Supplementary Online Content

Qian ET, Gatto CL, Amusina O, et al; Vanderbilt Learning Healthcare System Platform Investigators. Assessment of awake prone positioning in hospitalized adults with COVID-19: a nonrandomized controlled trial. *JAMA Intern Med*. Published online April 18, 2022. doi:10.1001/jamainternmed.2022.1070

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This supplementary material has been provided by the authors to give readers additional information about their work.

eMethods 1. Enrollment, Randomization, and Data Extraction

Enrollment and Randomization

Specific procedures employed at VUMC: The patient census at 8 AM each morning was reviewed for new, non-invasive supplemental oxygen provision. Any patients on oxygen at 8 AM were allocated according to study procedures and enrolled in the trial. This assignment was communicated to the clinical team by 10 AM for review during the daily "COVID Huddle". At VUMC, we enrolled 100% of eligible participants (461).

Specific procedures employed at NorthShore: COVID census was reviewed twice a day (between 6 AM – 9 AM) and again (between 4 PM – 6 PM) Monday-Friday and mornings Saturday/Sunday by one of the members of the study team. Patients were contacted to obtain a verbal consent after assurance that the treatment team (typically a hospitalist medicine attending or an ICU attending) agreed to patient participation. It was indicated in charts when patients enrolled and trial arm assignment. At NorthShore, 100% of eligible patients were approached, with an enrollment success rate of 71% (56 patients were approached with 40 enrolling and 16 patients declining to have data collected).

Time from eligibility to enrollment: Across both sites, average overall patient time from eligibility to enrollment was 11.68 hours. (Statistical Report Table 1)

Data Extraction

VUMC data were obtained via Structured Query Language extraction of an existing operational and analytical data warehouse entirely derived from the electronic health record. Investigators at NorthShore manually collected data to include measures that sufficiently inform all primary and secondary study outcomes.

Race and ethnicity were self-reported by patients or their surrogates upon patient registration. This data was extracted with other variables as indicated above. Given that outcomes from hospitalized COVID-19 patients may differ based on race and ethnicity, reporting these demographics was important.

eMethods 2. Materials Provided to the Clinical Staff Assisting With the Study

Proning Trial Summary

VUMC Patient Proning Study in COVID-19+ Patients
GUIDELINES FOR PROVIDERS

Brief Summary: During the COVID pandemic, there have been a number of anecdotal reports and small observational studies suggesting that prone-positioning has demonstrated an improvement in oxygenation. This Study will assess if prone-positioning in hypoxic, non-ventilated COVID (+) patients will have sustained improvement in clinical outcomes.

Eligibility: All patients admitted to VUMC with a positive COVID-19 test result who require supplemental oxygen but are not mechanically ventilated

Assignments:

- EVEN MRNs: usual care
- ODD MRNs: proning recommendation and reminders

Proning Considerations:

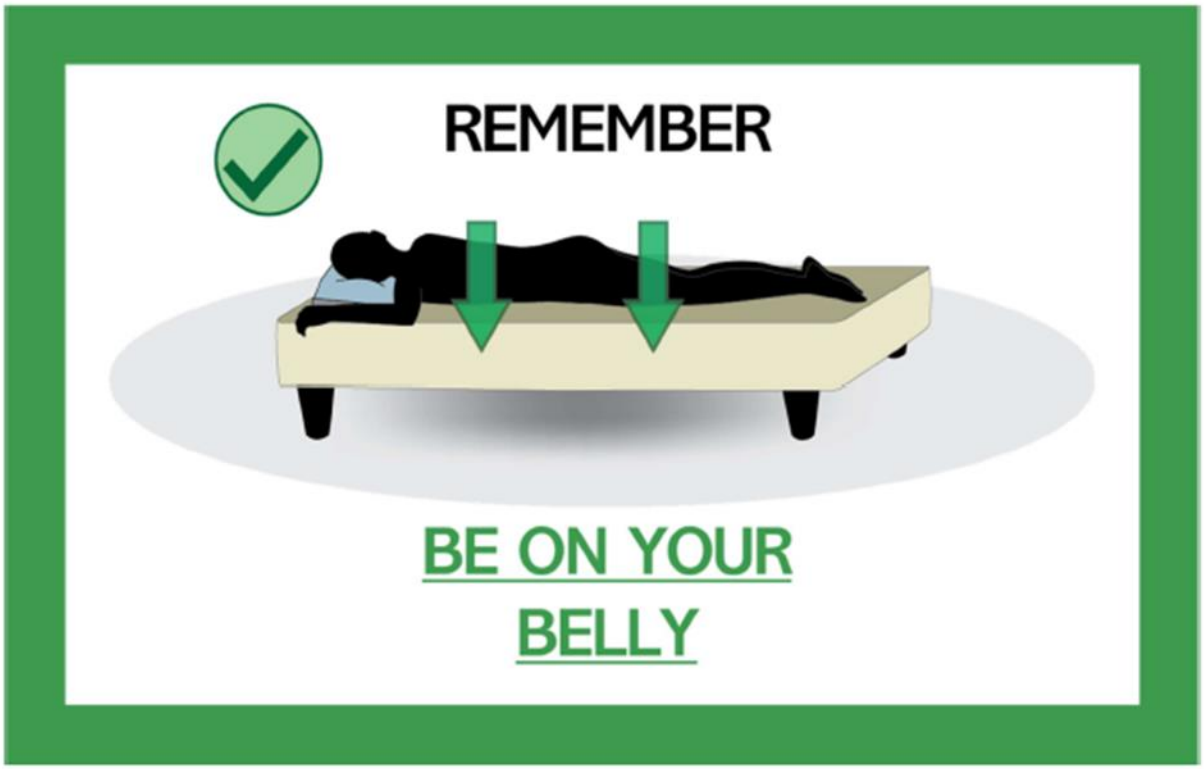
- **Be mindful of any injuries/conditions** that could compromise a patient's ability to prone, such as:
  - Pregnancy
  - Open abdomen
  - Recent surgery (specifically within 14-15 days of tracheal surgery, sternotomy, facial trauma)
  - Unstable fracture of spine, femur, or pelvis
- Always strive to **protect the integrity of line placements and similar patient monitoring/assisting devices.**
- For patients able and willing to prone, encourage them to **prone as often and consistently as they are able, ideally at least 3 hours at a time 4 times a day.**
- Some patients might struggle with boredom and/or fatigue while proning. Feel free to **recommend alternative entertainment** like listening to music, podcasts, or audiobooks.
- To help **maximize patient comfort while proning,** consider putting a pillow under pelvis/abdomen and under the lower legs, as this may alleviate lower back strain.

If you have questions regarding the study, please reach out to one of the following study PIs:
Todd Rice: todd.rice@vumc.org
Eddie Qian: edward.t.qian@vumc.org

Thank you for your continued efforts and commitment!

VUMC IRB# 200727 Clinical Trials Record# NCT04359797

Be On Your Belly Signage



eMethods 3. Regulatory

Regulatory Considerations--VUMC and NorthShore

Given the fact that the practice of awake prone positioning was being employed on a national scale very early on in the pandemic, combined with the fact that the usual care arm allowed awake prone positioning at the discretion of the primary medical team, this trial was presented to the IRB as no greater than minimal risk as patients were able to experience awake prone positioning as a matter of routine course during inpatient treatment for COVID-19.
At Vanderbilt University Medical Center, waiver of informed consent was sought due to the impracticality of consenting patients without imparting undue bias by informing them about awake prone positioning. Awareness of research engagement would necessarily shift the focus of the intervention away from real world effectiveness as delivered in routine care. For example, making patients aware of research examining prone positioning might encourage patients receiving usual care to assume a prone position when they would otherwise not have done so even if their primary team had not recommended it. As indicated, NorthShore University HealthSystem employed a statement confirming the patient's knowledge that their data would be collected for research purposes delivered to each patient on enrollment with the ascertainment of the patient's verbal consent. The statement used did not mention the awake prone positioning intervention and was as follows:

> "We would like to collect information related to your COVID-related care and your medical records for a research study that will help us learn how to improve on care for other patients during this Pandemic"

eResults 1. Worst Status on Day 5, Adjusted

- Re-did the primary analysis with only Vanderbilt subjects as a sensitivity analysis
- Fit a Bayesian proportional odds model, comparing worst outcome on day 5 between the assigned treatment arms (prone and Usual Care)
- Included covariates: Age, sex, race-ethnicity, BMI, Elixhauser score, baseline severity, enrollment time (May-Sept or Oct-Dec)
- Multiple imputation was used to impute missing data for BMI, baseline severity, and Elixhauser score

```
## stackMI(formula = total_outcome ~ Treatment + Baseline + Month +
##     Age + Sex + Race + BMI + Elix, fitter = blrm, xtrans = mi,
##     data = vanderbilt, iter = 4000, warmup = 2000, chain = 4,
##     loo = T, cores = 4)
```

Median	Lower	Upper
1.52	1.08	2.17

Posterior Probabilty (Prone)
0.009875

The odds of having a worse outcome on day 5 at Vanderbilt are 1.52 (1.08, 2.17) times greater for patients in the prone group compared to the Usual Care group (p = 0.010)

eResults 2. Worst Status on Day 0

Worst status on day 0, unadjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 0 between the assigned treatment arms (prone and Usual Care)

- No covariates added to the model

```
## blrm(formula = outcome_day0_c ~ Treatment, data = sec_out_fullb,
##     iter = 4000, chains = 4, warmup = 2000, cores = 4)
```

Median	Lower	Upper
1.01	0.68	1.5

Posterior Probabilty (Prone)
0.48

The odds of being in a worse outcome rank on day 0 are 1.01 (0.68, 1.50) times greater for patients in the prone group compared to the Usual Care group (p = 0.480)

