

# Report 2024/11/18

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## 1 Update on included variables

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Based on Dr. Cogan's `variable prioritization for model_11.14.2024.docx`, we've drastically decreased number of selected variables.

More modifications that differ from the previous processing pipeline include:

- `'race'` now follows [NINDS](#)'s grouping
- Note that `'age_at_admit'` is also included as an interested predictor which is not in the `.docx`
- `'pressure_ulcer_adm'`, `'low_interest_adm'` and `'depressed_adm'` are 3 newly added variables we previously didn't have, the first one is treated as a binary variable and the rest two are categorical
- `'stroke_type'` is also included as a predictor, which is 3-categorical and is inferred from the diagnosis code in the raw data, according to [diagnostic codes\\_stroke type\(diagnosis\).csv](#) (if you are to run the jupyter code, remember to put this file under `./data/Data Preprocessing/` and run from section 1)
- Therapy doses predictors now only include independent ones from 3 departments and 2 weeks (6 in total)

```
total # of features: 38
```

```
+-----+-----+-----+
|   Index | Name                               | Dtype   |
+=====+=====+=====+
|         0 | selfcare_measure_delta | float64 |
+-----+-----+-----+
```

	1		mobility_measure_delta		float64	
+-----+-----+-----+						
	2		sex		object	
+-----+-----+-----+						
	3		marital_status		object	
+-----+-----+-----+						
	4		payor_primary		object	
+-----+-----+-----+						
	5		stroke_type		object	
+-----+-----+-----+						
	6		ptindweek1		float64	
+-----+-----+-----+						
	7		otindweek1		float64	
+-----+-----+-----+						
	8		slpindweek1		float64	
+-----+-----+-----+						
	9		ptindweek2		float64	
+-----+-----+-----+						
	10		otindweek2		float64	
+-----+-----+-----+						
	11		slpindweek2		float64	
+-----+-----+-----+						
	12		hispanic		object	
+-----+-----+-----+						
	13		race		object	
+-----+-----+-----+						
	14		hearing_adm		Int64	
+-----+-----+-----+						
	15		vision_adm		Int64	
+-----+-----+-----+						

	16		health_lit_adm		Int64	
+-----+-----+-----+-----+						
	17		expression_adm		Int64	
+-----+-----+-----+-----+						
	18		understand_verbal_adm		Int64	
+-----+-----+-----+-----+						
	19		bims_total		Int64	
+-----+-----+-----+-----+						
	20		acute_mental_change		int64	
+-----+-----+-----+-----+						
	21		low_interest_adm		object	
+-----+-----+-----+-----+						
	22		depressed_adm		object	
+-----+-----+-----+-----+						
	23		socisolation_adm		Int64	
+-----+-----+-----+-----+						
	24		selfcare_prior		Int64	
+-----+-----+-----+-----+						
	25		mobility_prior		Int64	
+-----+-----+-----+-----+						
	26		selfcare_measure_adm		float64	
+-----+-----+-----+-----+						
	27		mobility_measure_adm		float64	
+-----+-----+-----+-----+						
	28		bladder_incontinence		Int64	
+-----+-----+-----+-----+						
	29		bowel_incontinence		Int64	
+-----+-----+-----+-----+						
	30		pvd_comorbid		int64	
+-----+-----+-----+-----+						

31	pain_sleep_adm	Int64
32	pain_therapy_adm	Int64
33	pain_activities_adm	Int64
34	falls_hx	object
35	pressure_ulcer_adm	int64
36	age_at_admit	float64
37	los	float64

Based on previous drop-out strategy on these statistical criteria:

1. numeric features with a na\_ratio > 0.3
2. numeric features with a std < 0.1
3. categorical features with a mode\_ratio > 0.95

Actually none of the variables get eliminated. After one-hot expansion we have

total # of features: 49

Index	Name	Dtype	# of NaNs
0	selfcare_measure_delta	float64	0

1	mobility_measure_delta	float64	0
2	ptindweek1	float64	0
3	otindweek1	float64	0
4	slpindweek1	float64	0
5	ptindweek2	float64	0
6	otindweek2	float64	0
7	slpindweek2	float64	0
8	hearing_adm	int64	0
9	vision_adm	int64	0
10	health_lit_adm	float64	3453
11	expression_adm	int64	0
12	understand_verbal_adm	int64	0
13	bims_total	float64	4658
14	acute_mental_change	int64	0
15	socisolation_adm	float64	4138

16	selfcare_prior	float64	275
17	mobility_prior	float64	622
18	selfcare_measure_adm	float64	0
19	mobility_measure_adm	float64	0
20	bladder_incontinence	float64	2515
21	bowel_incontinence	float64	5852
22	pvd_comorbid	int64	0
23	pain_sleep_adm	int64	0
24	pain_therapy_adm	float64	12243
25	pain_activities_adm	float64	12243
26	pressure_ulcer_adm	int64	0
27	age_at_admit	float64	0
28	los	float64	0
29	sex_male	int64	0
30	marital_status_Unknown	int64	0

31	marital_status_Unmarried	int64	0
32	payor_primary_Medicare_FFS	int64	0
33	payor_primary_Not_listed	int64	0
34	stroke_type_Ischemic	int64	0
35	stroke_type_Other	int64	0
36	hispanic_Yes	int64	0
37	race_Asian	int64	0
38	race_Black_or_African_American	int64	0
39	race_Multiracial	int64	0
40	race_Native_Hawaiian_or_Other_Pacific_Islander	int64	0
41	race_Unknown	int64	0
42	race_White	int64	0
43	low_interest_adm_1	int64	0
44	low_interest_adm_Unknown	int64	0
45	depressed_adm_1	int64	0

46	depressed_adm_Unknown	int64	0
47	falls_hx_Unknown	int64	0
48	falls_hx_Yes	int64	0

Which is the variable set our predictive models are going to work on.

Other parts of the preprocessings (MICE imputation, standardized normalization) pretty much stay the same.

## 2 Selfcare results

### 2.1 Linear regressor

```

-----train set results-----
MSE: 345.03192292015507
R²: 0.24283026453429812
-----eval set results-----
MSE: 337.66511389063197
R²: 0.2549032557866795
-----test set results-----
MSE: 340.19423933094663
R²: 0.24247959836438682

```

As a comparison (with our previous expansive variable set):



Data split	MSE (new core var set)	MSE (previous expansive var set)	R square (new)	R square (previous)
train	345.0	314.7	0.2428	0.3094
eval	337.7	304.9	0.2549	0.3273
test	340.2	313.1	0.2425	0.3028

We do see a predictive power loss here.

A linear model summary report:

OLS Regression Results

=====

Dep. Variable:

selfcare\_measure\_delta

R-squared:

0.243

Model:

OLS

Adj. R-squared:

0.242

Method:

Least Squares

F-statistic:

195.0

Date:

Mon, 18 Nov 2024

Prob (F-statistic):

0.00

Time:

04:29:30

Log-Likelihood:

-1.2425e+05

No. Observations:

28625

AIC:

2.486e+05

Df Residuals:

28577

BIC:

2.490e+05

Df Model:

47

Covariance Type:

nonrobust

=====

==

coef

std err

t

P>|t|

[0.025

0.975]

