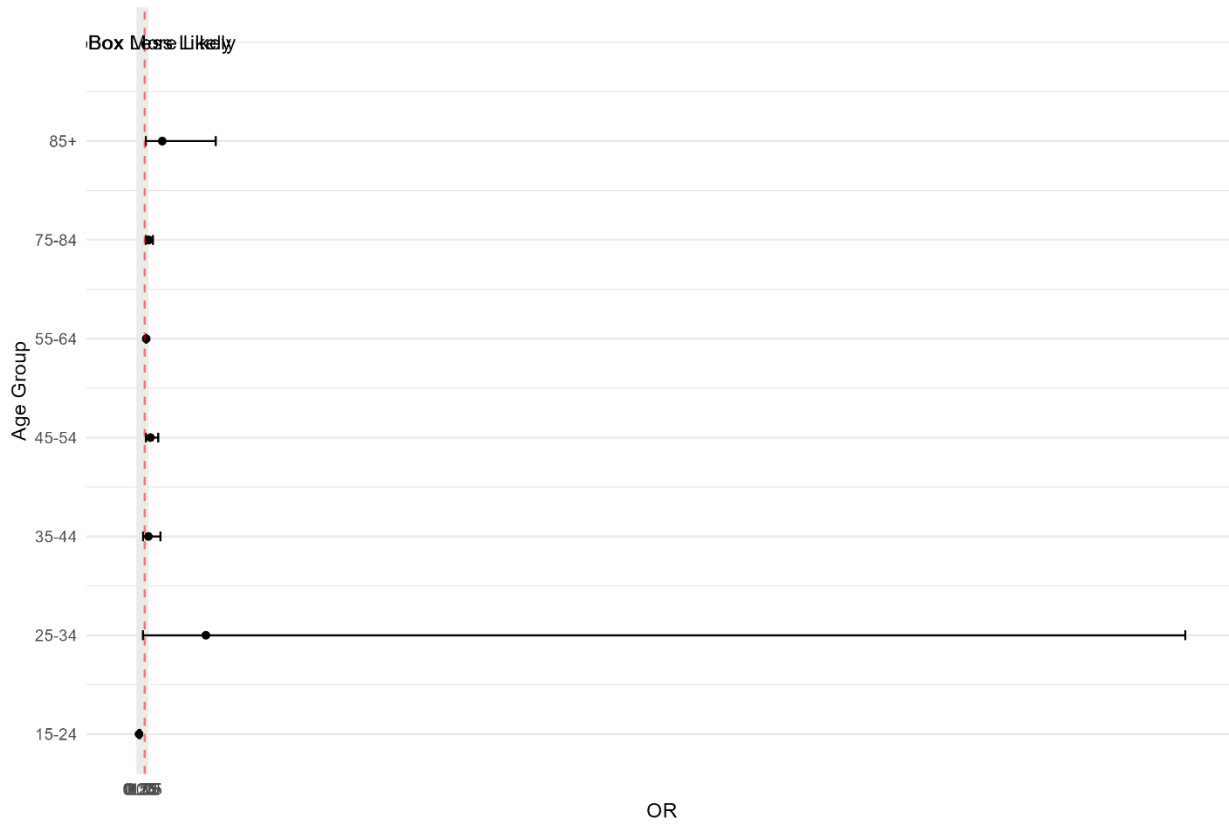## Likelihood of your recommending this facility to others

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.09	(0.03, 0.31)	0.00*
	25-34	11.07	(0.71, 171.85)	0.09
	35-44	1.63	(0.74, 3.59)	0.22
	45-54	1.97	(1.2, 3.25)	0.01*
	55-64	1.26	(1.26, 1.26)	0.00*
	75-84	1.69	(1.2, 2.37)	0.00*
	85+	3.90	(1.2, 12.7)	0.02*
Payor	Charity	11.24	(0.8, 157.78)	0.07
	HMOPPO	0.57	(0.57, 0.57)	0.00*
	Medicaid	0.17	(0.08, 0.34)	0.00*
	Other Insurance	0.70	(0.36, 1.36)	0.29
	Self-Pay	0.96	(0.2, 4.59)	0.96
Race/Ethnicity	Asian	0.16	(0.08, 0.36)	0.00*
	Black	1.05	(0.58, 1.89)	0.87
	Hispanic	1.38	(0.79, 2.39)	0.25
	More than one race/Other	0.05	(0.02, 0.14)	0.00*
Sex	Male	0.98	(0.79, 1.23)	0.88