Worst status on day 0, adjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 0 between the assigned treatment arms (prone and Usual Care)

- Included covariates: Age, sex, site, race-ethnicity, BMI, Elixhauser score, baseline severity, enrollment time (May-Sept or Oct-Dec)
- Multiple imputation was used to impute missing data for BMI, baseline severity, and Elixhauser score

```
## stackMI(formula = outcome_day0_c ~ Treatment + baseline_severity +
##     EnrollmentMonth_Group + age + Sex + site + race_ethnicity +
##     bmi + TotalScore, fitter = blrm, xtrans = mi, data = sec_full,
##     iter = 4000, warmup = 2000, chain = 4, loo = T, cores = 4)
```

Median	Lower	Upper
1.02	0.63	1.63

Posterior Probabilty (Prone)
0.4733

The odds of being in a worse outcome rank on day 0 are 1.02 (0.63, 1.63) times greater for patients in the prone group compared to the Usual Care group (p = 0.473)

eResults 3. Worst Status on Day 1

Worst status on day 1, unadjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 1 between the assigned treatment arms (prone and Usual Care)

- No covariates added to the model

```
## blrm(formula = outcome_day1_c ~ Treatment, data = sec_out_fullb,
##     iter = 4000, chains = 4, warmup = 2000, cores = 4)
```

Median	Lower	Upper
1.16	0.83	1.62

Posterior Probabilty (Prone)
0.18775

The odds of being in a worse outcome rank on day 1 are 1.16 (0.83, 1.62) times greater for patients in the prone group compared to the Usual Care group (p = 0.188)

Worst status on day 1, adjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 1 between the assigned treatment arms (prone and Usual Care)

- Included covariates: Age, sex, site, race-ethnicity, BMI, Elixhauser score, baseline severity, enrollment time (May-Sept or Oct-Dec)
- Multiple imputation was used to impute missing data for BMI, baseline severity, and Elixhauser score

Median	Lower	Upper
1.16	0.81	1.67

Posterior Probabilty (Prone)
0.2084

The odds of being in a worse outcome rank on day 1 are 1.16 (0.81, 1.67) times greater for patients in the prone group compared to the Usual Care group (p = 0.208)

eResults 4. Worst Status on Day 2

Worst status on day 2, unadjusted

- Fit a Bayesian proportional odds model, comparing worst outcome on day 2 between the assigned treatment arms (prone and Usual Care)
- No covariates added to the model

```
## blrm(formula = outcome_day2_c ~ Treatment, data = sec_out_fullb,
##     iter = 4000, chains = 4, warmup = 2000, cores = 4)
```

Median	Lower	Upper
1.07	0.78	1.47

Posterior Probabilty (Prone)
0.33375

The odds of being in a worse outcome rank on day 2 are 1.07 (0.78, 1.47) times greater for patients in the prone group compared to the Usual Care group (p = 0.334)

Worst status on day 2, adjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 2 between the assigned treatment arms (prone and Usual Care)

- Included covariates: Age, sex, site, race-ethnicity, BMI, Elixhauser score, baseline severity, enrollment time (May-Sept or Oct-Dec)
- Multiple imputation was used to impute missing data for BMI, baseline severity, and Elixhauser score

```
## stackMI(formula = outcome_day2_c ~ Treatment + baseline_severity +
##     EnrollmentMonth_Group + age + Sex + site + race_ethnicity +
##     bmi + TotalScore, fitter = blrm, xtrans = mi, data = sec_full,
##     iter = 4000, warmup = 2000, chain = 4, loo = T, cores = 4)
```

Median	Lower	Upper
1.06	0.74	1.46

Posterior Probabilty (Prone)
0.3752

The odds of being in a worse outcome rank on day 2 are 1.06 (0.74, 1.46) times greater for patients in the prone group compared to the Usual Care group (p = 0.375)

eResults 5. Worst Status on Day 3

Worst status on day 3, unadjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 3 between the assigned treatment arms (prone and Usual Care)

- No covariates added to the model

```
## blrm(formula = outcome_day3_c ~ Treatment, data = sec_out_fullb,
##     iter = 4000, chains = 4, warmup = 2000, cores = 4)
```

Median	Lower	Upper
1.17	0.85	1.59

Posterior Probabilty (Prone)
0.16425

The odds of being in a worse outcome rank on day 3 are 1.17 (0.85, 1.59) times greater for patients in the prone group compared to the Usual Care group (p = 0.164)

Worst status on day 3, adjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 3 between the assigned treatment arms (prone and Usual Care)

- Included covariates: Age, sex, site, race-ethnicity, BMI, Elixhauser score, baseline severity, enrollment time (May-Sept or Oct-Dec)
- Multiple imputation was used to impute missing data for BMI, baseline severity, and Elixhauser score

```
## stackMI(formula = outcome_day3_c ~ Treatment + baseline_severity +
##     EnrollmentMonth_Group + age + Sex + site + race_ethnicity +
##     bmi + TotalScore, fitter = blrm, xtrans = mi, data = sec_full,
##     iter = 4000, warmup = 2000, chain = 4, loo = T, cores = 4)
```

Median	Lower	Upper
1.22	0.88	1.7

Posterior Probabilty (Prone)
0.120675

The odds of being in a worse outcome rank on day 3 are 1.22 (0.88, 1.70) times greater for patients in the prone group compared to the Usual Care group (p = 0.121)

eResults 6. Worst Status on Day 4

Worst status on day 4, unadjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 4 between the assigned treatment arms (prone and Usual Care)

- No covariates added to the model

```
## blrm(formula = outcome_day4_c ~ Treatment, data = sec_out_fullb,
##     iter = 4000, chains = 4, warmup = 2000, cores = 4)
```

Median	Lower	Upper
1.28	0.94	1.77

Posterior Probabilty (Prone)
0.0615

The odds of being in a worse outcome rank on day 4 are 1.28 (0.94, 1.77) times greater for patients in the prone group compared to the Usual Care group (p = 0.062)

Worst status on day 4, adjusted

Fit a Bayesian proportional odds model, comparing worst outcome on day 4 between the assigned treatment arms (prone and Usual Care)

- Included covariates: Age, sex, site, race-ethnicity, BMI, Elixhauser score, baseline severity, enrollment time (May-Sept or Oct-Dec)
- Multiple imputation was used to impute missing data for BMI, baseline severity, and Elixhauser score

```
## stackMI(formula = outcome_day4_c ~ Treatment + baseline_severity +
##     EnrollmentMonth_Group + age + Sex + site + race_ethnicity +
##     bmi + TotalScore, fitter = blrm, xtrans = mi, data = sec_full,
##     iter = 4000, warmup = 2000, chain = 4, loo = T, cores = 4)
```

Median	Lower	Upper
1.39	0.99	1.94

Posterior Probabilty (Prone)
0.027725

The odds of being in a worse outcome rank on day 4 are 1.39 (0.99, 1.94) times greater for patients in the prone group compared to the Usual Care group (p = 0.028)

eTable 1. WHO Ordinal Scale at Enrollment (Day 0)

Day 0 (Enrollment Day)

	Overall	Usual Care	Prone
n	501	243	258
Day 0 (%)			
Discharged	0 (0.0)	0 (0.0)	0 (0.0)
Room Air	0 (0.0)	0 (0.0)	0 (0.0)
Standard Nasal Cannula	369 (73.7)	181 (74.5)	188 (72.9)
High Flow Nasal Cannula	52 (10.4)	17 (7.0)	35 (13.6)
Non-Invasive Ventilation	73 (14.6)	42 (17.3)	31 (12.0)
Mechanical Ventilation	3 (0.6)	2 (0.8)	1 (0.4)
ECMO	0 (0.0)	0 (0.0)	0 (0.0)
Death	4 (0.8)	1 (0.4)	3 (1.2)

eTable 2. WHO Ordinal Scale at Day 1

Day 1

	Overall	Usual Care	Prone
n	501	243	258
Day 1 (%)			
Discharged	24 (4.8)	8 (3.3)	16 (6.2)
Room Air	44 (8.8)	25 (10.3)	19 (7.4)
Standard Nasal Cannula	299 (59.7)	153 (63.0)	146 (56.6)
High Flow Nasal Cannula	43 (8.6)	11 (4.5)	32 (12.4)
Non-Invasive Ventilation	70 (14.0)	38 (15.6)	32 (12.4)
Mechanical Ventilation	13 (2.6)	5 (2.1)	8 (3.1)
ECMO	1 (0.2)	1 (0.4)	0 (0.0)
Death	7 (1.4)	2 (0.8)	5 (1.9)

eTable 3. WHO Ordinal Scale at Day 2

Day 2

	Overall	Usual Care	Prone
n	501	243	258
Day 2 (%)			
Discharged	83 (16.6)	39 (16.0)	44 (17.1)
Room Air	35 (7.0)	16 (6.6)	19 (7.4)
Standard Nasal Cannula	248 (49.5)	128 (52.7)	120 (46.5)
High Flow Nasal Cannula	36 (7.2)	13 (5.3)	23 (8.9)
Non-Invasive Ventilation	67 (13.4)	35 (14.4)	32 (12.4)
Mechanical Ventilation	17 (3.4)	8 (3.3)	9 (3.5)
ECMO	1 (0.2)	1 (0.4)	0 (0.0)
Death	14 (2.8)	3 (1.2)	11 (4.3)

