

Statistical Analysis of Dei data

Patient Satisfaction Survey Analysis



October 27, 2023

Revision 03.2024

Table of Contents

[Report Overview 2](#_Toc149315261)

[Summary Statistics: 3](#_Toc149315262)

[Interpretations 5](#_Toc149315263)

[Summary Table of Odds Ratios and P-values 6](#_Toc149315264)

[Q1. Care Providers’ Concern for your questions and worries 8](#_Toc149315265)

[Q2. Care Providers’ Discussion of Your Treatment Options 12](#_Toc149315266)

[Q3. Care Providers’ Efforts to Include You in Decisions About Your Treatment 15](#_Toc149315267)

[Q4. Caring Manner of the Nurses 19](#_Toc149315268)

[Q5. Efforts To Include You in Decisions About Your Treatment 22](#_Toc149315269)

[Q6. How Well the Care Providers Kept You Informed About Your Condition 26](#_Toc149315270)

[Q7. How Well the Staff Worked Together to Care for You 30](#_Toc149315271)

[Q8. Likelihood Of Your Recommending This Facility to Others 33](#_Toc149315272)

[Q9. Nurses Answer to Your Questions 37](#_Toc149315273)

[Q10. Staff’s Sensitivity to the Difficulties that Your Condition and Treatment Can Cause 41](#_Toc149315274)

[Q11. Your Trust in the Skill of the Care Providers 45](#_Toc149315275)

# 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.

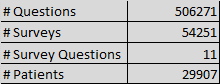
The eleven questions are:

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:





|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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.

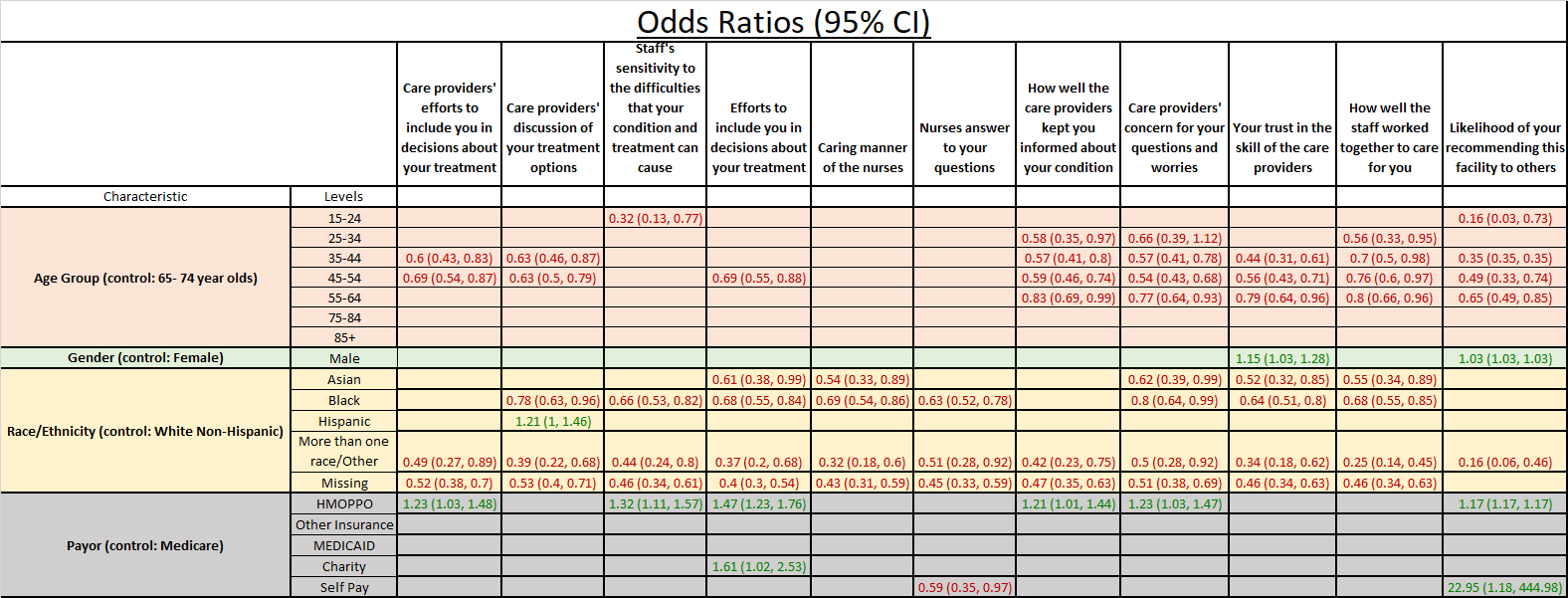
An odds ratio < 1 is associated with a lower likelihood of giving Top Box scores than the control group.