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const	19.4437	1.754	11.085	0.000	16.006
22.882					
ptindweek1	2.3108	0.143	16.125	0.000	2.030
2.592					
otindweek1	1.8499	0.141	13.078	0.000	1.573
2.127					
slpindweek1	0.6710	0.155	4.339	0.000	0.368
0.974					
ptindweek2	-0.7206	0.215	-3.350	0.001	-1.142
-0.299					
otindweek2	-0.0865	0.213	-0.406	0.685	-0.504
0.331					
slpindweek2	-0.0073	0.181	-0.040	0.968	-0.362
0.348					
hearing_adm	-0.0282	0.121	-0.234	0.815	-0.265
0.208					
vision_adm	-0.3421	0.116	-2.952	0.003	-0.569
-0.115					
health_lit_adm	-0.8063	0.127	-6.331	0.000	-1.056
-0.557					
expression_adm	0.1393	0.188	0.743	0.458	-0.228
0.507					
understand_verbal_adm	1.0549	0.189	5.589	0.000	0.685
1.425					
bims_total	1.5414	0.159	9.718	0.000	1.231
1.852					
acute_mental_change	-0.8643	0.265	-3.265	0.001	-1.383
-0.346					
socisolation_adm	-0.0604	0.121	-0.499	0.618	-0.298
0.177					

selfcare_prior 1.434	1.1492	0.145	7.917	0.000	0.865
mobility_prior 0.680	0.3970	0.144	2.753	0.006	0.114
selfcare_measure_adm -2.711	-3.0625	0.179	-17.087	0.000	-3.414
mobility_measure_adm 7.493	7.1442	0.178	40.110	0.000	6.795
bladder_incontinence -2.897	-3.2276	0.169	-19.141	0.000	-3.558
bowel_incontinence -0.014	-0.3437	0.168	-2.046	0.041	-0.673
pvd_comorbid -0.208	-1.1288	0.470	-2.402	0.016	-2.050
pain_sleep_adm 0.538	0.0496	0.249	0.199	0.842	-0.439
pain_therapy_adm -0.125	-0.6149	0.250	-2.461	0.014	-1.105
pain_activities_adm 1.577	0.9826	0.303	3.239	0.001	0.388
pressure_ulcer_adm -0.931	-1.6538	0.369	-4.485	0.000	-2.377
age_at_admit -1.234	-1.5430	0.158	-9.789	0.000	-1.852
los 0.732	0.4448	0.146	3.040	0.002	0.158
sex_male -0.710	-1.1578	0.228	-5.067	0.000	-1.606
marital_status_Unknown 1.612	0.6488	0.491	1.320	0.187	-0.314

marital_status_Unmarried 1.828	1.3657	0.236	5.792	0.000	0.904
payor_primary_Medicare_FFS 1.826	1.2854	0.276	4.657	0.000	0.744
payor_primary_Not_listed 1.831	1.1585	0.343	3.375	0.001	0.486
stroke_type_Ischemic 0.503	-0.1192	0.318	-0.375	0.707	-0.742
stroke_type_Other 1.898	0.0702	0.932	0.075	0.940	-1.757
hispanic_Yes 1.541	0.6378	0.461	1.383	0.167	-0.266
race_Asian 2.461	-1.0919	1.813	-0.602	0.547	-4.645
race_Black_or_African_American 2.581	-0.7826	1.716	-0.456	0.648	-4.146
race_Multiracial 8.401	2.6951	2.911	0.926	0.355	-3.011
race_Native_Hawaiian_or_Other_Pacific_Islander 2.907	-3.0738	3.051	-1.007	0.314	-9.054
race_Unknown 3.807	0.3347	1.772	0.189	0.850	-3.138
race_White 4.250	0.9080	1.705	0.532	0.594	-2.434
low_interest_adm_1 0.233	-0.6365	0.444	-1.435	0.151	-1.506
low_interest_adm_Unknown 7.039	3.4983	1.806	1.937	0.053	-0.042
depressed_adm_1 0.972	0.1963	0.396	0.496	0.620	-0.579

depressed_adm_Unknown	-3.1818	1.792	-1.776	0.076	-6.694
0.330					
falls_hx_Unknown	-0.7349	0.494	-1.488	0.137	-1.703
0.233					
falls_hx_Yes	-1.2752	0.244	-5.217	0.000	-1.754
-0.796					

```
=====
Omnibus:                100.540    Durbin-Watson:                1.993
Prob(Omnibus):           0.000    Jarque-Bera (JB):           121.510
Skew:                    -0.076    Prob(JB):                   4.12e-27
Kurtosis:                 3.281    Cond. No.                   102.
=====
```

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

## 2.2 Random forest

```
-----train set results-----  
MSE: 41.601896501597565  
R²: 0.9087049780716215  
-----eval set results-----  
MSE: 290.7380066492272  
R²: 0.35845329214680255  
-----test set results-----  
MSE: 295.39205618694007  
R²: 0.3422419219009242
```

Data split	MSE (new core var set)	MSE (previous expansive var set)	R square (new)	R square (previous)
train	41.60	41.10	0.9087	0.9098
eval	290.7	286.8	0.3585	0.3672
test	295.4	289.0	0.3422	0.3566

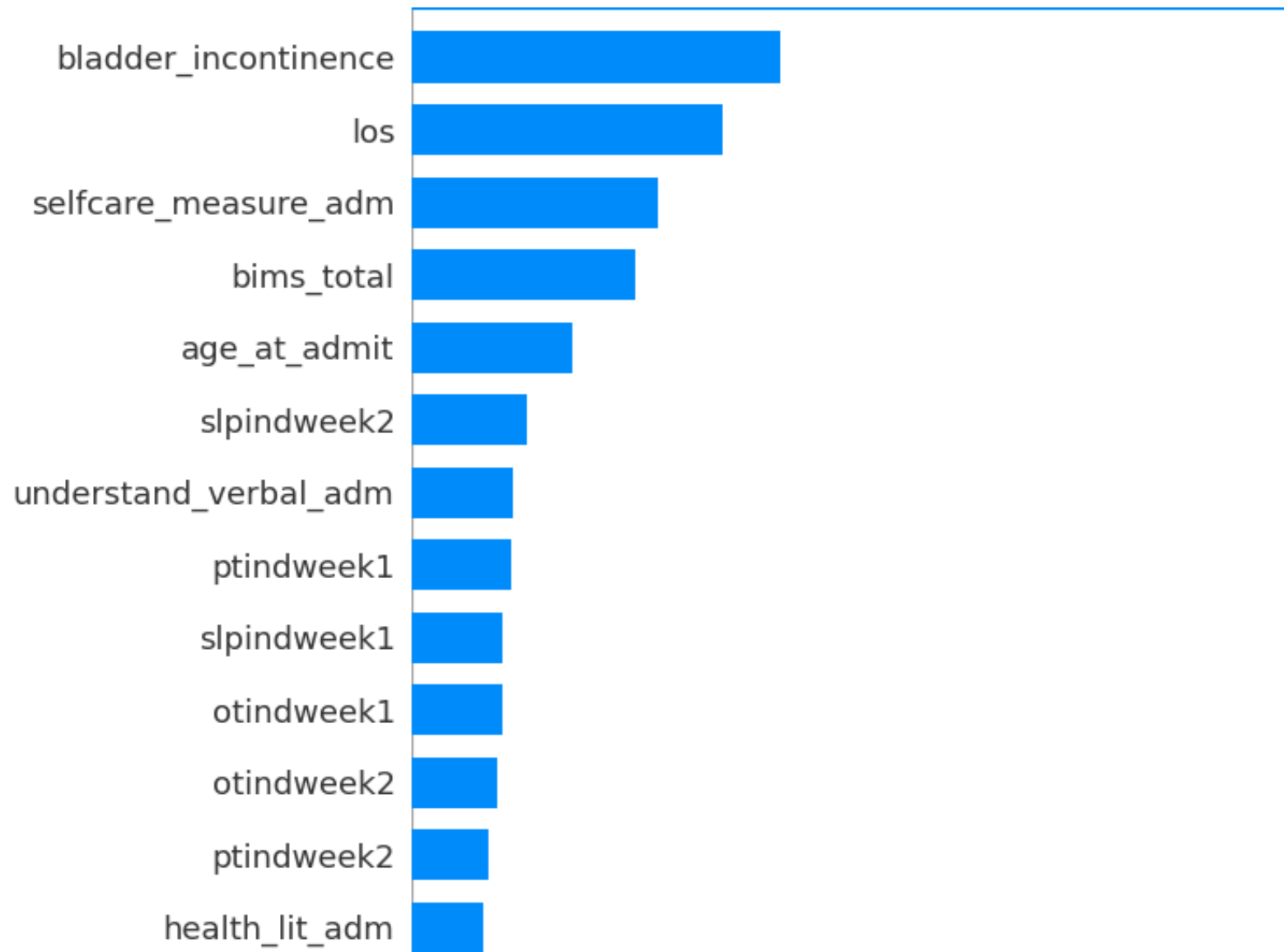
For RF however, the performance didn't drop by a lot margin. This infers that the non-linear relationships in the core variable set are still meaningful but aren't captured by LR.