eTable 4. WHO Ordinal Scale at Day 3

Day 3

	Overall	Usual Care	Prone
n	501	243	258
Day 3 (%)			
Discharged	137 (27.3)	66 (27.2)	71 (27.5)
Room Air	34 (6.8)	18 (7.4)	16 (6.2)
Standard Nasal Cannula	192 (38.3)	100 (41.2)	92 (35.7)
High Flow Nasal Cannula	40 (8.0)	16 (6.6)	24 (9.3)
Non-Invasive Ventilation	58 (11.6)	29 (11.9)	29 (11.2)
Mechanical Ventilation	22 (4.4)	9 (3.7)	13 (5.0)
ECMO	1 (0.2)	1 (0.4)	0 (0.0)
Death	17 (3.4)	4 (1.6)	13 (5.0)

eTable 5. WHO Ordinal Scale at Day 4

Day 4

	Overall	Usual Care	Prone
n	501	243	258
Day 4 (%)			
Discharged	173 (34.5)	89 (36.6)	84 (32.6)
Room Air	32 (6.4)	16 (6.6)	16 (6.2)
Standard Nasal Cannula	154 (30.7)	77 (31.7)	77 (29.8)
High Flow Nasal Cannula	39 (7.8)	16 (6.6)	23 (8.9)
Non-Invasive Ventilation	54 (10.8)	27 (11.1)	27 (10.5)
Mechanical Ventilation	24 (4.8)	10 (4.1)	14 (5.4)
ECMO	2 (0.4)	1 (0.4)	1 (0.4)
Death	23 (4.6)	7 (2.9)	16 (6.2)

eTable 6. Worst Outcome at Day 5 by Assigned Treatment (Table 3 in Statistical Report)

	Overall	Usual Care	Prone
n	501	243	258
Categorical Outcome (%)			
Discharged	208 (41.5)	109 (44.9)	99 (38.4)
Room Air	30 (6.0)	15 (6.2)	15 (5.8)
Standard Nasal Cannula	122 (24.4)	57 (23.5)	65 (25.2)
High Flow Nasal Cannula	32 (6.4)	16 (6.6)	16 (6.2)
Non-Invasive Ventilation	50 (10.0)	26 (10.7)	24 (9.3)
Mechanical Ventilation	29 (5.8)	10 (4.1)	19 (7.4)
ECMO	2 (0.4)	1 (0.4)	1 (0.4)
Death	28 (5.6)	9 (3.7)	19 (7.4)
Continuous Outcome (mean (SD))	3.00 (2.14)	2.79 (2.02)	3.19 (2.24)
Continuous Outcome (median [IQR])	3.12 [1.00, 4.41]	2.00 [1.00, 4.29]	3.13 [1.00, 4.50]

eTable 7. Worst Outcome on WHO Ordinal Scale at Day 14 by Assigned Treatment (Table 6 in Statistical Report)

	Overall	Usual Care	Prone
n	501	243	258
WHO Ordinal Scale (%)			
Discharge	332 (66.3)	164 (67.5)	168 (65.1)
No supplemental Oxygen	12 (2.4)	7 (2.9)	5 (1.9)
Supplemental Oxygen	26 (5.2)	12 (4.9)	14 (5.4)
NIV	17 (3.4)	8 (3.3)	9 (3.5)
MV or ECMO	22 (4.4)	13 (5.3)	9 (3.5)
Death	90 (18.0)	38 (15.6)	52 (20.2)
Unknown/Missing	2 (0.4)	1 (0.4)	1 (0.4)

eTable 8. Worst Outcome on Main Ordinal Scale at Day 14 by Assigned Treatment (Table 9 in Statistical Report)

	Overall	Usual Care	Prone
n	501	243	258
Ordinal Scale (%)			
Discharge	332 (66.3)	164 (67.5)	168 (65.1)
Room Air	11 (2.2)	7 (2.9)	4 (1.6)
Low Flow	23 (4.6)	10 (4.1)	13 (5.0)
High Flow	5 (1.0)	3 (1.2)	2 (0.8)
NIV	16 (3.2)	7 (2.9)	9 (3.5)
MV	17 (3.4)	9 (3.7)	8 (3.1)
ECMO	5 (1.0)	4 (1.6)	1 (0.4)
Death	90 (18.0)	38 (15.6)	52 (20.2)
Unknown/Missing	2 (0.4)	1 (0.4)	1 (0.4)

eTable 9. Worst Outcome on WHO Ordinal Scale at Day 28 by Assigned Treatment (Table 8 in Statistical Report)

Vanderbilt Participants Only

- Added post hoc

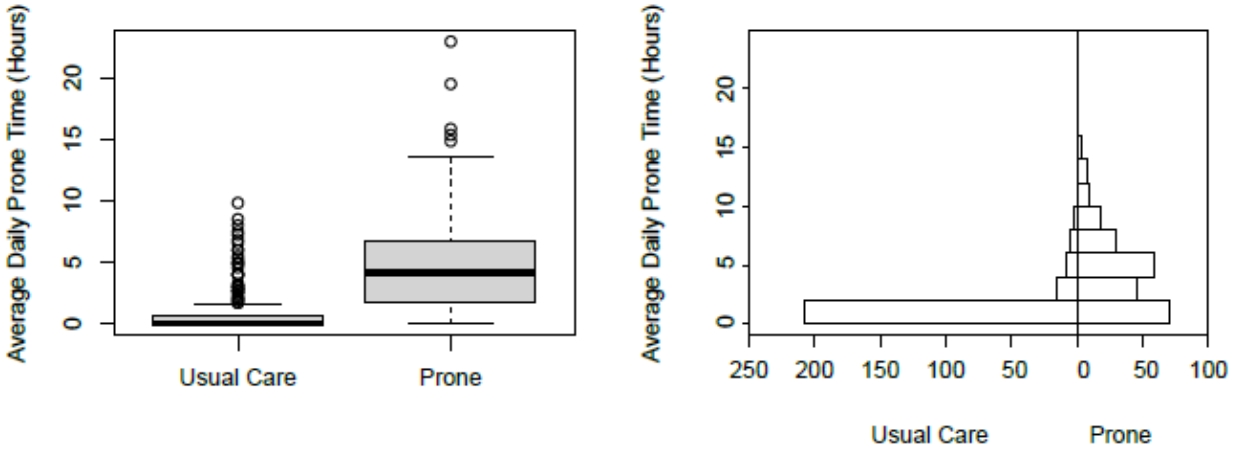
	Overall	Usual Care	Prone
n	461	222	239
WHO Ordinal Scale (%)			
Discharge	336 (72.9)	162 (73.0)	174 (72.8)
No supplemental Oxygen	2 (0.4)	1 (0.5)	1 (0.4)
Supplemental Oxygen	2 (0.4)	1 (0.5)	1 (0.4)
NIV	7 (1.5)	4 (1.8)	3 (1.3)
MV or ECMO	11 (2.4)	7 (3.2)	4 (1.7)
Death	103 (22.3)	47 (21.2)	56 (23.4)

eTable 10. Worst Outcome on Main Ordinal Scale at Day 28 by Assigned Treatment (Table 10 in Statistical Report)

Vanderbilt Participants Only

	Overall	Usual Care	Prone
n	461	222	239
Ordinal Scale (%)			
Discharge	336 (72.9)	162 (73.0)	174 (72.8)
Room Air	2 (0.4)	1 (0.5)	1 (0.4)
Low Flow	3 (0.7)	2 (0.9)	1 (0.4)
High Flow	2 (0.4)	1 (0.5)	1 (0.4)
NIV	4 (0.9)	2 (0.9)	2 (0.8)
MV	6 (1.3)	3 (1.4)	3 (1.3)
ECMO	5 (1.1)	4 (1.8)	1 (0.4)
Death	103 (22.3)	47 (21.2)	56 (23.4)

eFigure 1. Average Daily Prone Time for All Participants With Nursing Data Available by Treatment Assignment (Figure 4 in Statistical Report)



	Overall	Usual Care	Prone
n	481	238	243
Average Daily Prone Time (mean (SD))	2.74 (3.57)	0.80 (1.73)	4.64 (3.87)
Average Daily Prone Time (median [IQR])	1.09 [0.00, 4.80]	0.00 [0.00, 0.66]	4.18 [1.78, 6.70]

eFigure 2. Enrollment Time by Treatment Interaction

Differential Treatment Effects

- Stacking shows what the relative probability of each model being correct is

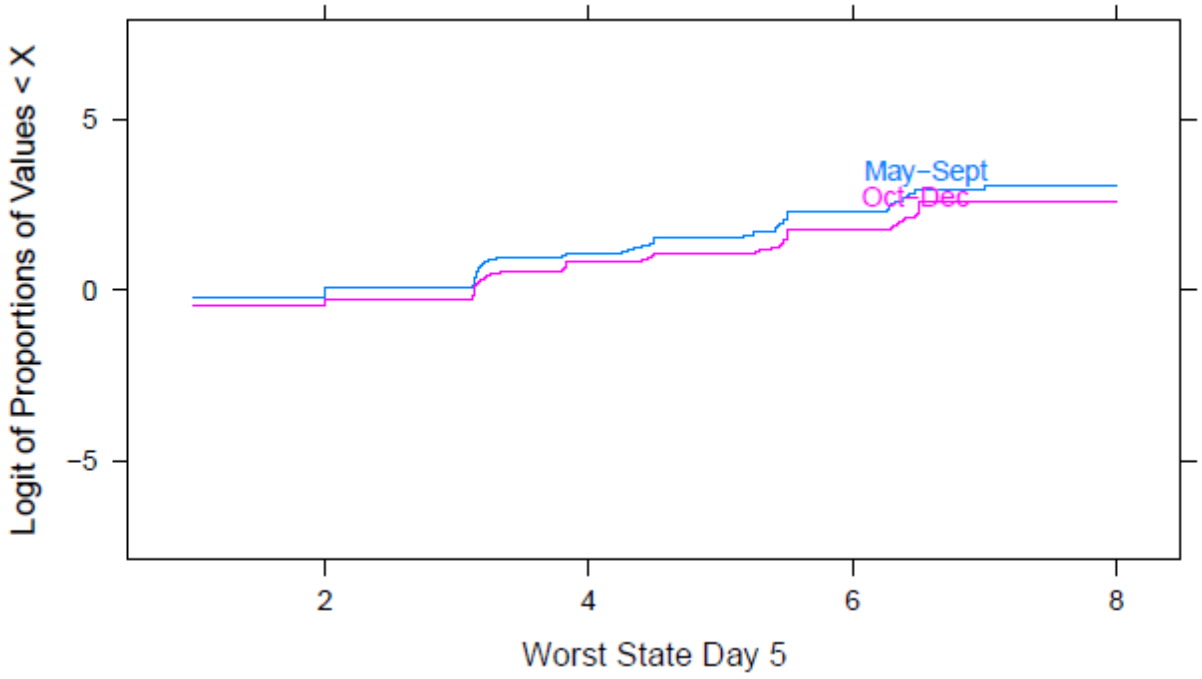
Enrollment time by treatment interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by enrollment time interaction)

```
## Method: stacking
## ------
##        weight
## model1 0.607
## model2 0.393
```

The model without the treatment by enrollment time interaction term has a 61% chance of being the correct model, over the model with the interaction term.