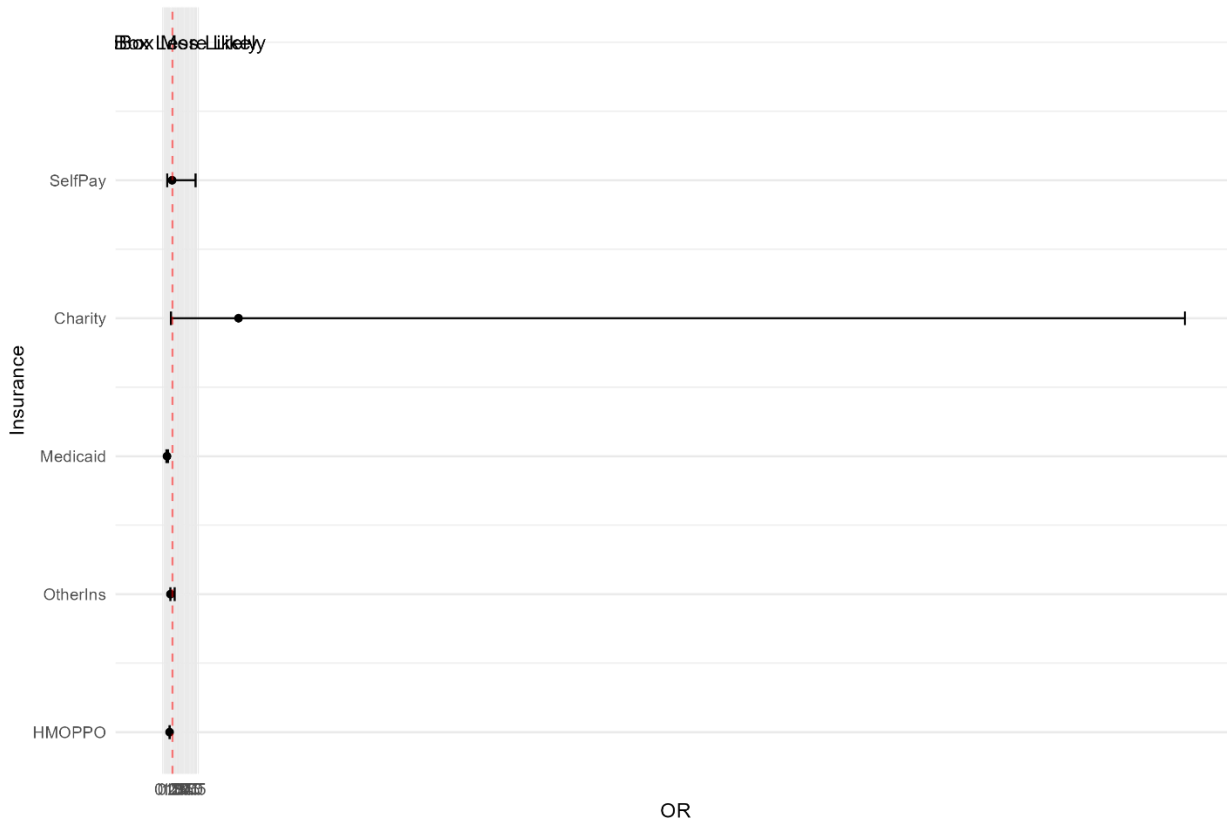*Statistically significant at 0.05 level

"Likelihood of your recommending this facility to others" by Age Group
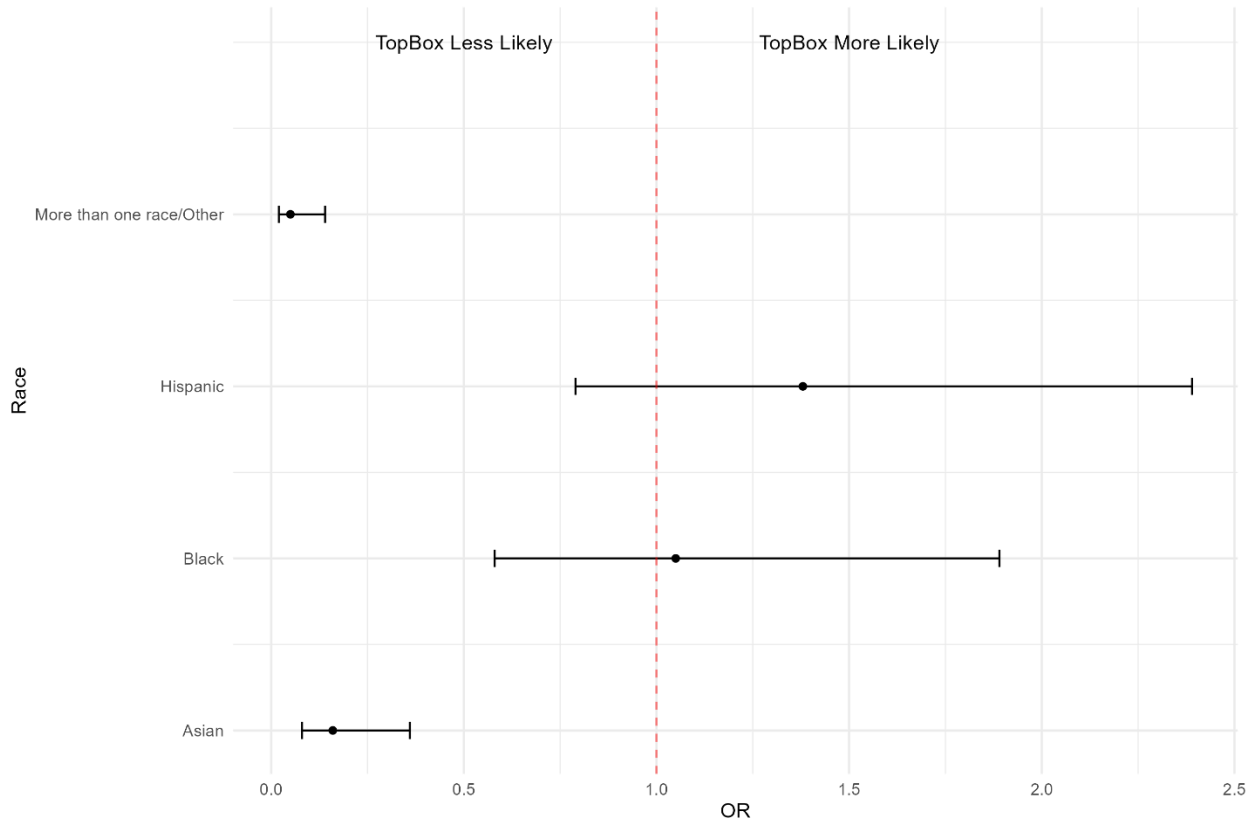Comparison Group: 65-74 yr olds