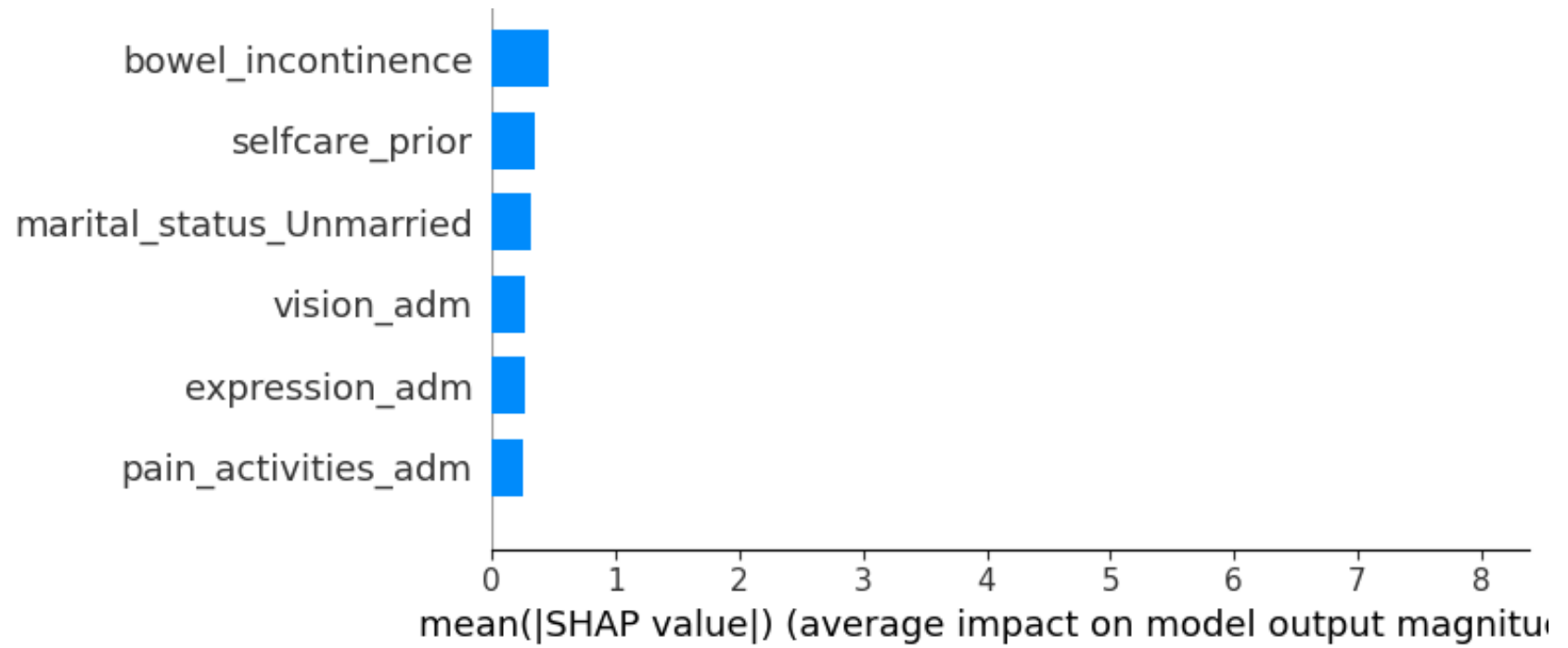
## Shapley value test

A quick (approximated) SHAP test yields top 20 meaning ful variables are:

mobility\_measure\_adm



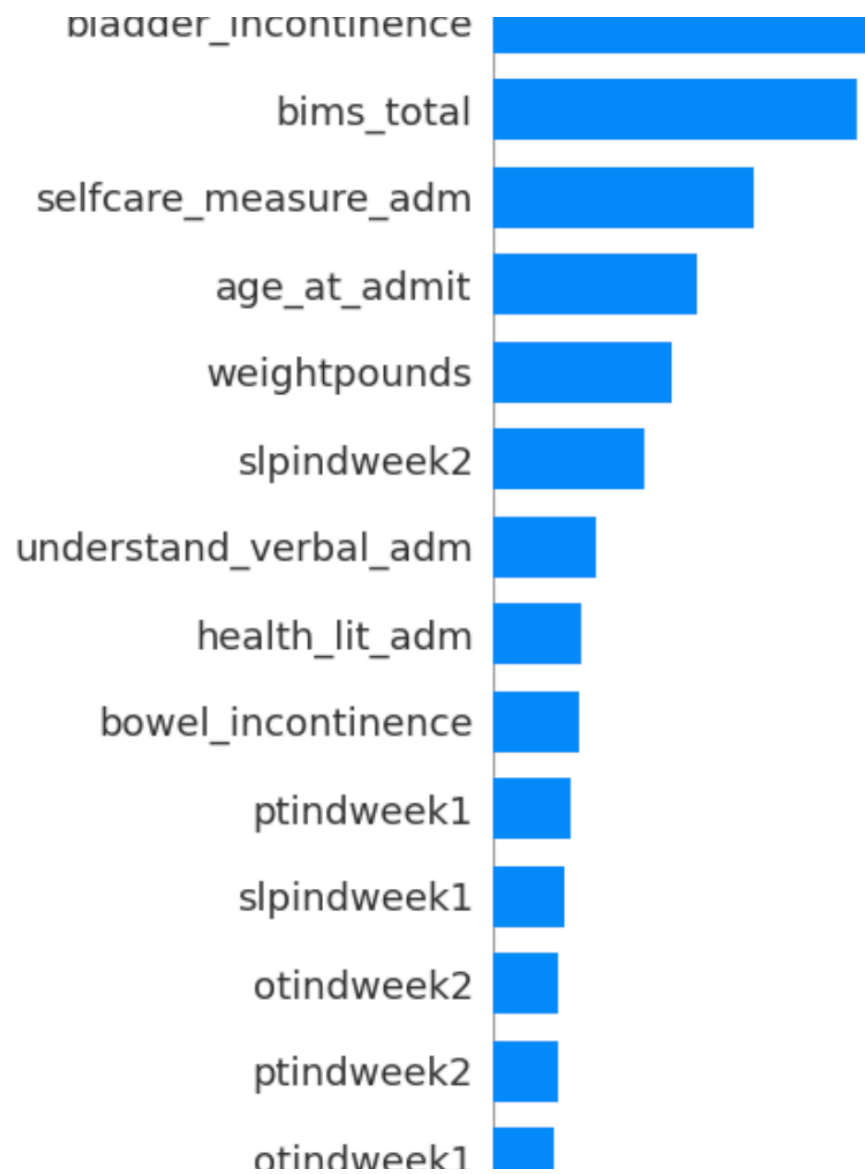


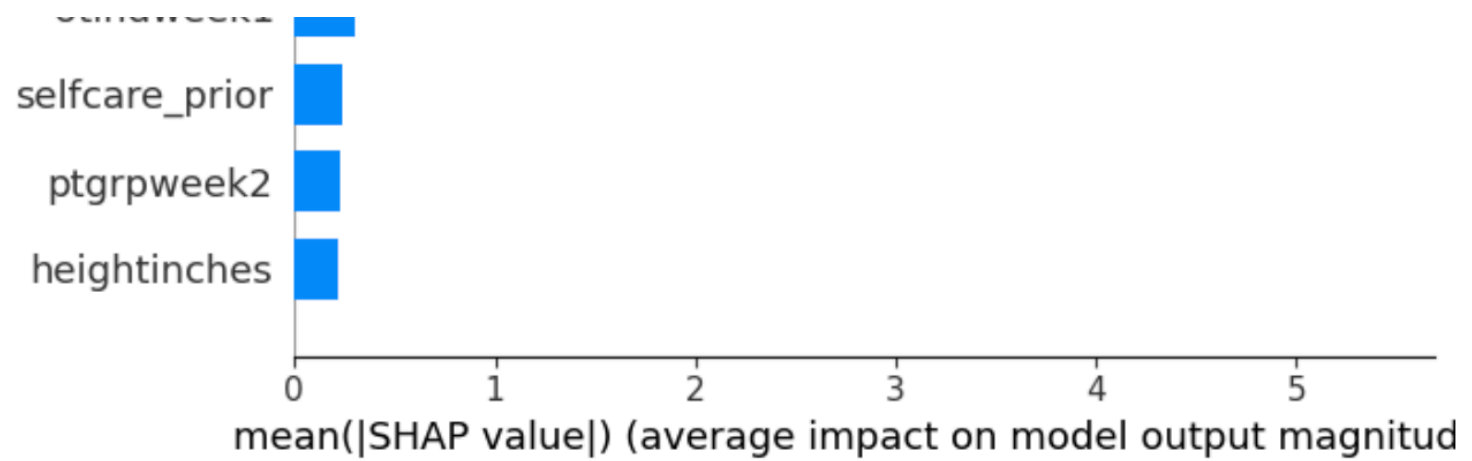


Previously on expansive variable set as a comparison:









## 2.3 XGBoost

Just gonna show the results here

```
-----train set results-----  
MSE: 179.0153137579643  
R²: 0.6071523567580315  
-----eval set results-----  
MSE: 299.4546723554032  
R²: 0.3392189710076301  
-----test set results-----  
MSE: 301.6484035761546  
R²: 0.3283107313070728
```

**Gain**

Another way to look at variable importance

Feature	Gain
mobility_measure_adm	9612.55859375
bladder_incontinence	8522.181640625
los	7966.0810546875
understand_verbal_adm	7278.1328125
selfcare_prior	5655.69384765625
mobility_prior	4459.1748046875
selfcare_measure_adm	3786.983642578125
bims_total	3397.39404296875
bowel_incontinence	3242.993896484375
pressure_ulcer_adm	2298.74853515625
health_lit_adm	2183.196044921875
slpindweek2	1927.4615478515625
payor_primary_Not_listed	1915.0203857421875
race_Multiracial	1881.9466552734375
age_at_admit	1641.427978515625
marital_status_Unmarried	1529.295166015625
falls_hx_Yes	1518.6419677734375
otindweek2	1466.2822265625
race_Asian	1430.3272705078125
race_Black_or_African_American	1411.83740234375
pvd_comorbid	1406.11865234375
expression_adm	1375.82080078125
acute_mental_change	1337.1829833984375
sex_male	1311.947265625

vision_adm	1292.1976318359375
hearing_adm	1284.951904296875
hispanic_Yes	1274.4427490234375
pain_activities_adm	1232.7916259765625
ptindweek2	1220.14892578125
pain_sleep_adm	1203.26611328125
stroke_type_Other	1189.223876953125
falls_hx_Unknown	1185.6058349609375
marital_status_Unknown	1181.1461181640625
depressed_adm_1	1147.001220703125
race_Unknown	1145.4951171875
slpindweek1	1142.4432373046875
stroke_type_Ischemic	1138.2744140625
low_interest_adm_Unknown	1095.9637451171875
race_White	1084.3416748046875
payor_primary_Medicare_FFS	1072.6619873046875
depressed_adm_Unknown	1067.67529296875
otindweek1	1049.0194091796875
pain_therapy_adm	1028.739990234375
socisolation_adm	1006.9713134765625
ptindweek1	940.33837890625
low_interest_adm_1	902.8232421875
race_Native_Hawaiian_or_Other_Pacific_Islander	558.9725341796875

+-----+-----+

## 2.4 Lasso with cross validation

Best alpha found: 0.01

----- Train Set Results -----

MSE: 345.1317

R<sup>2</sup>: 0.2426

----- Eval Set Results -----

MSE: 337.6502

R<sup>2</sup>: 0.2549

----- Test Set Results -----

MSE: 340.0765

R<sup>2</sup>: 0.2427

----- Model Summary: Non-zero Coefficients -----

	Feature	Coefficient
0	mobility_measure_adm	7.109768
1	ptindweek1	2.297184
2	otindweek1	1.836852
3	bims_total	1.535620
4	marital_status_Unmarried	1.286980
5	payor_primary_Medicare_FFS	1.182901
6	selfcare_prior	1.143413
7	payor_primary_Not_listed	1.065814
8	understand_verbal_adm	1.058344
9	pain_activities_adm	0.901691
10	race_White	0.832917
11	slpindweek1	0.655364
12	hispanic_Yes	0.521849
13	marital_status_Unknown	0.421482
14	los	0.412394
15	mobility_prior	0.395644
16	low_interest_adm_Unknown	0.217218
17	race_Unknown	0.160863

18	expression_adm	0.122556
19	pain_sleep_adm	0.033178
20	depressed_adm_1	0.009917
21	hearing_adm	-0.025216
22	socisolation_adm	-0.043008
23	stroke_type_Ischemic	-0.058827
24	otindweek2	-0.070738
25	vision_adm	-0.334572
26	bowel_incontinence	-0.337968
27	low_interest_adm_1	-0.439127
28	falls_hx_Unknown	-0.507822
29	pain_therapy_adm	-0.518542
30	ptindweek2	-0.702806
31	health_lit_adm	-0.803128
32	race_Black_or_African_American	-0.814389
33	acute_mental_change	-0.817603
34	race_Asian	-0.842328
35	pvd_comorbid	-0.973780
36	sex_male	-1.137629
37	falls_hx_Yes	-1.215959
38	pressure_ulcer_adm	-1.553533
39	age_at_admit	-1.557241
40	selfcare_measure_adm	-3.013690
41	bladder_incontinence	-3.225565

## 2.5 Interaction terms between therapy doses and other variables

Added interaction terms between each pair of a therapy predictor and a non-therapy predictors.

```
-----train set results-----
MSE: 322.1800559057328
R²: 0.29297849996644865
-----eval set results-----
MSE: 324.84991180861033
R²: 0.2831814668157372
-----test set results-----
MSE: 322.08730117272023
R²: 0.28279884390183785
```

#### OLS Regression Results

```
=====
Dep. Variable:    selfcare_measure_delta    R-squared:                0.293
Model:                OLS    Adj. R-squared:                0.286
Method:                Least Squares    F-statistic:                40.07
Date:                Mon, 18 Nov 2024    Prob (F-statistic):                0.00
Time:                04:34:27    Log-Likelihood:                -1.2327e+05
No. Observations:                28625    AIC:                2.471e+05
Df Residuals:                28331    BIC:                2.496e+05
Df Model:                293
Covariance Type:                nonrobust
=====
```

```
=====
                                coef    std err          t      P>|t|
-----
[ 0.025    0.975]
```

const		20.7508	1.783	11.640	0.000
17.256	24.245				
ptindweek1		4.0708	2.367	1.719	0.086
-0.570	8.711				
otindweek1		5.4504	2.145	2.541	0.011
1.246	9.655				
slpindweek1		1.7990	2.564	0.702	0.483
-3.227	6.825				
ptindweek2		0.7348	3.454	0.213	0.832
-6.035	7.504				
otindweek2		-6.3126	3.697	-1.708	0.088
-13.558	0.933				
slpindweek2		2.8364	3.236	0.877	0.381
-3.506	9.179				
hearing_adm		0.0199	0.118	0.168	0.867
-0.212	0.252				
vision_adm		-0.3806	0.114	-3.327	0.001
-0.605	-0.156				
health_lit_adm		-0.8631	0.125	-6.899	0.000
-1.108	-0.618				
expression_adm		0.0946	0.192	0.492	0.623
-0.282	0.472				
understand_verbal_adm		1.1707	0.192	6.086	0.000
0.794	1.548				
bims_total		1.6231	0.158	10.248	0.000
1.313	1.934				
acute_mental_change		-0.8991	0.269	-3.339	0.001
-1.427	-0.371				
socisolation_adm		-0.0591	0.118	-0.499	0.618
-0.291	0.173				