Enrollment Time Period



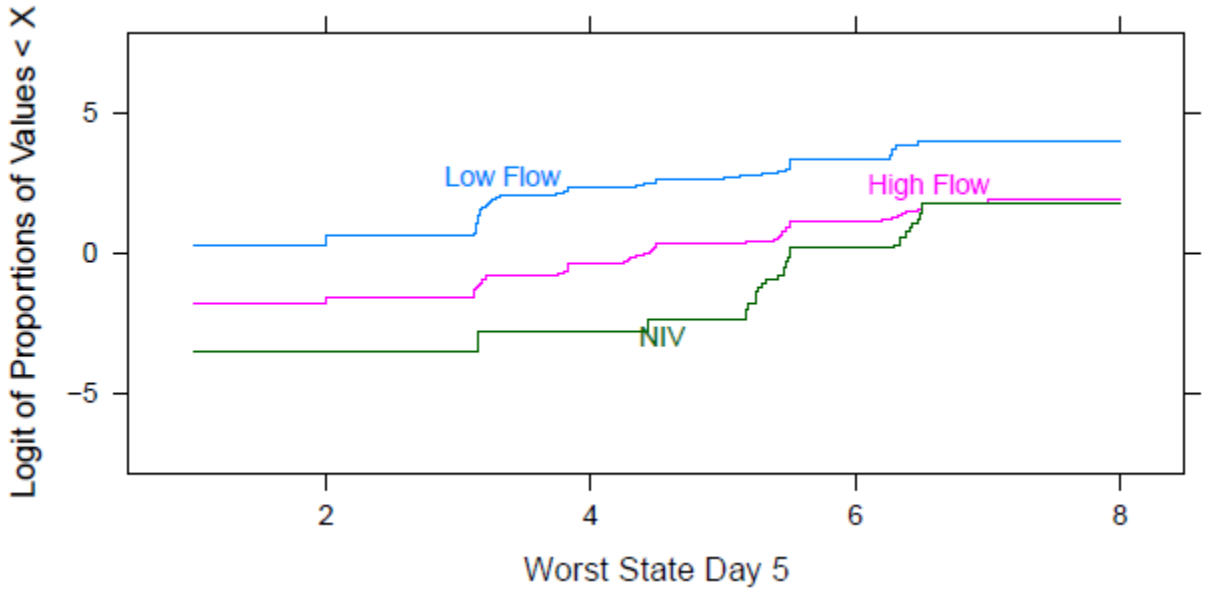
eFigure 3. Baseline Severity by Treatment Interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by baseline severity interaction)

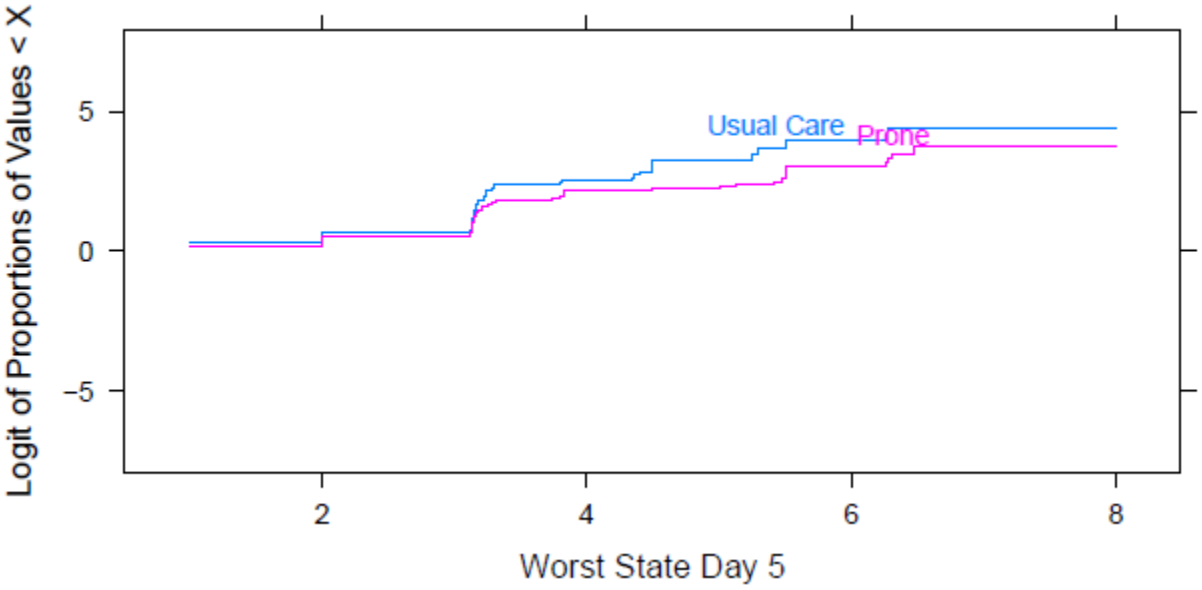
```
## Method: stacking
## ------
##        weight
## model1 0.809
## model2 0.191
```

The model without the treatment by baseline severity interaction term has a 81% chance of being the correct model, over the model with the interaction term.