OR

"Likelihood of your recommending this facility to others" by Payer
Comparison Group: Medicare

"Likelihood of your recommending this facility to others" by Race
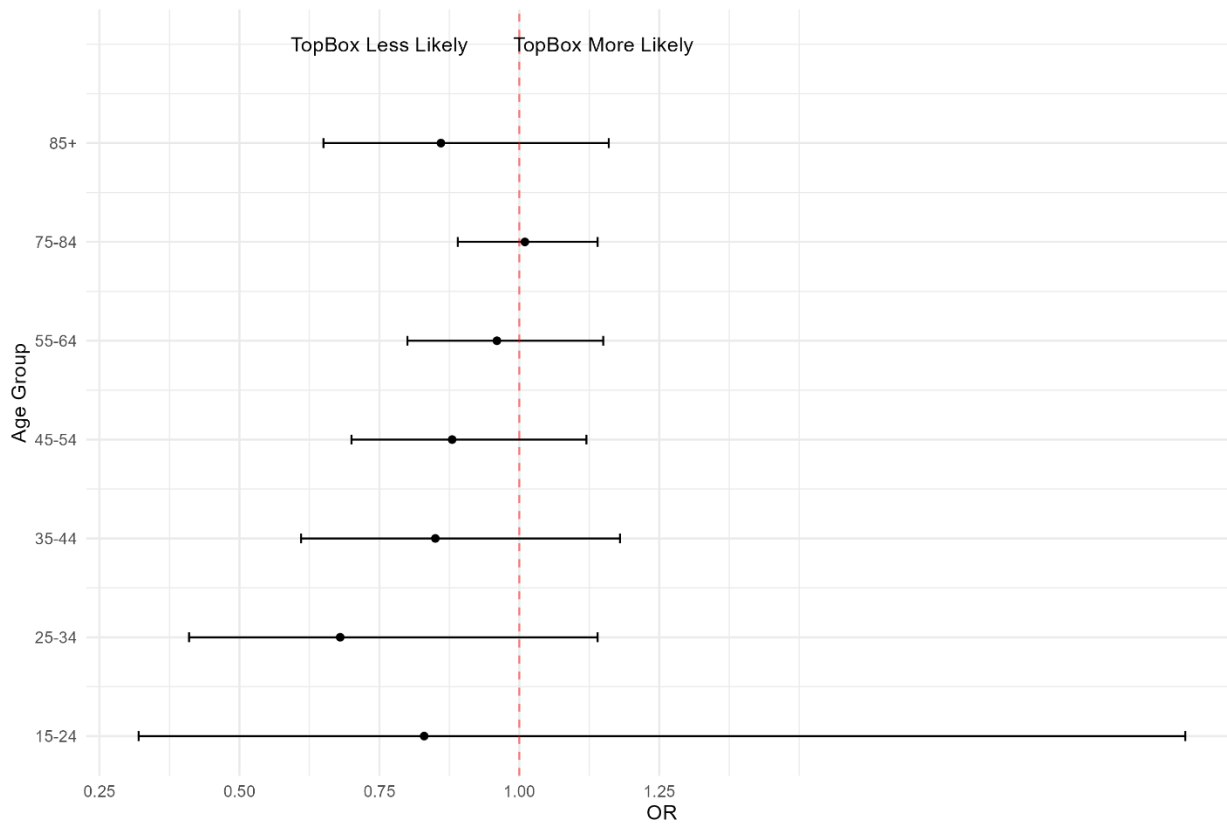Comparison Group: White