selfcare_prior	1.1470	0.144	7.988	0.000
0.866          1.428				
mobility_prior	0.4384	0.145	3.025	0.002
0.154          0.722				
selfcare_measure_adm	-3.0469	0.186	-16.425	0.000
-3.410          -2.683				
mobility_measure_adm	6.7750	0.181	37.347	0.000
6.419          7.131				
bladder_incontinence	-3.2112	0.167	-19.209	0.000
-3.539          -2.884				
bowel_incontinence	-0.6037	0.172	-3.502	0.000
-0.942          -0.266				
pvd_comorbid	-1.0343	0.463	-2.236	0.025
-1.941          -0.128				
pain_sleep_adm	-0.1849	0.257	-0.719	0.472
-0.689          0.320				
pain_therapy_adm	-0.4638	0.253	-1.831	0.067
-0.960          0.033				
pain_activities_adm	0.9521	0.308	3.094	0.002
0.349          1.555				
pressure_ulcer_adm	-1.9847	0.376	-5.282	0.000
-2.721          -1.248				
age_at_admit	-1.5864	0.154	-10.282	0.000
-1.889          -1.284				
los	0.7790	0.196	3.975	0.000
0.395          1.163				
sex_male	-1.0752	0.223	-4.827	0.000
-1.512          -0.639				
marital_status_Unknown	0.8552	0.481	1.777	0.076
-0.088          1.799				

marital_status_Unmarried	1.3785	0.230	5.994	0.000
0.928          1.829				
payor_primary_Medicare_FFS	0.9245	0.270	3.424	0.001
0.395          1.454				
payor_primary_Not_listed	0.9264	0.335	2.764	0.006
0.269          1.583				
stroke_type_Ischemic	-0.0704	0.315	-0.223	0.823
-0.688          0.547				
stroke_type_Other	0.0891	0.918	0.097	0.923
-1.710          1.888				
hispanic_Yes	0.4790	0.455	1.053	0.292
-0.413          1.371				
race_Asian	-1.3474	1.834	-0.735	0.463
-4.943          2.248				
race_Black_or_African_American	-1.4412	1.742	-0.827	0.408
-4.855          1.973				
race_Multiracial	1.6072	2.988	0.538	0.591
-4.250          7.464				
race_Native_Hawaiian_or_Other_Pacific_Islander	-4.4001	3.168	-1.389	0.165
-10.609          1.809				
race_Unknown	-0.0263	1.797	-0.015	0.988
-3.548          3.495				
race_White	0.0850	1.731	0.049	0.961
-3.309          3.479				
low_interest_adm_1	-0.5851	0.434	-1.347	0.178
-1.437          0.266				
low_interest_adm_Unknown	1.8582	1.932	0.962	0.336
-1.929          5.646				
depressed_adm_1	0.4143	0.388	1.068	0.285
-0.346          1.175				

depressed_adm_Unknown	-1.4739	1.915	-0.770	0.441
-5.227      2.279				
falls_hx_Unknown	-0.7653	0.498	-1.536	0.124
-1.742      0.211				
falls_hx_Yes	-1.2007	0.239	-5.029	0.000
-1.669      -0.733				
ptindweek1_x_hearing_adm	0.0966	0.150	0.642	0.521
-0.198      0.391				
ptindweek1_x_vision_adm	-0.2185	0.147	-1.486	0.137
-0.507      0.070				
ptindweek1_x_health_lit_adm	0.2605	0.162	1.613	0.107
-0.056      0.577				
ptindweek1_x_expression_adm	0.7678	0.246	3.124	0.002
0.286      1.250				
ptindweek1_x_understand_verbal_adm	-0.0015	0.249	-0.006	0.995
-0.489      0.486				
ptindweek1_x_bims_total	0.3124	0.203	1.539	0.124
-0.085      0.710				
ptindweek1_x_acute_mental_change	0.1016	0.342	0.297	0.767
-0.569      0.773				
ptindweek1_x_socisolation_adm	-0.0951	0.157	-0.604	0.546
-0.404      0.213				
ptindweek1_x_selfcare_prior	-0.0437	0.179	-0.244	0.808
-0.395      0.308				
ptindweek1_x_mobility_prior	0.1875	0.184	1.017	0.309
-0.174      0.549				
ptindweek1_x_selfcare_measure_adm	0.2102	0.224	0.937	0.349
-0.230      0.650				
ptindweek1_x_mobility_measure_adm	0.5827	0.217	2.680	0.007
0.157      1.009				

ptindweek1_x_bladder_incontinence	-0.1761	0.218	-0.810	0.418
-0.602      0.250				
ptindweek1_x_bowel_incontinence	0.2184	0.216	1.011	0.312
-0.205      0.642				
ptindweek1_x_pvd_comorbid	0.9386	0.586	1.601	0.109
-0.210      2.088				
ptindweek1_x_pain_sleep_adm	-0.0413	0.315	-0.131	0.896
-0.658      0.575				
ptindweek1_x_pain_therapy_adm	0.0256	0.323	0.079	0.937
-0.608      0.659				
ptindweek1_x_pain_activities_adm	0.0524	0.392	0.134	0.894
-0.716      0.821				
ptindweek1_x_pressure_ulcer_adm	-0.9406	0.458	-2.055	0.040
-1.838      -0.044				
ptindweek1_x_age_at_admit	-0.1717	0.198	-0.866	0.386
-0.560      0.217				
ptindweek1_x_los	-0.7922	0.169	-4.701	0.000
-1.122      -0.462				
ptindweek1_x_sex_male	0.4536	0.289	1.569	0.117
-0.113      1.020				
ptindweek1_x_marital_status_Unknown	0.5680	0.600	0.947	0.344
-0.608      1.744				
ptindweek1_x_marital_status_Unmarried	0.3583	0.299	1.200	0.230
-0.227      0.944				
ptindweek1_x_payor_primary_Medicare_FFS	0.1118	0.350	0.320	0.749
-0.574      0.797				
ptindweek1_x_payor_primary_Not_listed	0.1880	0.436	0.432	0.666
-0.666      1.042				
ptindweek1_x_stroke_type_Ischemic	-0.3877	0.406	-0.954	0.340
-1.184      0.409				

ptindweek1_x_stroke_type_Other	1.2955	1.194	1.085	0.278
-1.045        3.636				
ptindweek1_x_hispanic_Yes	0.6299	0.559	1.127	0.260
-0.466        1.726				
ptindweek1_x_race_Asian	-2.9715	2.421	-1.227	0.220
-7.717        1.774				
ptindweek1_x_race_Black_or_African_American	-2.8297	2.319	-1.220	0.222
-7.376        1.716				
ptindweek1_x_race_Multiracial	2.6881	3.940	0.682	0.495
-5.034        10.410				
ptindweek1_x_race_Native_Hawaiian_or_Other_Pacific_Islander	2.3596	3.729	0.633	0.527
-4.949        9.668				
ptindweek1_x_race_Unknown	-3.2544	2.385	-1.364	0.172
-7.930        1.421				
ptindweek1_x_race_White	-3.1257	2.306	-1.355	0.175
-7.646        1.395				
ptindweek1_x_low_interest_adm_1	-0.1026	0.570	-0.180	0.857
-1.220        1.015				
ptindweek1_x_low_interest_adm_Unknown	-1.3370	2.435	-0.549	0.583
-6.111        3.436				
ptindweek1_x_depressed_adm_1	0.2471	0.508	0.486	0.627
-0.749        1.244				
ptindweek1_x_depressed_adm_Unknown	2.1034	2.433	0.865	0.387
-2.665        6.872				
ptindweek1_x_falls_hx_Unknown	-0.1056	0.618	-0.171	0.864
-1.317        1.106				
ptindweek1_x_falls_hx_Yes	-0.1646	0.311	-0.530	0.596
-0.773        0.444				
otindweek1_x_hearing_adm	-0.0631	0.149	-0.424	0.672
-0.355        0.229				