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 Ratio Estimates and 95% Confidence Intervals



Q1. Care Providers’ Concern for your questions and worries

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Care providers' concern for your questions and worries** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.44 | ( 0.18, 1.08) | 0.07 |
| 25-34 | 0.66 | ( 0.39, 1.12) | 0.12 |
| **35-44** | **0.57** | **( 0.41, 0.78)** | **0.00** |
| **45-54** | **0.54** | **( 0.43, 0.68)** | **0.00** |
| **55-64** | **0.77** | **( 0.64, 0.93)** | **0.01** |
| 75-84 | 0.94 | ( 0.83, 1.07) | 0.34 |
| 85+ | 0.78 | ( 0.58, 1.04) | 0.09 |
| **Sex** | Male | 0.96 | ( 0.87, 1.06) | 0.42 |
| **Payor** | Charity | 1.09 | ( 0.7, 1.7) | 0.69 |
| **HMOPPO** | **1.23** | **( 1.03, 1.47)** | **0.02** |
| Medicaid | 0.79 | ( 0.53, 1.16) | 0.23 |
| Other Insurance | 0.87 | ( 0.65, 1.16) | 0.33 |
| Self Pay | 0.75 | ( 0.45, 1.27) | 0.29 |
| **Race/Ethnicity** | **Asian** | **0.62** | **( 0.39, 0.99)** | **0.04** |
| **Black** | **0.80** | **( 0.64, 0.99)** | **0.04** |
| Hispanic | 1.11 | ( 0.92, 1.35) | 0.27 |
| **Missing** | **0.51** | **( 0.38, 0.69)** | **0.00** |
| **More than one race/Other** | **0.50** | **( 0.28, 0.92)** | **0.03** |

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| --- | --- | --- | --- | --- |
| **Caring manner of the nurses** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.84 | ( 0.3, 2.34) | 0.74 |
| 25-34 | 0.71 | ( 0.41, 1.22) | 0.21 |
| 35-44 | 0.82 | ( 0.58, 1.17) | 0.28 |
| 45-54 | 0.98 | ( 0.76, 1.26) | 0.87 |
| 55-64 | 0.90 | ( 0.74, 1.09) | 0.29 |
| 75-84 | 1.03 | ( 0.9, 1.18) | 0.68 |
| 85+ | 0.81 | ( 0.59, 1.11) | 0.20 |
| **Sex** | Male | 1.05 | ( 0.94, 1.18) | 0.35 |
| **Payor** | Charity | 1.38 | ( 0.84, 2.25) | 0.20 |
| HMOPPO | 1.13 | ( 0.93, 1.36) | 0.21 |
| Medicaid | 0.78 | ( 0.52, 1.19) | 0.26 |
| Other Insurance | 0.89 | ( 0.65, 1.23) | 0.49 |
| Self Pay | 0.64 | ( 0.37, 1.12) | 0.12 |
| **Race/Ethnicity** | Asian | 0.54 | ( 0.33, 0.89) | 0.02 |
| Black | 0.69 | ( 0.54, 0.86) | 0.00 |
| Hispanic | 0.94 | ( 0.77, 1.15) | 0.55 |
| Missing | 0.43 | ( 0.31, 0.59) | 0.00 |
| More than one race/Other | 0.32 | ( 0.18, 0.6) | 0.00 |

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| --- | --- | --- | --- | --- |
| **Care providers' discussion of your treatment options** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.58 | ( 0.23, 1.43) | 0.23 |
| 25-34 | 0.63 | ( 0.38, 1.04) | 0.07 |
| 35-44 | 0.63 | ( 0.46, 0.87) | 0.00 |
| 45-54 | 0.63 | ( 0.5, 0.79) | 0.00 |
| 55-64 | 0.86 | ( 0.72, 1.03) | 0.10 |
| 75-84 | 0.94 | ( 0.83, 1.07) | 0.35 |
| 85+ | 0.92 | ( 0.69, 1.23) | 0.58 |
| **Sex** | Male | 0.98 | ( 0.89, 1.08) | 0.66 |
| **Payor** | Charity | 1.33 | ( 0.85, 2.07) | 0.21 |
| HMOPPO | 1.18 | ( 0.99, 1.4) | 0.06 |
| Medicaid | 0.87 | ( 0.59, 1.28) | 0.47 |
| Other Insurance | 0.98 | ( 0.73, 1.31) | 0.88 |
| Self Pay | 0.74 | ( 0.44, 1.23) | 0.24 |
| **Race/Ethnicity** | Asian | 0.67 | ( 0.42, 1.05) | 0.08 |
| Black | 0.78 | ( 0.63, 0.96) | 0.02 |
| Hispanic | 1.21 | ( 1, 1.46) | 0.05 |
| Missing | 0.53 | ( 0.4, 0.71) | 0.00 |
| More than one race/Other | 0.39 | ( 0.22, 0.68) | 0.00 |