Nurses answer to your questions

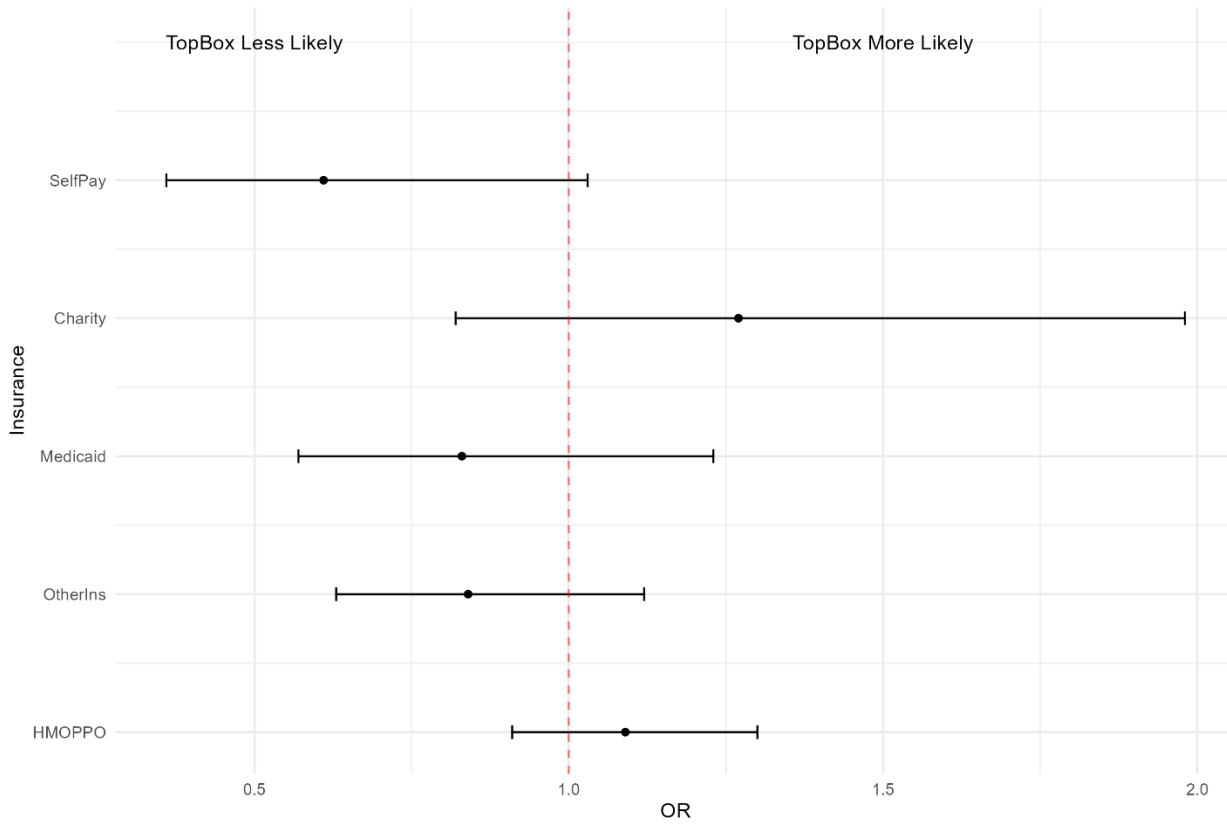| Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.83	(0.32, 2.19)	0.71
	25-34	0.68	(0.41, 1.14)	0.14
	35-44	0.85	(0.61, 1.18)	0.34
	45-54	0.88	(0.7, 1.12)	0.30
	55-64	0.96	(0.8, 1.15)	0.66
	75-84	1.01	(0.89, 1.14)	0.91
	85+	0.86	(0.65, 1.16)	0.33
Payor	Charity	1.27	(0.82, 1.98)	0.29
	HMOPPO	1.09	(0.91, 1.3)	0.34
	Medicaid	0.83	(0.57, 1.23)	0.36
	Other Insurance	0.84	(0.63, 1.12)	0.23
	Self-Pay	0.61	(0.36, 1.03)	0.07
Race/Ethnicity	Asian	0.69	(0.43, 1.1)	0.12
	Black	**0.64**	**(0.52, 0.78)**	**0.00***
	Hispanic	1.03	(0.85, 1.23)	0.78
	More than one race/Other	**0.50**	**(0.28, 0.91)**	**0.02***
Sex	Male	0.95	(0.86, 1.05)	0.35

*Statistically significant at 0.05 level

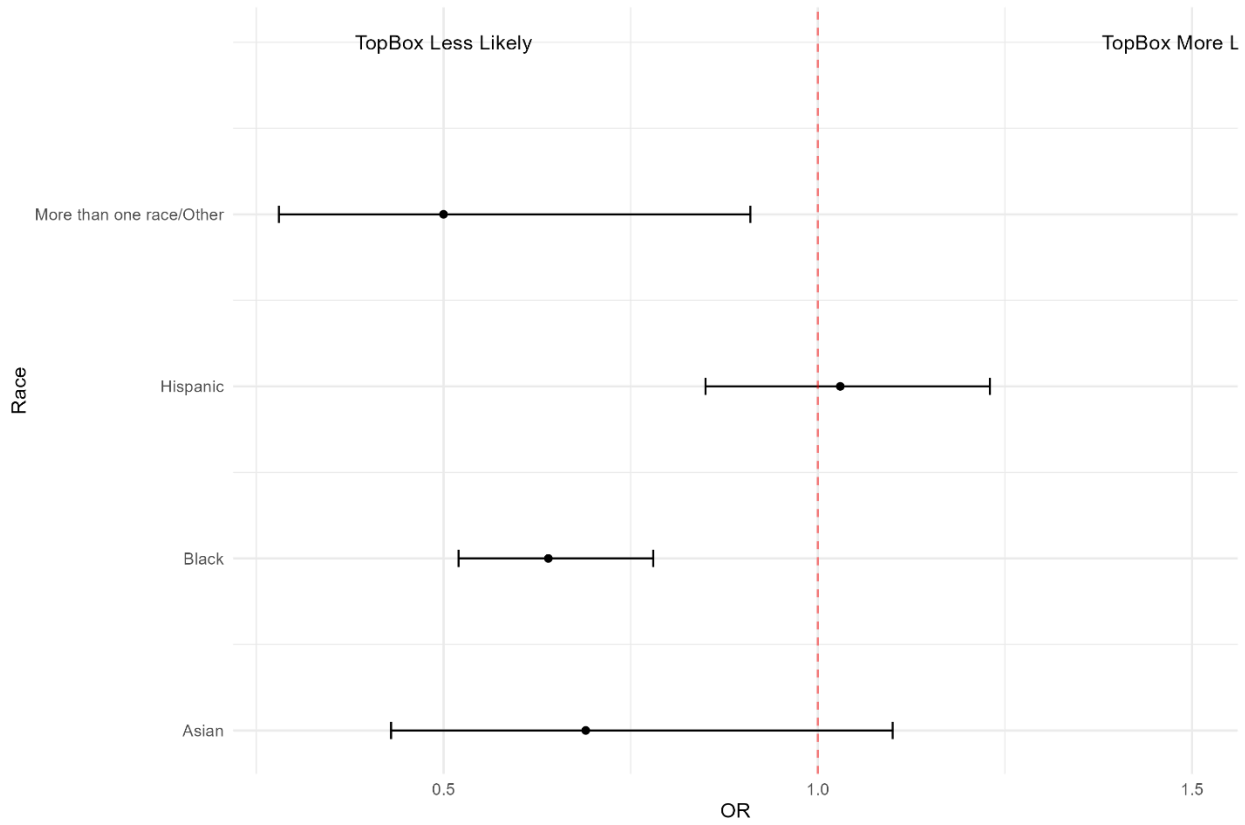"Nurses answer to your questions" by Age Group
Comparison Group: 65-74 yr olds