otindweek1_x_vision_adm	0.0814	0.145	0.560	0.575
-0.203      0.366				
otindweek1_x_health_lit_adm	-0.2904	0.159	-1.826	0.068
-0.602      0.021				
otindweek1_x_expression_adm	-0.0947	0.240	-0.394	0.694
-0.566      0.376				
otindweek1_x_understand_verbal_adm	0.0974	0.240	0.406	0.684
-0.372      0.567				
otindweek1_x_bims_total	0.1809	0.201	0.901	0.367
-0.212      0.574				
otindweek1_x_acute_mental_change	0.1294	0.335	0.386	0.700
-0.528      0.787				
otindweek1_x_socisolation_adm	-0.0017	0.154	-0.011	0.991
-0.305      0.301				
otindweek1_x_selfcare_prior	0.2108	0.181	1.164	0.244
-0.144      0.566				
otindweek1_x_mobility_prior	-0.0210	0.179	-0.118	0.906
-0.371      0.329				
otindweek1_x_selfcare_measure_adm	0.2292	0.222	1.032	0.302
-0.206      0.665				
otindweek1_x_mobility_measure_adm	0.7648	0.216	3.540	0.000
0.341      1.188				
otindweek1_x_bladder_incontinence	-0.3869	0.214	-1.805	0.071
-0.807      0.033				
otindweek1_x_bowel_incontinence	0.0830	0.214	0.388	0.698
-0.336      0.502				
otindweek1_x_pvd_comorbid	0.0779	0.574	0.136	0.892
-1.046      1.202				
otindweek1_x_pain_sleep_adm	-0.1798	0.313	-0.574	0.566
-0.794      0.435				

otindweek1_x_pain_therapy_adm	0.1324	0.320	0.414	0.679
-0.494      0.759				
otindweek1_x_pain_activities_adm	0.2838	0.391	0.726	0.468
-0.482      1.050				
otindweek1_x_pressure_ulcer_adm	-0.1643	0.451	-0.365	0.715
-1.048      0.719				
otindweek1_x_age_at_admit	-0.1665	0.197	-0.844	0.399
-0.553      0.220				
otindweek1_x_los	-0.3463	0.167	-2.078	0.038
-0.673      -0.020				
otindweek1_x_sex_male	-0.4633	0.286	-1.621	0.105
-1.023      0.097				
otindweek1_x_marital_status_Unknown	0.1742	0.585	0.298	0.766
-0.972      1.320				
otindweek1_x_marital_status_Unmarried	-0.5164	0.296	-1.747	0.081
-1.096      0.063				
otindweek1_x_payor_primary_Medicare_FFS	-0.6475	0.346	-1.874	0.061
-1.325      0.030				
otindweek1_x_payor_primary_Not_listed	-0.5369	0.433	-1.240	0.215
-1.386      0.312				
otindweek1_x_stroke_type_Ischemic	-0.0810	0.396	-0.204	0.838
-0.858      0.696				
otindweek1_x_stroke_type_Other	-1.9779	1.137	-1.740	0.082
-4.206      0.250				
otindweek1_x_hispanic_Yes	-0.4223	0.558	-0.757	0.449
-1.516      0.671				
otindweek1_x_race_Asian	-2.9201	2.214	-1.319	0.187
-7.259      1.419				
otindweek1_x_race_Black_or_African_American	-3.7045	2.094	-1.769	0.077
-7.809      0.400				

otindweek1_x_race_Multiracial	-9.7823	3.599	-2.718	0.007
-16.837      -2.728				
otindweek1_x_race_Native_Hawaiian_or_Other_Pacific_Islander	-3.4657	4.470	-0.775	0.438
-12.228      5.297				
otindweek1_x_race_Unknown	-2.6521	2.169	-1.222	0.222
-6.904      1.600				
otindweek1_x_race_White	-3.3027	2.079	-1.589	0.112
-7.378      0.772				
otindweek1_x_low_interest_adm_1	0.6449	0.567	1.138	0.255
-0.466      1.756				
otindweek1_x_low_interest_adm_Unknown	-2.4051	2.308	-1.042	0.297
-6.929      2.119				
otindweek1_x_depressed_adm_1	-0.2409	0.511	-0.472	0.637
-1.242      0.760				
otindweek1_x_depressed_adm_Unknown	2.0147	2.301	0.876	0.381
-2.496      6.525				
otindweek1_x_falls_hx_Unknown	-0.0100	0.600	-0.017	0.987
-1.185      1.165				
otindweek1_x_falls_hx_Yes	-0.1693	0.306	-0.552	0.581
-0.770      0.431				
slpindweek1_x_hearing_adm	-0.0793	0.172	-0.462	0.644
-0.416      0.257				
slpindweek1_x_vision_adm	0.1877	0.161	1.164	0.245
-0.128      0.504				
slpindweek1_x_health_lit_adm	-0.3132	0.177	-1.769	0.077
-0.660      0.034				
slpindweek1_x_expression_adm	-0.9842	0.256	-3.845	0.000
-1.486      -0.482				
slpindweek1_x_understand_verbal_adm	0.7933	0.265	2.990	0.003
0.273      1.313				



slpindweek1_x_bims_total	0.1052	0.220	0.478	0.633
-0.327      0.537				
slpindweek1_x_acute_mental_change	-0.1738	0.373	-0.466	0.641
-0.904      0.557				
slpindweek1_x_socisolation_adm	-0.1824	0.165	-1.107	0.268
-0.505      0.140				
slpindweek1_x_selfcare_prior	-0.1386	0.205	-0.677	0.499
-0.540      0.263				
slpindweek1_x_mobility_prior	-0.0456	0.203	-0.224	0.823
-0.444      0.353				
slpindweek1_x_selfcare_measure_adm	0.2589	0.218	1.189	0.234
-0.168      0.686				
slpindweek1_x_mobility_measure_adm	0.5020	0.228	2.201	0.028
0.055      0.949				
slpindweek1_x_bladder_incontinence	-0.1145	0.237	-0.482	0.630
-0.580      0.351				
slpindweek1_x_bowel_incontinence	-0.1525	0.244	-0.625	0.532
-0.631      0.326				
slpindweek1_x_pvd_comorbid	-0.4288	0.661	-0.649	0.516
-1.724      0.866				
slpindweek1_x_pain_sleep_adm	0.3196	0.343	0.933	0.351
-0.352      0.991				
slpindweek1_x_pain_therapy_adm	-0.2798	0.349	-0.801	0.423
-0.964      0.405				
slpindweek1_x_pain_activities_adm	-0.2350	0.418	-0.562	0.574
-1.054      0.584				
slpindweek1_x_pressure_ulcer_adm	0.6036	0.524	1.152	0.249
-0.423      1.630				
slpindweek1_x_age_at_admit	-0.1532	0.211	-0.726	0.468
-0.567      0.260				

slpindweek1_x_los	0.0064	0.207	0.031	0.975
-0.398      0.411				
slpindweek1_x_sex_male	0.8354	0.310	2.696	0.007
0.228      1.443				
slpindweek1_x_marital_status_Unknown	0.3369	0.658	0.512	0.609
-0.953      1.627				
slpindweek1_x_marital_status_Unmarried	-0.0746	0.321	-0.233	0.816
-0.703      0.554				
slpindweek1_x_payor_primary_Medicare_FFS	-0.1520	0.379	-0.401	0.689
-0.895      0.591				
slpindweek1_x_payor_primary_Not_listed	-0.4892	0.472	-1.036	0.300
-1.415      0.436				
slpindweek1_x_stroke_type_Ischemic	-0.2487	0.443	-0.562	0.574
-1.116      0.619				
slpindweek1_x_stroke_type_Other	0.7341	1.273	0.577	0.564
-1.761      3.230				
slpindweek1_x_hispanic_Yes	0.2177	0.635	0.343	0.732
-1.027      1.463				
slpindweek1_x_race_Asian	-1.4096	2.653	-0.531	0.595
-6.610      3.791				
slpindweek1_x_race_Black_or_African_American	-1.0208	2.519	-0.405	0.685
-5.957      3.916				
slpindweek1_x_race_Multiracial	-7.8631	4.963	-1.584	0.113
-17.591      1.864				
slpindweek1_x_race_Native_Hawaiian_or_Other_Pacific_Islander	-2.5774	4.473	-0.576	0.564
-11.344      6.189				
slpindweek1_x_race_Unknown	-0.6680	2.587	-0.258	0.796
-5.739      4.403				
slpindweek1_x_race_White	-1.2545	2.505	-0.501	0.616
-6.164      3.655				