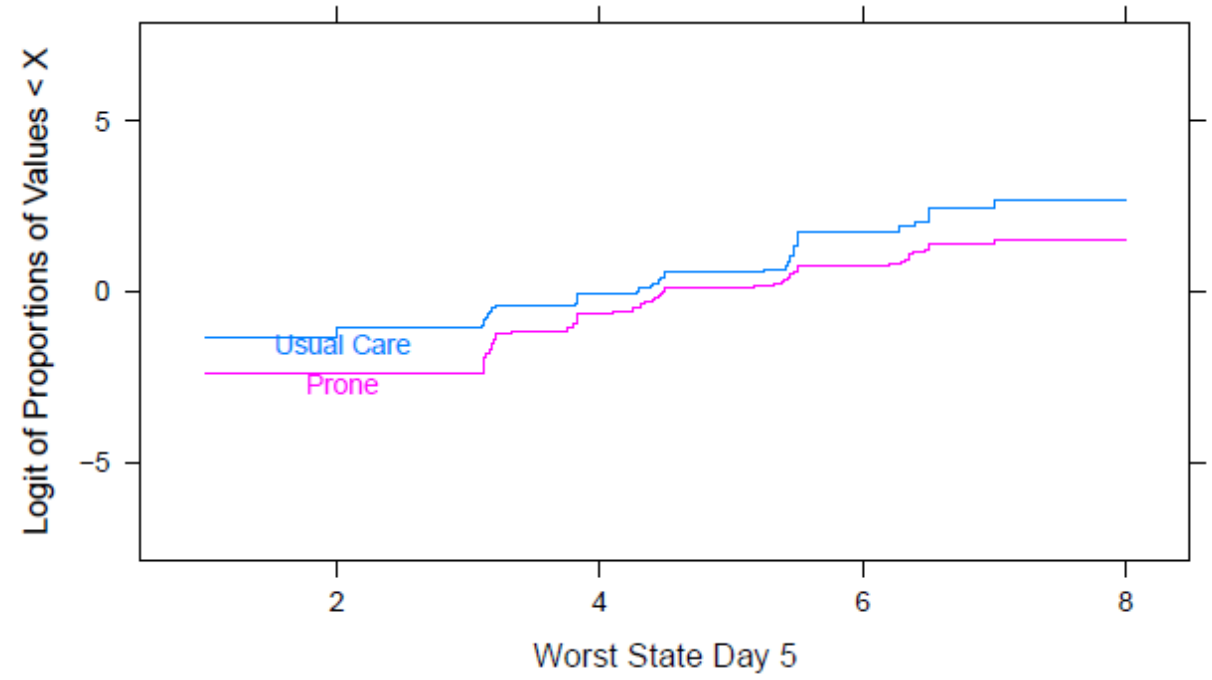
Baseline Severity



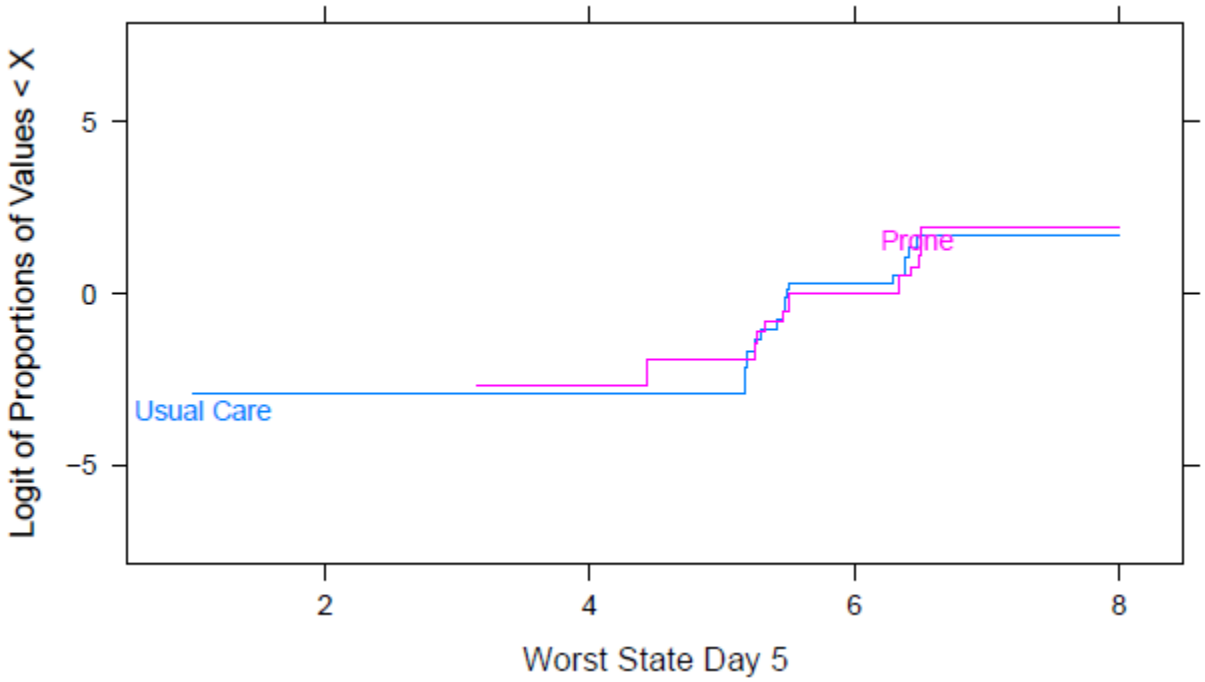
Baseline Severity: Low Flow



Baseline Severity: High Flow



Baseline Severity: Non-Invasive Ventilation



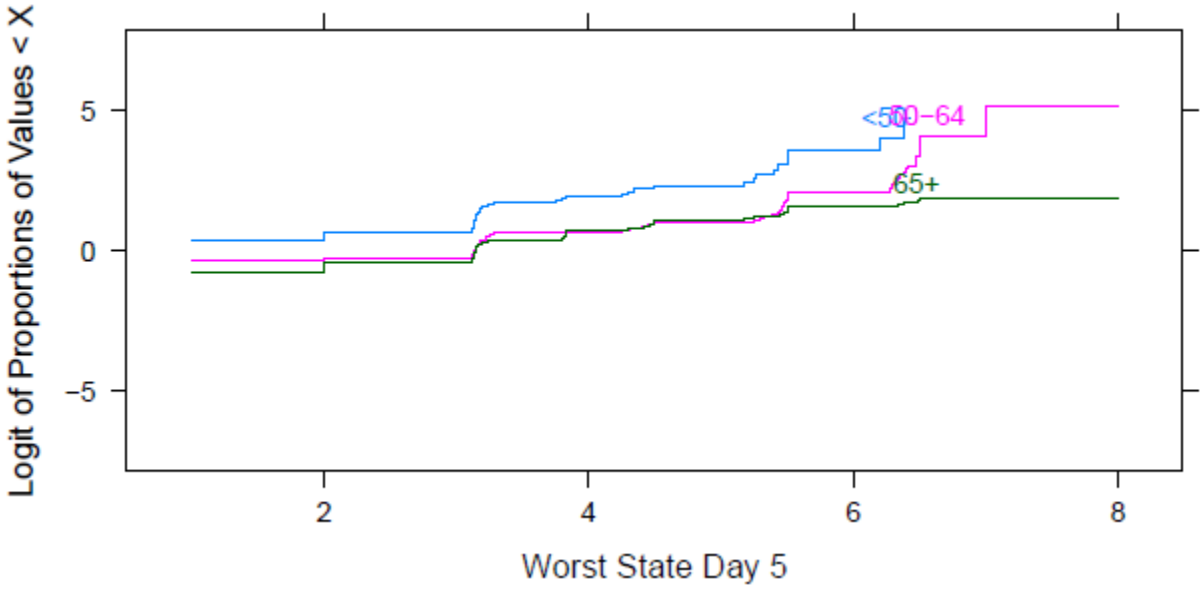
eFigure 4. Age by Treatment Interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by age interaction)

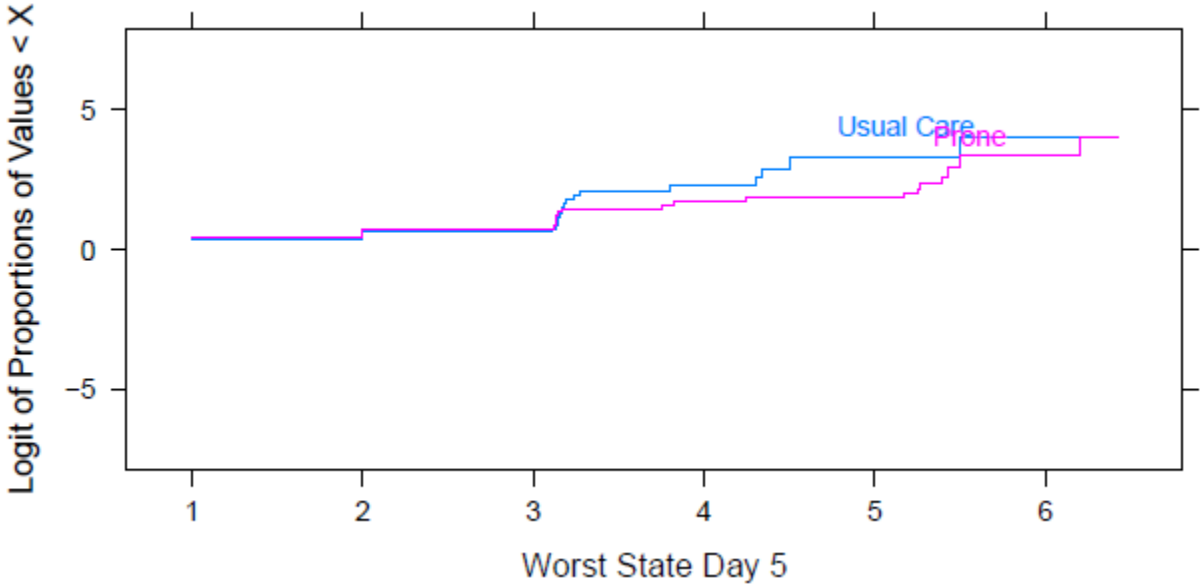
```
## Method: stacking
## ------
##        weight
## model1 0.733
## model2 0.267
```

The model without the treatment by age interaction term has a 73% chance of being the correct model, over the model with the interaction term.