"Nurses answer to your questions" by Payer
Comparison Group: Medicare

"Nurses answer to your questions" by Race
Comparison Group: White

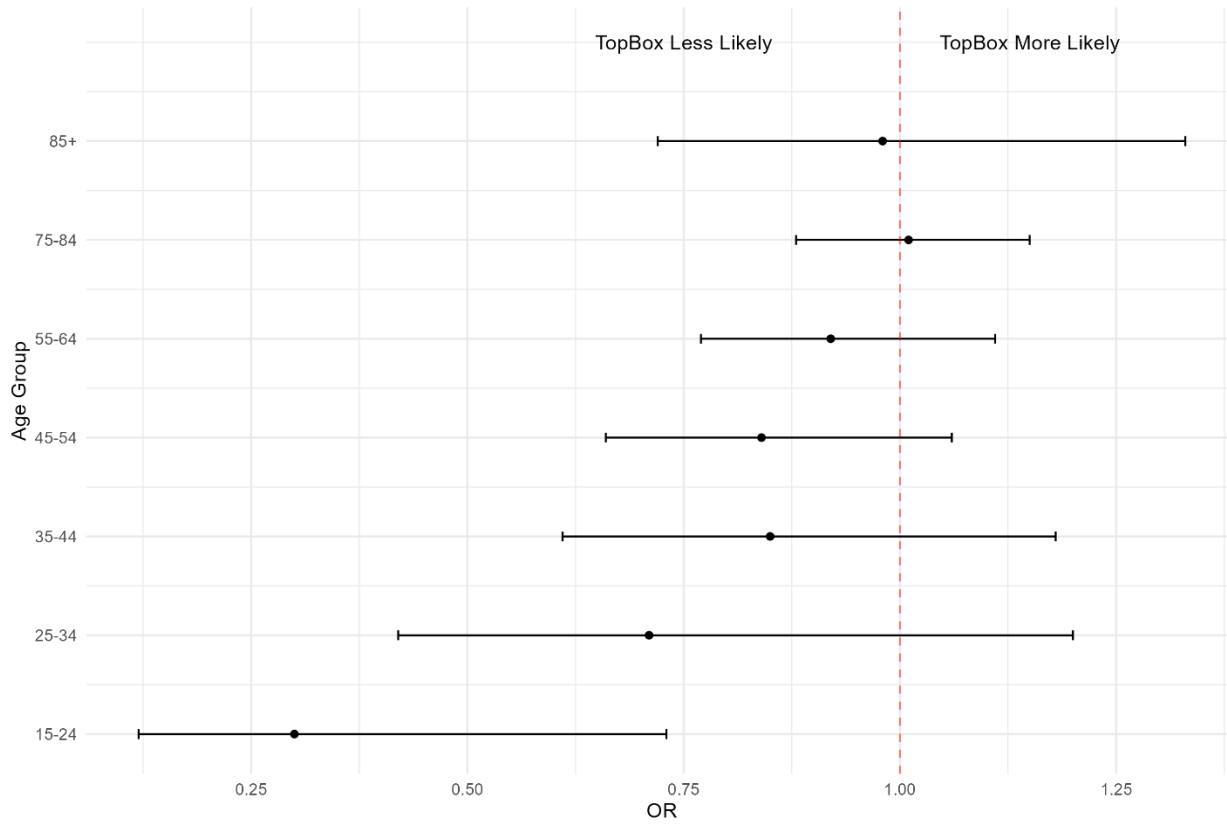## Staff's sensitivity to the difficulties that your condition and treatment can cause