slpindweek1_x_low_interest_adm_1	-0.1900	0.619	-0.307	0.759
-1.404          1.024				
slpindweek1_x_low_interest_adm_Unknown	0.8122	2.592	0.313	0.754
-4.268          5.893				
slpindweek1_x_depressed_adm_1	0.6042	0.558	1.083	0.279
-0.489          1.698				
slpindweek1_x_depressed_adm_Unknown	-1.1205	2.590	-0.433	0.665
-6.197          3.956				
slpindweek1_x_falls_hx_Unknown	-0.0423	0.662	-0.064	0.949
-1.339          1.255				
slpindweek1_x_falls_hx_Yes	-0.3959	0.336	-1.178	0.239
-1.055          0.263				
ptindweek2_x_hearing_adm	-0.0781	0.225	-0.347	0.729
-0.519          0.363				
ptindweek2_x_vision_adm	-0.0665	0.214	-0.310	0.756
-0.487          0.354				
ptindweek2_x_health_lit_adm	-0.0703	0.237	-0.297	0.767
-0.535          0.394				
ptindweek2_x_expression_adm	-0.1409	0.360	-0.391	0.696
-0.847          0.565				
ptindweek2_x_understand_verbal_adm	0.0078	0.362	0.021	0.983
-0.702          0.718				
ptindweek2_x_bims_total	-0.5987	0.295	-2.028	0.043
-1.177          -0.020				
ptindweek2_x_acute_mental_change	-0.1795	0.506	-0.355	0.723
-1.171          0.812				
ptindweek2_x_socisolation_adm	0.4531	0.238	1.906	0.057
-0.013          0.919				
ptindweek2_x_selfcare_prior	0.1359	0.261	0.521	0.602
-0.375          0.647				

ptindweek2_x_mobility_prior	0.0861	0.259	0.333	0.739
-0.421      0.593				
ptindweek2_x_selfcare_measure_adm	0.2370	0.371	0.638	0.523
-0.491      0.964				
ptindweek2_x_mobility_measure_adm	-0.6071	0.355	-1.709	0.087
-1.303      0.089				
ptindweek2_x_bladder_incontinence	0.3239	0.319	1.016	0.310
-0.301      0.949				
ptindweek2_x_bowel_incontinence	0.3429	0.308	1.115	0.265
-0.260      0.946				
ptindweek2_x_pvd_comorbid	-0.0878	0.856	-0.102	0.918
-1.766      1.591				
ptindweek2_x_pain_sleep_adm	0.1927	0.471	0.409	0.682
-0.730      1.116				
ptindweek2_x_pain_therapy_adm	-0.3325	0.466	-0.713	0.476
-1.246      0.581				
ptindweek2_x_pain_activities_adm	-0.0819	0.572	-0.143	0.886
-1.204      1.040				
ptindweek2_x_pressure_ulcer_adm	2.2084	0.639	3.454	0.001
0.955      3.462				
ptindweek2_x_age_at_admit	-0.3816	0.294	-1.299	0.194
-0.957      0.194				
ptindweek2_x_los	-1.0161	0.274	-3.707	0.000
-1.553      -0.479				
ptindweek2_x_sex_male	-0.3055	0.431	-0.708	0.479
-1.151      0.540				
ptindweek2_x_marital_status_Unknown	0.3526	0.891	0.396	0.692
-1.393      2.098				
ptindweek2_x_marital_status_Unmarried	-0.5089	0.444	-1.146	0.252
-1.379      0.361				

ptindweek2_x_payor_primary_Medicare_FFS	-0.1577	0.519	-0.304	0.761
-1.175        0.860				
ptindweek2_x_payor_primary_Not_listed	-0.1662	0.652	-0.255	0.799
-1.445        1.112				
ptindweek2_x_stroke_type_Ischemic	0.1629	0.595	0.274	0.784
-1.004        1.330				
ptindweek2_x_stroke_type_Other	-0.1044	1.733	-0.060	0.952
-3.501        3.292				
ptindweek2_x_hispanic_Yes	-0.5401	0.811	-0.666	0.505
-2.130        1.050				
ptindweek2_x_race_Asian	-0.1903	3.569	-0.053	0.957
-7.186        6.806				
ptindweek2_x_race_Black_or_African_American	-1.5112	3.395	-0.445	0.656
-8.165        5.143				
ptindweek2_x_race_Multiracial	0.7861	6.432	0.122	0.903
-11.822       13.394				
ptindweek2_x_race_Native_Hawaiian_or_Other_Pacific_Islander	2.3493	5.038	0.466	0.641
-7.525        12.223				
ptindweek2_x_race_Unknown	-1.9672	3.488	-0.564	0.573
-8.805        4.870				
ptindweek2_x_race_White	-1.3780	3.378	-0.408	0.683
-7.999        5.243				
ptindweek2_x_low_interest_adm_1	-0.0864	0.831	-0.104	0.917
-1.715        1.542				
ptindweek2_x_low_interest_adm_Unknown	-2.5684	4.226	-0.608	0.543
-10.851       5.714				
ptindweek2_x_depressed_adm_1	-0.2756	0.743	-0.371	0.711
-1.732        1.181				
ptindweek2_x_depressed_adm_Unknown	2.0486	4.190	0.489	0.625
-6.164        10.261				

ptindweek2_x_falls_hx_Unknown	1.3029	0.917	1.422	0.155
-0.494      3.099				
ptindweek2_x_falls_hx_Yes	0.8016	0.454	1.766	0.077
-0.088      1.692				
otindweek2_x_hearing_adm	-0.0107	0.226	-0.047	0.962
-0.454      0.433				
otindweek2_x_vision_adm	0.2162	0.218	0.993	0.321
-0.211      0.643				
otindweek2_x_health_lit_adm	0.1526	0.238	0.641	0.521
-0.314      0.619				
otindweek2_x_expression_adm	0.1089	0.357	0.305	0.760
-0.591      0.809				
otindweek2_x_understand_verbal_adm	-0.3966	0.359	-1.104	0.270
-1.101      0.307				
otindweek2_x_bims_total	-0.0359	0.294	-0.122	0.903
-0.613      0.541				
otindweek2_x_acute_mental_change	0.4408	0.503	0.876	0.381
-0.545      1.427				
otindweek2_x_socisolation_adm	-0.6382	0.237	-2.690	0.007
-1.103      -0.173				
otindweek2_x_selfcare_prior	-0.0131	0.255	-0.052	0.959
-0.512      0.486				
otindweek2_x_mobility_prior	0.0182	0.256	0.071	0.943
-0.483      0.519				
otindweek2_x_selfcare_measure_adm	0.3783	0.360	1.050	0.294
-0.328      1.084				
otindweek2_x_mobility_measure_adm	-0.8960	0.356	-2.519	0.012
-1.593      -0.199				
otindweek2_x_bladder_incontinence	0.8844	0.315	2.806	0.005
0.267      1.502				

otindweek2_x_bowel_incontinence	-0.3588	0.304	-1.179	0.238
-0.955      0.238				
otindweek2_x_pvd_comorbid	-0.0539	0.850	-0.063	0.949
-1.720      1.612				
otindweek2_x_pain_sleep_adm	0.1445	0.455	0.317	0.751
-0.748      1.037				
otindweek2_x_pain_therapy_adm	0.3523	0.449	0.785	0.432
-0.527      1.231				
otindweek2_x_pain_activities_adm	-0.2067	0.540	-0.383	0.702
-1.265      0.852				
otindweek2_x_pressure_ulcer_adm	-0.5487	0.646	-0.850	0.395
-1.814      0.717				
otindweek2_x_age_at_admit	-0.0229	0.293	-0.078	0.938
-0.598      0.552				
otindweek2_x_los	-1.8812	0.265	-7.109	0.000
-2.400      -1.363				
otindweek2_x_sex_male	0.8462	0.431	1.962	0.050
0.001      1.692				
otindweek2_x_marital_status_Unknown	0.8043	0.917	0.877	0.381
-0.994      2.603				
otindweek2_x_marital_status_Unmarried	1.3250	0.444	2.981	0.003
0.454      2.196				
otindweek2_x_payor_primary_Medicare_FFS	0.9903	0.520	1.905	0.057
-0.028      2.009				
otindweek2_x_payor_primary_Not_listed	1.0315	0.653	1.579	0.114
-0.249      2.312				
otindweek2_x_stroke_type_Ischemic	-0.4641	0.592	-0.784	0.433
-1.625      0.697				
otindweek2_x_stroke_type_Other	-2.0637	1.715	-1.203	0.229
-5.425      1.297				