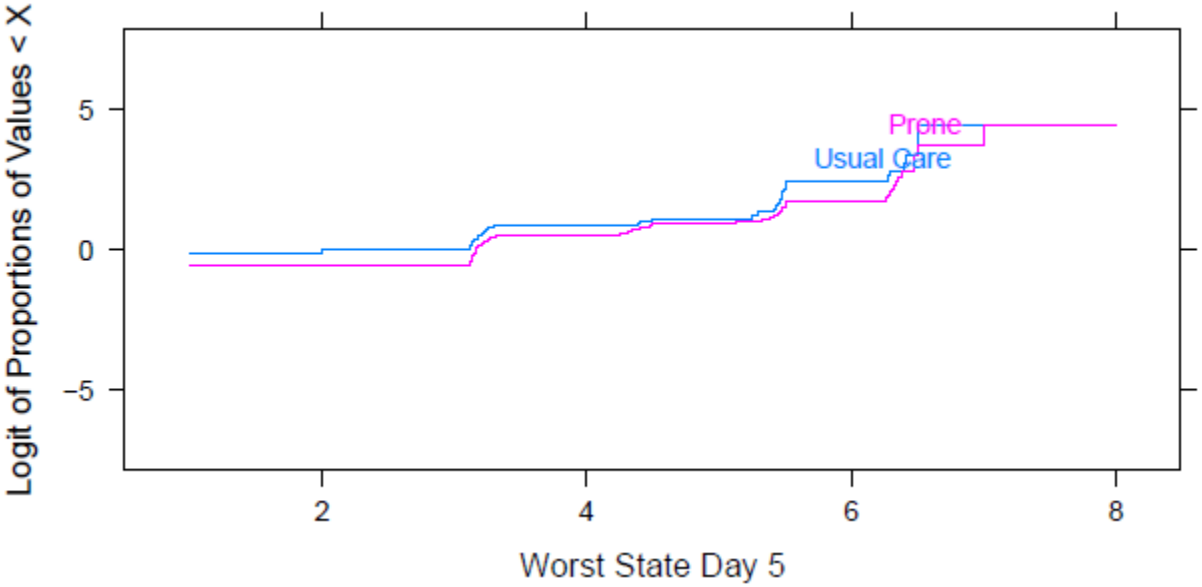
Age



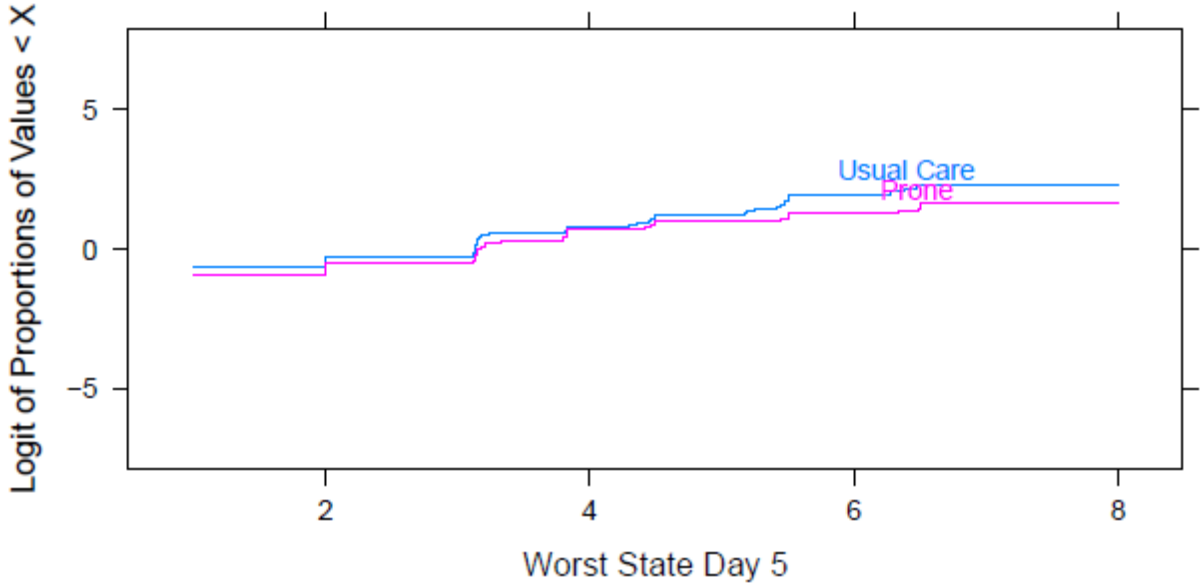
Age: < 50



Age: 50-64



Age: 65+



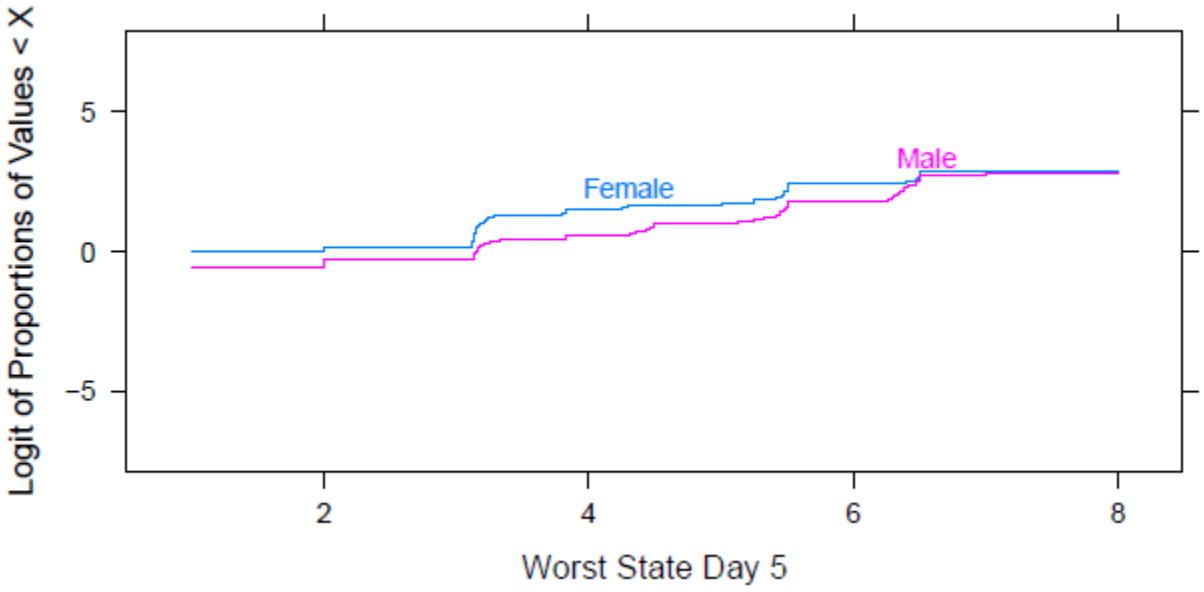
eFigure 5. Sex by Treatment Interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by sex interaction)

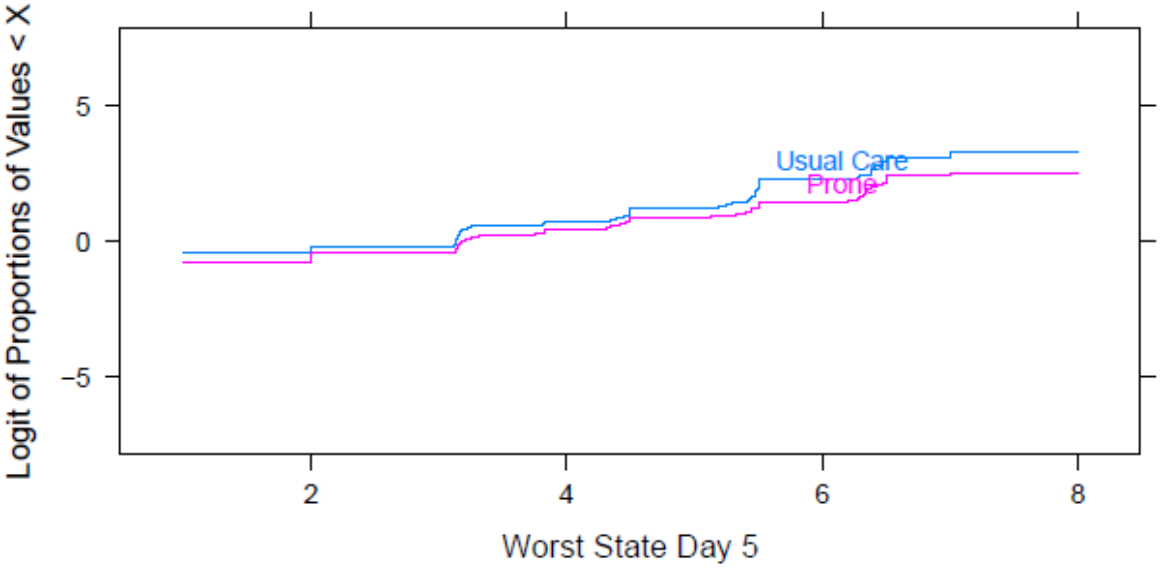
```
## Method: stacking
## ------
##        weight
## model1 0.914
## model2 0.086
```

The model without the treatment by sex interaction term has a 91% chance of being the correct model, over the model with the interaction term.