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| **Efforts to include you in decisions about your treatment** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.45 | ( 0.18, 1.1) | 0.08 |
| 25-34 | 0.64 | ( 0.38, 1.06) | 0.08 |
| 35-44 | 0.79 | ( 0.57, 1.11) | 0.18 |
| 45-54 | 0.69 | ( 0.55, 0.88) | 0.00 |
| 55-64 | 0.83 | ( 0.69, 1) | 0.05 |
| 75-84 | 1.04 | ( 0.91, 1.18) | 0.58 |
| 85+ | 1.05 | ( 0.77, 1.42) | 0.77 |
| **Sex** | Male | 0.98 | ( 0.89, 1.09) | 0.77 |
| **Payor** | Charity | 1.61 | ( 1.02, 2.53) | 0.04 |
| HMOPPO | 1.47 | ( 1.23, 1.76) | 0.00 |
| Medicaid | 1.00 | ( 0.67, 1.47) | 0.98 |
| Other Insurance | 0.88 | ( 0.67, 1.17) | 0.38 |
| Self Pay | 0.62 | ( 0.36, 1.05) | 0.07 |
| **Race/Ethnicity** | Asian | 0.61 | ( 0.38, 0.99) | 0.05 |
| Black | 0.68 | ( 0.55, 0.84) | 0.00 |
| Hispanic | 1.00 | ( 0.83, 1.21) | 0.97 |
| Missing | 0.40 | ( 0.3, 0.54) | 0.00 |
| More than one race/Other | 0.37 | ( 0.2, 0.68) | 0.00 |