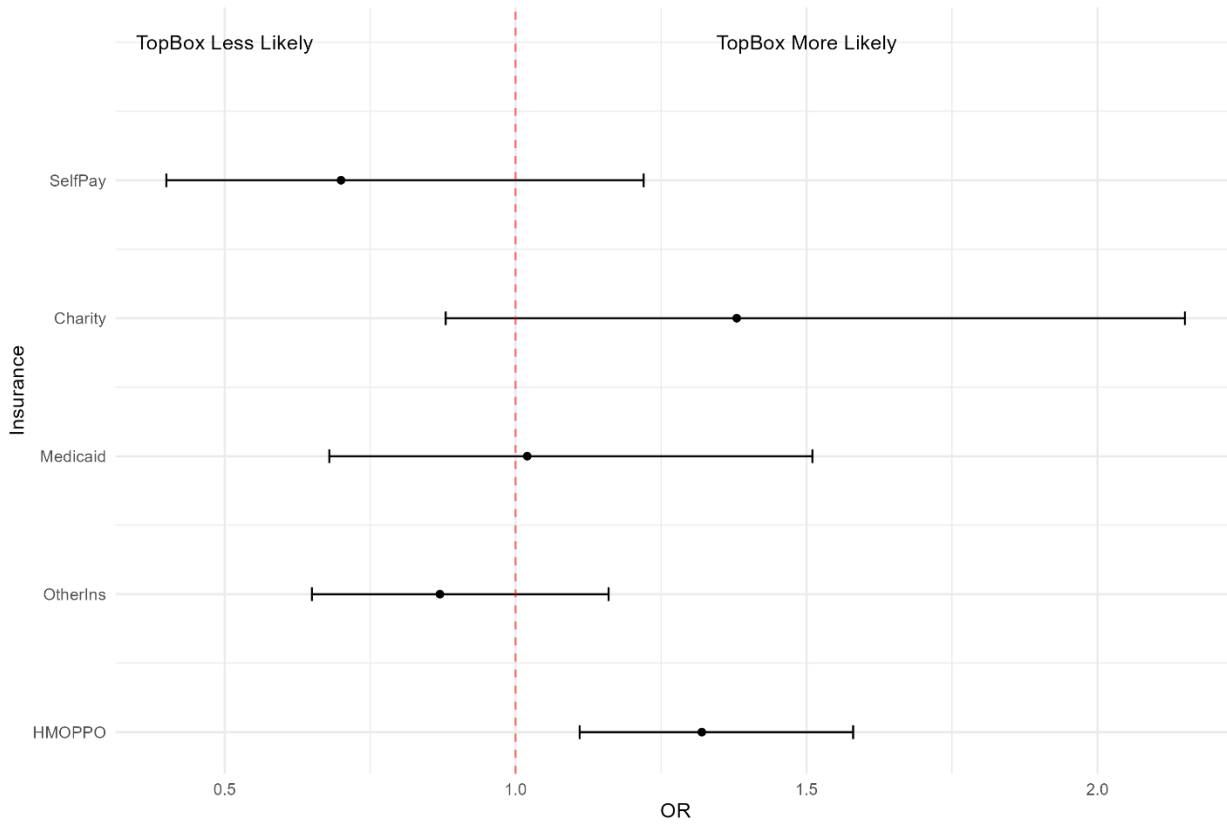| Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.30	(0.12, 0.73)	0.01*
	25-34	0.71	(0.42, 1.2)	0.20
	35-44	0.85	(0.61, 1.18)	0.32
	45-54	0.84	(0.66, 1.06)	0.14
	55-64	0.92	(0.77, 1.11)	0.38
	75-84	1.01	(0.88, 1.15)	0.92
	85+	0.98	(0.72, 1.33)	0.90
Payor	Charity	1.38	(0.88, 2.15)	0.16
	HMOPPO	1.32	(1.11, 1.58)	0.00*
	Medicaid	1.02	(0.68, 1.51)	0.94
	Other Insurance	0.87	(0.65, 1.16)	0.34
	Self-Pay	0.70	(0.4, 1.22)	0.21
Race/Ethnicity	Asian	0.80	(0.49, 1.3)	0.36
	Black	0.67	(0.54, 0.83)	0.00*
	Hispanic	1.16	(0.96, 1.4)	0.13
	More than one race/Other	0.43	(0.23, 0.79)	0.01*
Sex	Male	1.02	(0.92, 1.13)	0.69