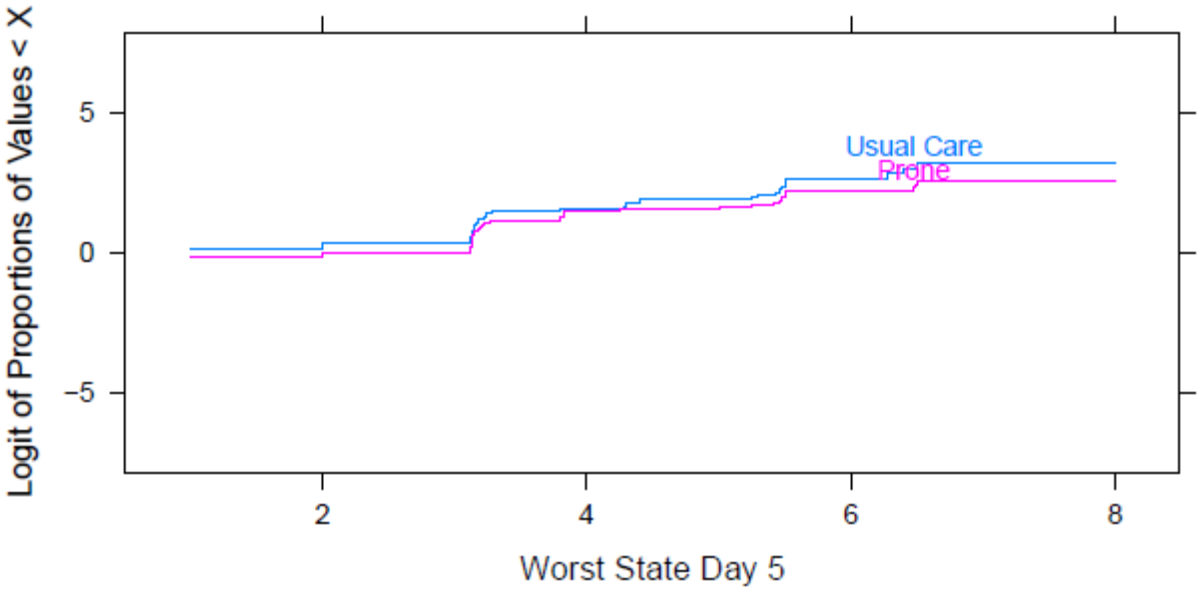
Sex



Sex: Male



Sex: Female



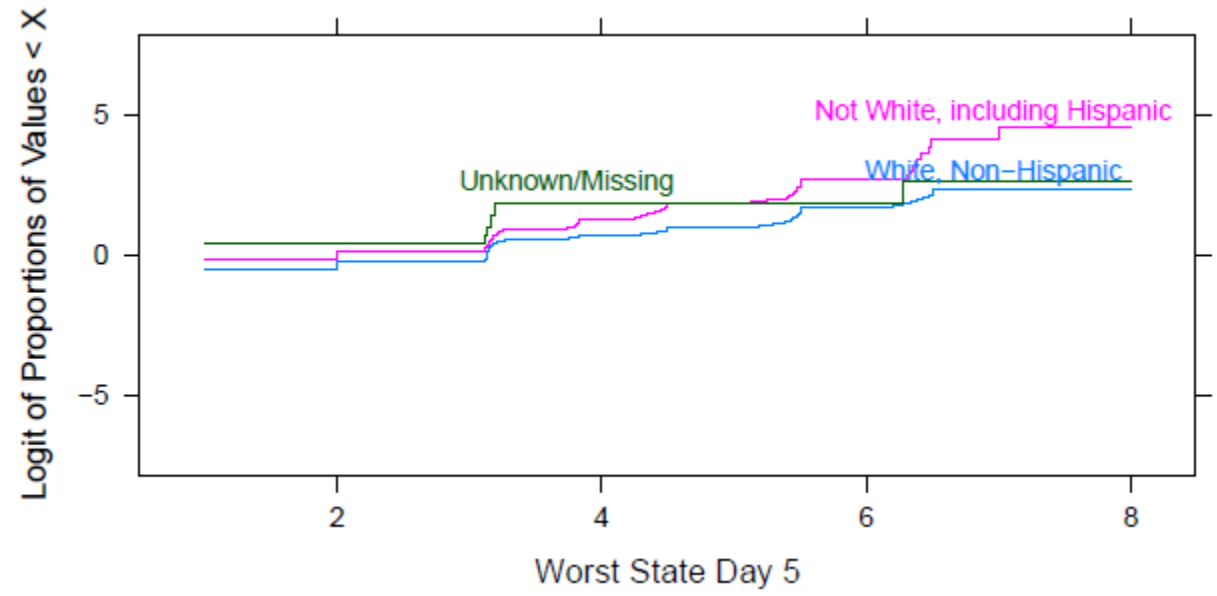
eFigure 6. Race by Treatment Interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by race interaction)

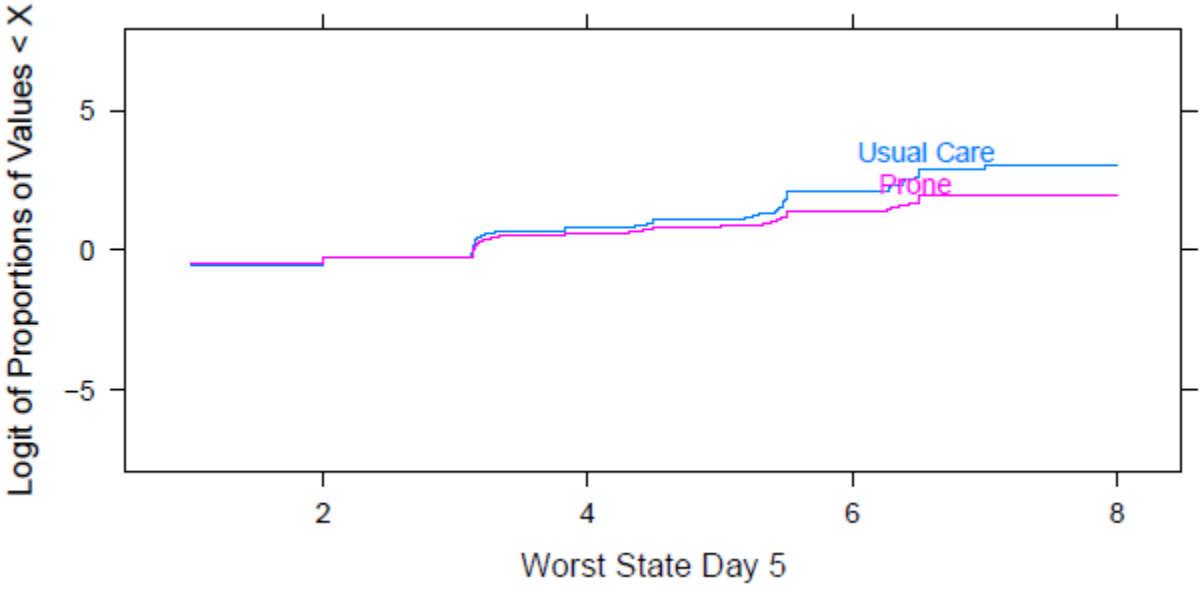
```
## Method: stacking
## ------
##        weight
## model1 0.803
## model2 0.197
```

The model without the treatment by race interaction term has a 80% chance of being the correct model, over the model with the interaction term.

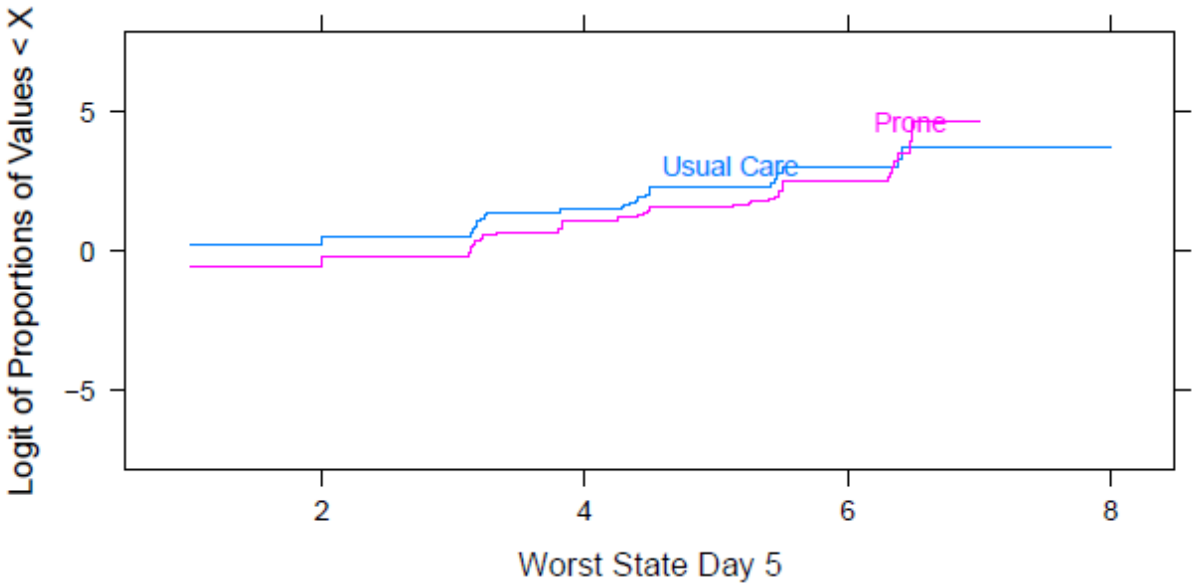
Race-Ethnicity



Race-Ethnicity: White non-Hispanic



Race-Ethnicity: Not White, Including Hispanic



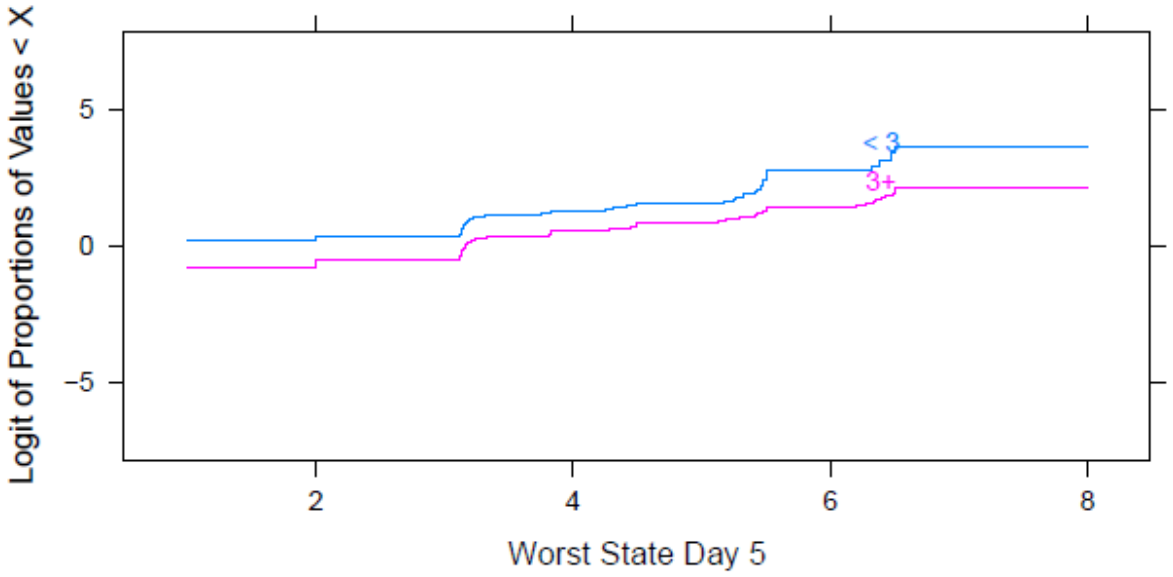
eFigure 7. Elixhauser Score by Treatment Interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by Elixhauser score interaction)