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| --- | --- | --- | --- | --- |
| **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 | 0.41 | ( 0.17, 1.02) | 0.05 |
| 25-34 | 0.58 | ( 0.35, 0.97) | 0.04 |
| 35-44 | 0.57 | ( 0.41, 0.8) | 0.00 |
| 45-54 | 0.59 | ( 0.46, 0.74) | 0.00 |
| 55-64 | 0.83 | ( 0.69, 0.99) | 0.04 |
| 75-84 | 0.95 | ( 0.84, 1.08) | 0.42 |
| 85+ | 0.80 | ( 0.6, 1.07) | 0.14 |
| **Sex** | Male | 0.94 | ( 0.85, 1.04) | 0.21 |
| **Payor** | Charity | 1.26 | ( 0.8, 1.97) | 0.32 |
| HMOPPO | 1.21 | ( 1.01, 1.44) | 0.04 |
| Medicaid | 1.17 | ( 0.78, 1.76) | 0.46 |
| Other Insurance | 0.99 | ( 0.74, 1.33) | 0.95 |
| Self Pay | 0.69 | ( 0.41, 1.17) | 0.17 |
| **Race/Ethnicity** | Asian | 0.86 | ( 0.53, 1.39) | 0.54 |
| Black | 0.91 | ( 0.73, 1.13) | 0.38 |
| Hispanic | 1.20 | ( 0.99, 1.45) | 0.07 |
| Missing | 0.47 | ( 0.35, 0.63) | 0.00 |
| More than one race/Other | 0.42 | ( 0.23, 0.75) | 0.00 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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 | 0.48 | ( 0.19, 1.23) | 0.13 |
| 25-34 | 0.56 | ( 0.33, 0.95) | 0.03 |
| 35-44 | 0.70 | ( 0.5, 0.98) | 0.04 |
| 45-54 | 0.76 | ( 0.6, 0.97) | 0.03 |
| 55-64 | 0.80 | ( 0.66, 0.96) | 0.02 |
| 75-84 | 1.07 | ( 0.94, 1.22) | 0.31 |
| 85+ | 0.99 | ( 0.72, 1.34) | 0.93 |
| **Sex** | Male | 1.02 | ( 0.92, 1.13) | 0.72 |
| **Payor** | Charity | 1.21 | ( 0.77, 1.9) | 0.40 |
| HMOPPO | 1.26 | ( 1.05, 1.51) | 0.01 |
| Medicaid | 0.98 | ( 0.65, 1.46) | 0.91 |
| Other Insurance | 0.97 | ( 0.72, 1.3) | 0.82 |
| Self Pay | 1.14 | ( 0.64, 2.05) | 0.65 |
| **Race/Ethnicity** | Asian | 0.55 | ( 0.34, 0.89) | 0.01 |
| Black | 0.68 | ( 0.55, 0.85) | 0.00 |
| Hispanic | 1.06 | ( 0.87, 1.29) | 0.58 |
| Missing | 0.46 | ( 0.34, 0.63) | 0.00 |
| More than one race/Other | 0.25 | ( 0.14, 0.45) | 0.00 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Likelihood of your recommending this facility to others** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.16 | ( 0.03, 0.73) | 0.02 |
| 25-34 | 2.09 | ( 0.23, 18.63) | 0.51 |
| 35-44 | 0.35 | ( 0.35, 0.35) | 0.00 |
| 45-54 | 0.49 | ( 0.33, 0.74) | 0.00 |
| 55-64 | 0.65 | ( 0.49, 0.85) | 0.00 |
| 75-84 | 1.06 | ( 0.8, 1.39) | 0.71 |
| 85+ | 0.79 | ( 0.39, 1.6) | 0.51 |
| **Sex** | Male | 1.03 | ( 1.03, 1.03) | 0.00 |
| **Payor** | Charity | 1.17 | ( 0.46, 3) | 0.74 |
| HMOPPO | 1.17 | ( 1.17, 1.17) | 0.00 |
| Medicaid | 1.52 | ( 0.61, 3.79) | 0.37 |
| Other Insurance | 1.39 | ( 0.7, 2.78) | 0.35 |
| Self-Pay | 22.95 | ( 1.18, 444.98) | 0.04 |
| **Race/Ethnicity** | Asian | 0.64 | ( 0.22, 1.87) | 0.42 |
| Black | 0.83 | ( 0.49, 1.41) | 0.49 |
| Hispanic | 0.97 | ( 0.6, 1.55) | 0.89 |
| Missing | 0.56 | ( 0.29, 1.1) | 0.10 |
| More than one race/Other | 0.16 | ( 0.06, 0.46) | 0.00 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Nurses answer to your questions** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.84 | ( 0.3, 2.34) | 0.68 |
| 25-34 | 0.71 | ( 0.41, 1.22) | 0.13 |
| 35-44 | 0.82 | ( 0.58, 1.17) | 0.44 |
| 45-54 | 0.98 | ( 0.76, 1.26) | 0.23 |
| 55-64 | 0.90 | ( 0.74, 1.09) | 0.65 |
| 75-84 | 1.03 | ( 0.9, 1.18) | 0.88 |
| 85+ | 0.81 | ( 0.59, 1.11) | 0.26 |
| **Sex** | Male | 1.05 | ( 0.94, 1.18) | 0.28 |
| **Payor** | Charity | 1.38 | ( 0.84, 2.25) | 0.24 |