*Statistically significant at 0.05 level

"Staff sensitivity to the difficulties that your condition and treatment can cause" by Age Group
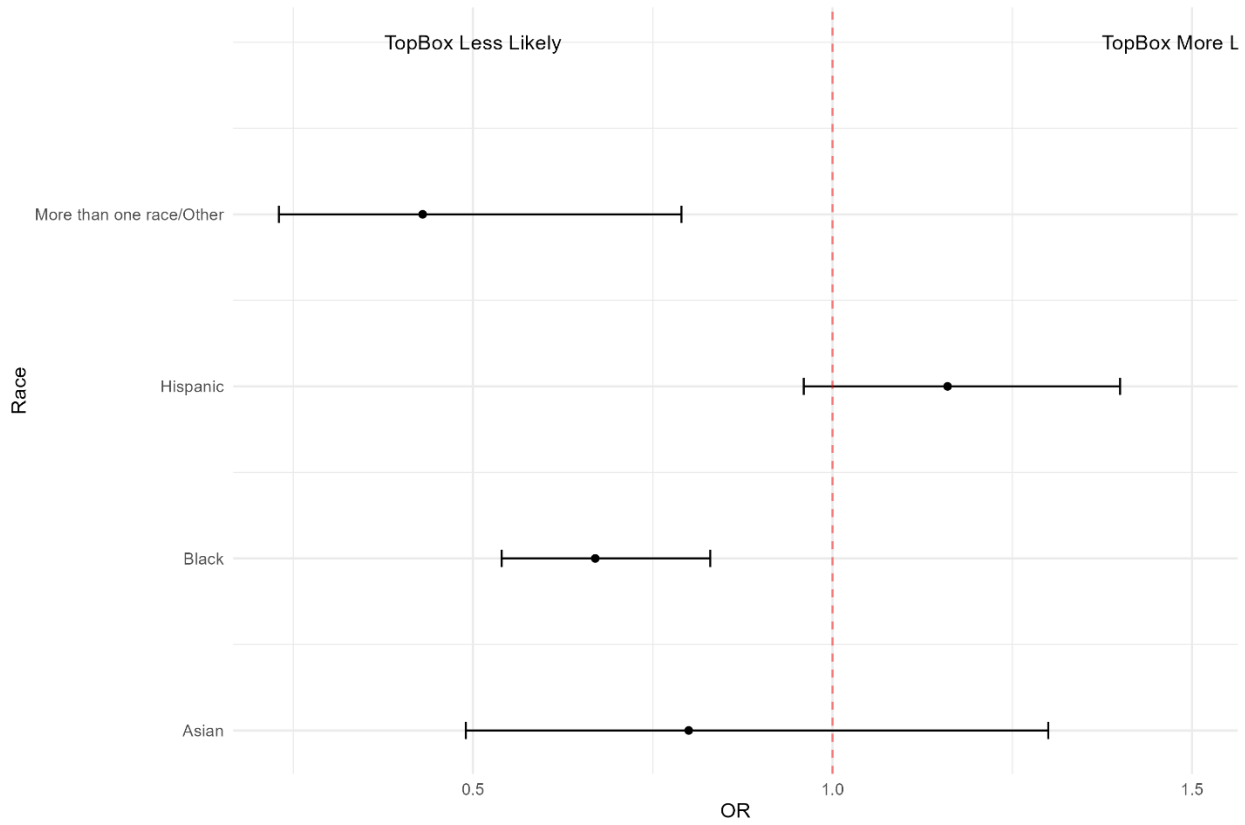Comparison Group: 65-74 yr olds

"Staff sensitivity to the difficulties that your condition and treatment can cause" by Payer
Comparison Group: Medicare

"Staff sensitivity to the difficulties that your condition and treatment can cause" by Race
Comparison Group: White
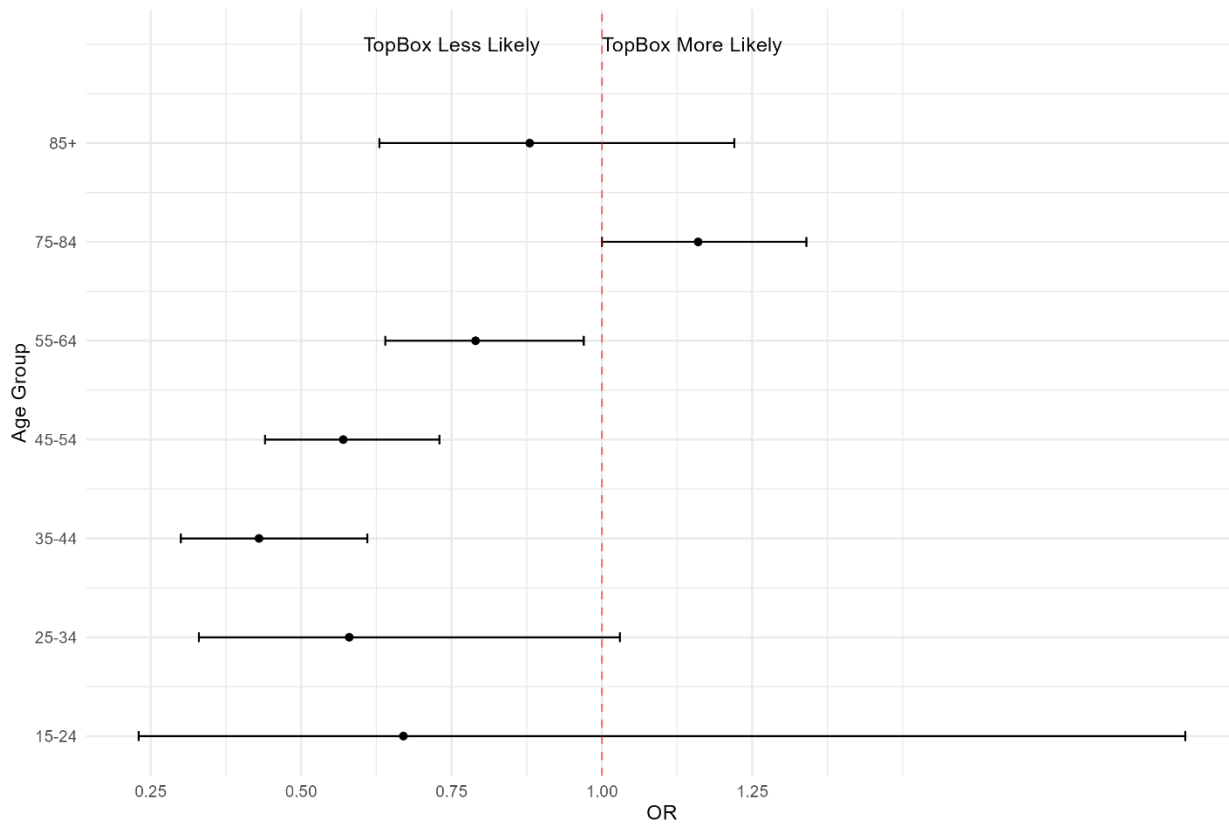
Your trust in the skill of the care providers