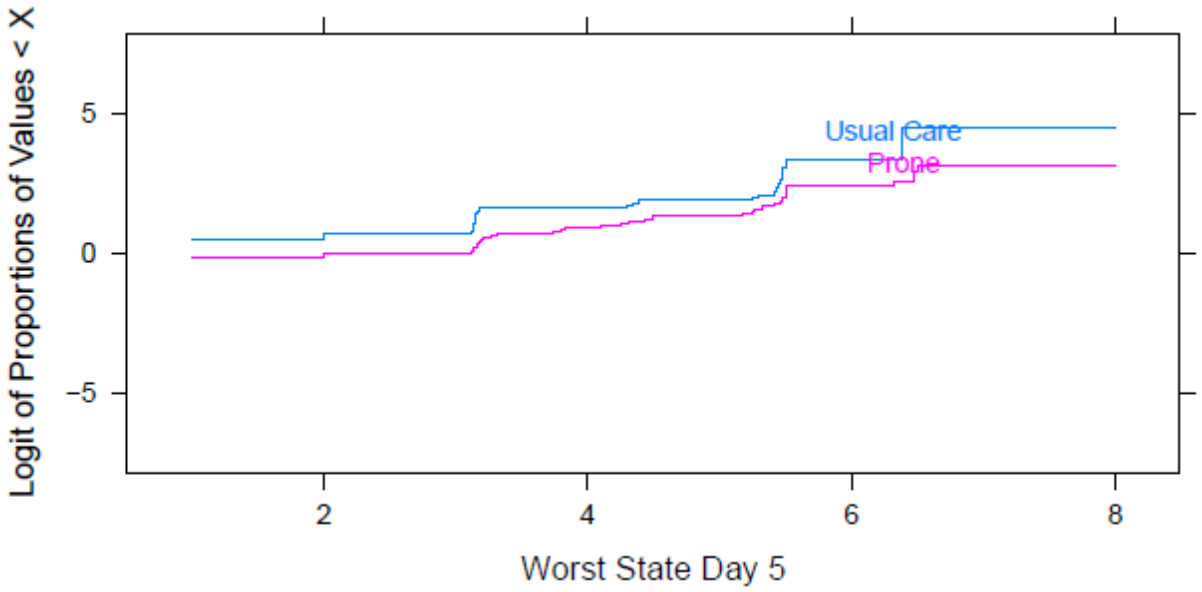
```
## Method: stacking
## ------
##        weight
## model1 0.862
## model2 0.138
```

The model without the treatment by enrollment time interaction term has a 86% chance of being the correct model, over the model with the interaction term.

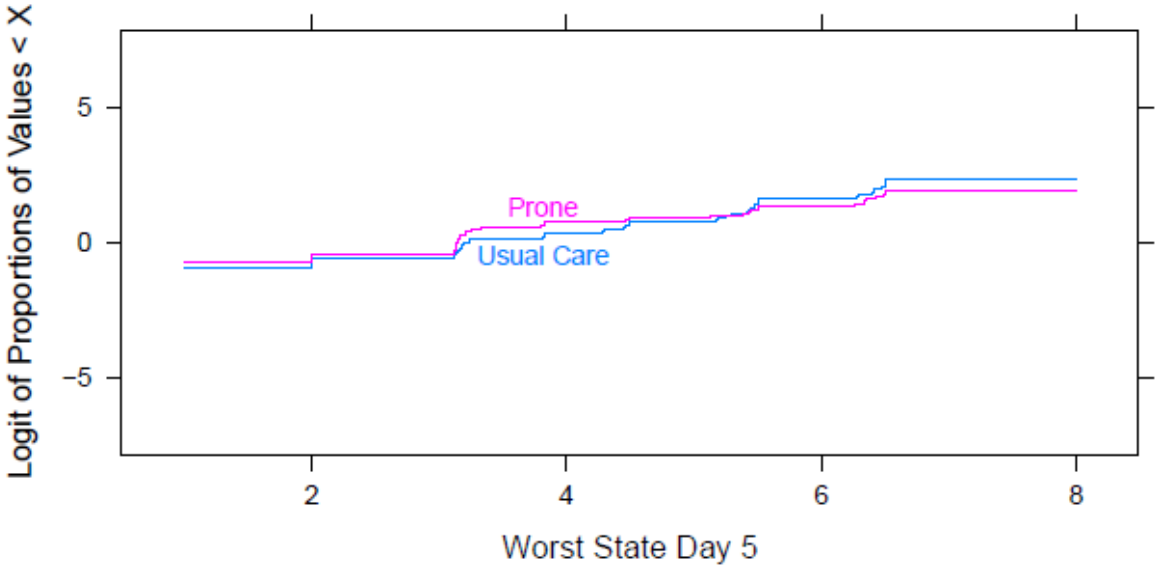
Elixhauser Score



Elixhauser Score: < 3



Elixhauser Score: 3+



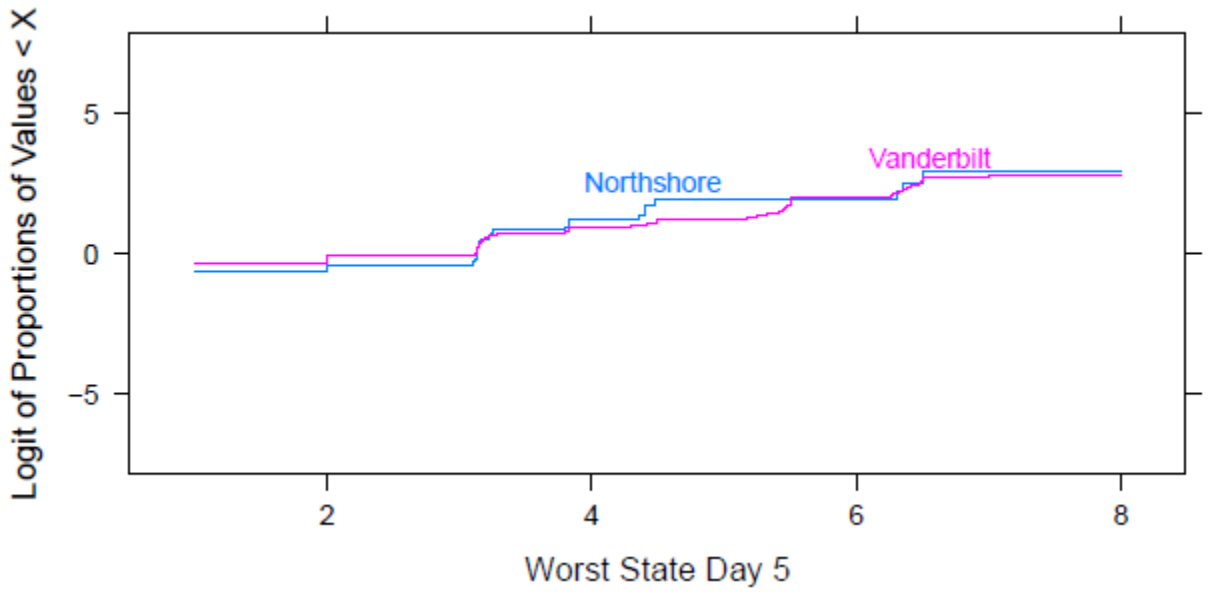
eFigure 8. Site by Treatment Interaction

Comparing model 1 (no interaction) to model 2 (includes treatment by site interaction)

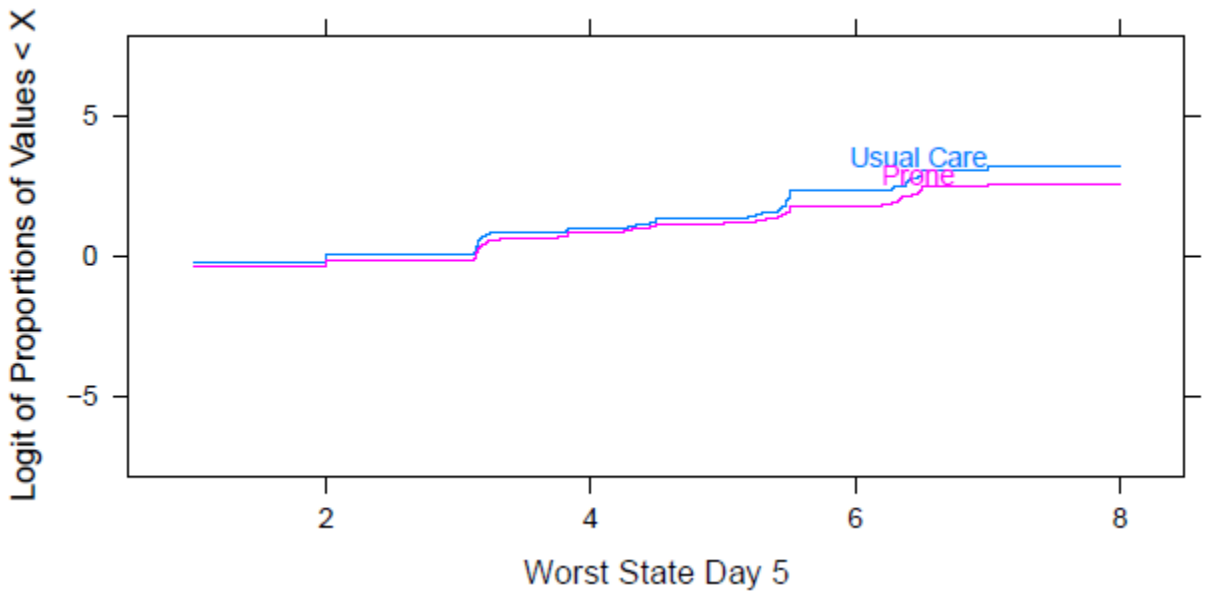
```
## Method: stacking
## ------
##        weight
## model1 0.544
## model2 0.456
```

The model without the treatment by site interaction term has a 54% chance of being the correct model, over the model with the interaction term.

Site



Site: Vanderbilt



Site: Northshore