| HMOPPO | 1.13 | ( 0.93, 1.36) | 0.35 |
| Medicaid | 0.78 | ( 0.52, 1.19) | 0.22 |
| Other Insurance | 0.89 | ( 0.65, 1.23) | 0.32 |
| Self Pay | 0.64 | ( 0.37, 1.12) | 0.04 |
| **Race/Ethnicity** | Asian | 0.54 | ( 0.33, 0.89) | 0.12 |
| Black | 0.69 | ( 0.54, 0.86) | 0.00 |
| Hispanic | 0.94 | ( 0.77, 1.15) | 0.87 |
| Missing | 0.43 | ( 0.31, 0.59) | 0.00 |
| More than one race/Other | 0.32 | ( 0.18, 0.6) | 0.03 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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 | 0.32 | ( 0.13, 0.77) | 0.01 |
| 25-34 | 0.81 | ( 0.48, 1.35) | 0.42 |
| 35-44 | 0.86 | ( 0.62, 1.2) | 0.37 |
| 45-54 | 0.81 | ( 0.64, 1.03) | 0.08 |
| 55-64 | 0.92 | ( 0.77, 1.1) | 0.38 |
| 75-84 | 1.01 | ( 0.89, 1.15) | 0.84 |
| 85+ | 0.91 | ( 0.68, 1.23) | 0.56 |
| **Sex** | Male | 1.02 | ( 0.92, 1.13) | 0.68 |
| **Payor** | Charity | 1.42 | ( 0.91, 2.2) | 0.12 |
| HMOPPO | 1.32 | ( 1.11, 1.57) | 0.00 |
| Medicaid | 0.96 | ( 0.65, 1.41) | 0.82 |
| Other Insurance | 0.88 | ( 0.66, 1.16) | 0.35 |
| Self Pay | 0.68 | ( 0.4, 1.15) | 0.15 |
| **Race/Ethnicity** | Asian | 0.79 | ( 0.49, 1.28) | 0.34 |
| Black | 0.66 | ( 0.53, 0.82) | 0.00 |
| Hispanic | 1.15 | ( 0.95, 1.39) | 0.15 |
| Missing | 0.46 | ( 0.34, 0.61) | 0.00 |
| More than one race/Other | 0.44 | ( 0.24, 0.8) | 0.01 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Care providers' discussion of your treatment options** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.58 | ( 0.23, 1.43) | 0.23 |
| 25-34 | 0.63 | ( 0.38, 1.04) | 0.07 |
| 35-44 | 0.63 | ( 0.46, 0.87) | 0.00 |
| 45-54 | 0.63 | ( 0.5, 0.79) | 0.00 |
| 55-64 | 0.86 | ( 0.72, 1.03) | 0.10 |
| 75-84 | 0.94 | ( 0.83, 1.07) | 0.35 |
| 85+ | 0.92 | ( 0.69, 1.23) | 0.58 |
| **Sex** | Male | 0.98 | ( 0.89, 1.08) | 0.66 |
| **Payor** | Charity | 1.33 | ( 0.85, 2.07) | 0.21 |
| HMOPPO | 1.18 | ( 0.99, 1.4) | 0.06 |
| Medicaid | 0.87 | ( 0.59, 1.28) | 0.47 |
| Other Insurance | 0.98 | ( 0.73, 1.31) | 0.88 |
| Self Pay | 0.74 | ( 0.44, 1.23) | 0.24 |
| **Race/Ethnicity** | Asian | 0.67 | ( 0.42, 1.05) | 0.08 |
| Black | 0.78 | ( 0.63, 0.96) | 0.02 |
| Hispanic | 1.21 | ( 1, 1.46) | 0.05 |
| Missing | 0.53 | ( 0.4, 0.71) | 0.00 |
| More than one race/Other | 0.39 | ( 0.22, 0.68) | 0.00 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Care providers' discussion of your treatment options** | | | | |
|  |  |  |  |  |
| **Characteristic** | **Levels** | **Odds Estimate** | **95% Odds Estimate Confidence Interval** | **p-value** |
| **Age Group** | 15-24 | 0.58 | ( 0.23, 1.43) | 0.23 |
| 25-34 | 0.63 | ( 0.38, 1.04) | 0.07 |
| 35-44 | 0.63 | ( 0.46, 0.87) | 0.00 |
| 45-54 | 0.63 | ( 0.5, 0.79) | 0.00 |
| 55-64 | 0.86 | ( 0.72, 1.03) | 0.10 |
| 75-84 | 0.94 | ( 0.83, 1.07) | 0.35 |
| 85+ | 0.92 | ( 0.69, 1.23) | 0.58 |
| **Sex** | Male | 0.98 | ( 0.89, 1.08) | 0.66 |
| **Payor** | Charity | 1.33 | ( 0.85, 2.07) | 0.21 |
| HMOPPO | 1.18 | ( 0.99, 1.4) | 0.06 |
| Medicaid | 0.87 | ( 0.59, 1.28) | 0.47 |
| Other Insurance | 0.98 | ( 0.73, 1.31) | 0.88 |
| Self Pay | 0.74 | ( 0.44, 1.23) | 0.24 |
| **Race/Ethnicity** | Asian | 0.67 | ( 0.42, 1.05) | 0.08 |
| Black | 0.78 | ( 0.63, 0.96) | 0.02 |
| Hispanic | 1.21 | ( 1, 1.46) | 0.05 |
| Missing | 0.53 | ( 0.4, 0.71) | 0.00 |
| More than one race/Other | 0.39 | ( 0.22, 0.68) | 0.00 |