Characteristic	Levels	Odds Estimate	95% Odds Estimate Confidence Interval	p-value
Age Group	15-24	0.67	(0.23, 1.97)	0.47
	25-34	0.58	(0.33, 1.03)	0.06
	35-44	**0.43**	**(0.3, 0.61)**	**0.00***
	45-54	**0.57**	**(0.44, 0.73)**	**0.00***
	55-64	**0.79**	**(0.64, 0.97)**	**0.02***
	75-84	**1.16**	**(1, 1.34)**	**0.05***
	85+	0.88	(0.63, 1.22)	0.45
Payor	Charity	1.32	(0.8, 2.17)	0.28
	HMOPPO	**1.23**	**(1.01, 1.5)**	**0.04***
	Medicaid	0.89	(0.58, 1.38)	0.61
	Other Insurance	1.07	(0.76, 1.49)	0.71
	Self-Pay	0.64	(0.36, 1.14)	0.13
Race/Ethnicity	**Asian**	**0.52**	**(0.32, 0.86)**	**0.01***
	Black	**0.63**	**(0.5, 0.79)**	**0.00***
	Hispanic	0.95	(0.78, 1.17)	0.65
	More than one race/Other	**0.33**	**(0.18, 0.62)**	**0.00***
Sex	**Male**	**1.15**	**(1.03, 1.29)**	**0.02***

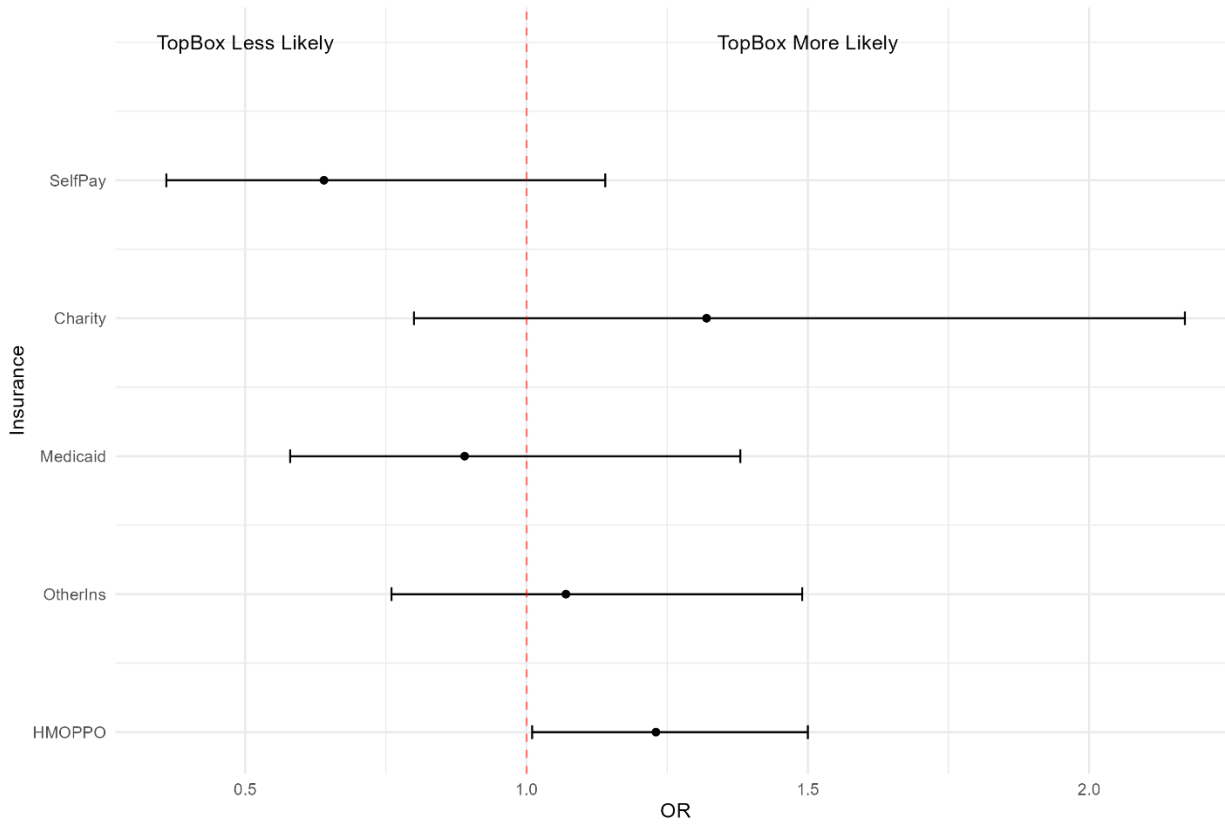*Statistically significant at 0.05 level

"Your trust in the skill of the CP" by Age Group
Comparison Group: 65-74 yr olds

"Your trust in the skill of the CP" by Payer
Comparison Group: Medicare

"Your trust in the skill of the CP" by Race
Comparison Group: White