otindweek2_x_hispanic_Yes	0.8365	0.833	1.004	0.315
-0.797      2.470				
otindweek2_x_race_Asian	4.3533	3.807	1.143	0.253
-3.109      11.816				
otindweek2_x_race_Black_or_African_American	5.1475	3.639	1.415	0.157
-1.984      12.279				
otindweek2_x_race_Multiracial	11.4620	6.396	1.792	0.073
-1.074      23.998				
otindweek2_x_race_Native_Hawaiian_or_Other_Pacific_Islander	1.6190	5.315	0.305	0.761
-8.799      12.037				
otindweek2_x_race_Unknown	4.8711	3.729	1.306	0.191
-2.438      12.180				
otindweek2_x_race_White	4.7113	3.621	1.301	0.193
-2.387      11.809				
otindweek2_x_low_interest_adm_1	-0.4505	0.831	-0.542	0.588
-2.080      1.179				
otindweek2_x_low_interest_adm_Unknown	4.5403	4.195	1.082	0.279
-3.681      12.762				
otindweek2_x_depressed_adm_1	0.4838	0.746	0.649	0.517
-0.978      1.946				
otindweek2_x_depressed_adm_Unknown	-4.1302	4.159	-0.993	0.321
-12.282      4.021				
otindweek2_x_falls_hx_Unknown	-1.3652	0.904	-1.510	0.131
-3.137      0.407				
otindweek2_x_falls_hx_Yes	-0.0251	0.456	-0.055	0.956
-0.918      0.868				
slpindweek2_x_hearing_adm	0.1342	0.191	0.701	0.483
-0.241      0.509				
slpindweek2_x_vision_adm	-0.2063	0.179	-1.154	0.249
-0.557      0.144				



slpindweek2_x_health_lit_adm	0.4392	0.197	2.226	0.026
0.053      0.826				
slpindweek2_x_expression_adm	0.4808	0.284	1.695	0.090
-0.075      1.037				
slpindweek2_x_understand_verbal_adm	-0.9264	0.291	-3.184	0.001
-1.497      -0.356				
slpindweek2_x_bims_total	-0.3884	0.247	-1.571	0.116
-0.873      0.096				
slpindweek2_x_acute_mental_change	1.0147	0.409	2.484	0.013
0.214      1.815				
slpindweek2_x_socisolation_adm	0.1651	0.185	0.894	0.371
-0.197      0.527				
slpindweek2_x_selfcare_prior	-0.0603	0.226	-0.267	0.789
-0.502      0.382				
slpindweek2_x_mobility_prior	-0.0481	0.223	-0.216	0.829
-0.485      0.389				
slpindweek2_x_selfcare_measure_adm	-0.5152	0.279	-1.846	0.065
-1.062      0.032				
slpindweek2_x_mobility_measure_adm	-0.6486	0.272	-2.381	0.017
-1.182      -0.115				
slpindweek2_x_bladder_incontinence	0.3150	0.260	1.211	0.226
-0.195      0.825				
slpindweek2_x_bowel_incontinence	-0.0380	0.259	-0.147	0.883
-0.545      0.469				
slpindweek2_x_pvd_comorbid	1.0784	0.746	1.446	0.148
-0.384      2.541				
slpindweek2_x_pain_sleep_adm	-0.3205	0.374	-0.856	0.392
-1.054      0.413				
slpindweek2_x_pain_therapy_adm	0.0608	0.384	0.158	0.874
-0.691      0.813				

slpindweek2_x_pain_activities_adm	0.3307	0.458	0.722	0.470
-0.567        1.228				
slpindweek2_x_pressure_ulcer_adm	-0.0814	0.548	-0.149	0.882
-1.155        0.992				
slpindweek2_x_age_at_admit	0.1779	0.238	0.747	0.455
-0.289        0.645				
slpindweek2_x_los	-0.9664	0.209	-4.627	0.000
-1.376        -0.557				
slpindweek2_x_sex_male	-0.2265	0.351	-0.646	0.518
-0.914        0.461				
slpindweek2_x_marital_status_Unknown	-0.5421	0.742	-0.731	0.465
-1.996        0.911				
slpindweek2_x_marital_status_Unmarried	-0.4556	0.363	-1.257	0.209
-1.166        0.255				
slpindweek2_x_payor_primary_Medicare_FFS	-0.8167	0.429	-1.906	0.057
-1.657        0.023				
slpindweek2_x_payor_primary_Not_listed	-0.3633	0.531	-0.684	0.494
-1.404        0.678				
slpindweek2_x_stroke_type_Ischemic	-0.7001	0.491	-1.425	0.154
-1.663        0.263				
slpindweek2_x_stroke_type_Other	-1.0976	1.408	-0.780	0.436
-3.857        1.661				
slpindweek2_x_hispanic_Yes	-0.4978	0.686	-0.726	0.468
-1.842        0.847				
slpindweek2_x_race_Asian	-3.5114	3.294	-1.066	0.286
-9.968        2.945				
slpindweek2_x_race_Black_or_African_American	-2.9045	3.186	-0.912	0.362
-9.149        3.340				
slpindweek2_x_race_Multiracial	-0.8675	5.216	-0.166	0.868
-11.090        9.355				

slpindweek2_x_race_Native_Hawaiian_or_Other_Pacific_Islander	-4.1746	5.347	-0.781	0.435
-14.654          6.305				
slpindweek2_x_race_Unknown	-2.3898	3.250	-0.735	0.462
-8.760          3.980				
slpindweek2_x_race_White	-3.0786	3.172	-0.971	0.332
-9.295          3.138				
slpindweek2_x_low_interest_adm_1	0.5327	0.693	0.769	0.442
-0.825          1.891				
slpindweek2_x_low_interest_adm_Unknown	0.1158	2.700	0.043	0.966
-5.176          5.408				
slpindweek2_x_depressed_adm_1	-0.3064	0.622	-0.492	0.622
-1.526          0.913				
slpindweek2_x_depressed_adm_Unknown	-0.1251	2.681	-0.047	0.963
-5.380          5.130				
slpindweek2_x_falls_hx_Unknown	0.7587	0.748	1.014	0.311
-0.708          2.225				
slpindweek2_x_falls_hx_Yes	0.3166	0.379	0.834	0.404
-0.427          1.060				

```

=====
Omnibus:                100.051   Durbin-Watson:                1.987
Prob(Omnibus):          0.000   Jarque-Bera (JB):            134.637
Skew:                   0.008   Prob(JB):                   5.81e-30
Kurtosis:               3.336   Cond. No.                    517.
=====

```

Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

We see a predictive power gain here.

Also run Lasso with interaction terms-included data:

```
Best alpha found: 0.05
----- Train Set Results -----
MSE: 324.7317
R²: 0.2874
----- Eval Set Results -----
MSE: 323.4221
R²: 0.2863
----- Test Set Results -----
MSE: 320.1257
R²: 0.2872

----- Model Summary: Non-zero Coefficients -----
      Feature  Coefficient
0  mobility_measure_adm    6.615590
1           bims_total    1.597251
2  understand_verbal_adm    1.183828
3         selfcare_prior    1.128802
4           ptindweek1    1.082904
..           ...         ...
112  pressure_ulcer_adm   -1.231046
113         age_at_admit   -1.643755
114  otindweek2_x_los    -1.677110
115  selfcare_measure_adm   -2.820052
116  bladder_incontinence  -3.169064

[117 rows x 2 columns]
```

### 3 Mobility results

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Mobility task yields similar results. Please refer to [the jupyter notebook](#) to see all the details.