Dear all,

I have made some changes with the code we made before according to Derek’s separation of the code at Nivel today as following,

1. replace postal code with nr\_practice and change it into factor.
2. make dataset that contains both outcome and treatment'type\_AB\_nose'and ‘AB\_nose\_infection’respectively.
3. Select confounders with OR RATE(<1%), AIC, LASSO respectively based on the new dataset. PS. The process of AIC for AB\_nose\_infection is very slow when I use nr\_practice as a factor, which have run for more than three hours. Do you have any idea about this?
4. Make different combination datasets and plots for type\_AB\_nose in propensity score matching with the confounders we found, which I will make a loop next step.
5. Analyse chisq.test and univariate analysis in the raw dataset and matcing dataset.  
     
   The code and confounders selection excel are attached.  
     
   Thanks for Derek, Linda and Thamar’s help and  advices.

Kind regards  
  
Wenwei

1 AIC

nr\_practice numeric

factor(type\_AB\_nose) ~ nr\_practice + nr\_medication + hartfalen\_morb +

chrnek\_morb + dementie\_morb + Angst\_morb + persoon\_morb +

nr\_contacts\_infection + nr\_prescriptions\_AB + nr\_contacts\_resp +

fever + practice\_size

nr\_practice factor

1 AIC

factor(type\_AB\_nose) ~ sex + age + nr\_medication + diab\_morb +

HIV\_morb + gehoorst\_morb + aangaf\_morb + coronhartz\_morb +

hartfalen\_morb + beroerte\_morb + chrnek\_morb + parkinson\_morb +

alcmisb\_morb + dementie\_morb + Angst\_morb + Depressie\_morb +

astma\_morb + migraine\_morb + hartklep\_morb + persoon\_morb +

nr\_contacts\_infection + nr\_prescriptions\_AB + nr\_contacts\_resp +

fever + nr\_chron3 + nr\_practice\_f

AB\_nose\_infection ~ nr\_medication + hartfalen\_morb + chrnek\_morb +

dementie\_morb + Angst\_morb + persoon\_morb + nr\_contacts\_infection +

nr\_prescriptions\_AB + nr\_contacts\_resp + fever + nr\_practice\_f

> formula(aic\_O) # show formula of the final model

outcome\_4 ~ age + nr\_medication + kanker\_morb + coronhartz\_morb +

RA\_morb + alcmisb\_morb + COPD\_morb + hartritme\_morb + migraine\_morb +

nr\_prescriptions\_AB + nr\_chron3

models <- lapply(vars\_aic\_t, function(x) {

+ glm(substitute(outcome\_4 ~ i, list(i = as.name(x))), family = binomial, data = variables\_outcome)

+ })

Show Traceback

Rerun with Debug

Error in eval(predvars, data, env) : object 'nr\_practice' not found

>

> lapply(models, summary)

[[1]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7912 0.6704 0.6728 0.6755 0.6781

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.380e+00 3.312e-02 41.660 <2e-16 \*\*\*

nr\_practice -8.674e-05 1.867e-04 -0.465 0.642

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22433 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22437

Number of Fisher Scoring iterations: 4

[[2]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.9165 0.6010 0.6372 0.6882 1.3302

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.662795 0.027923 59.55 <2e-16 \*\*\*

nr\_medication -0.042872 0.003097 -13.85 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22248 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22252

Number of Fisher Scoring iterations: 4

[[3]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7874 0.6725 0.6725 0.6725 0.7938

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.37133 0.01679 81.653 <2e-16 \*\*\*

hartfalen\_morb -0.37808 0.14092 -2.683 0.0073 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22427 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22431

Number of Fisher Scoring iterations: 4

[[4]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7892 0.6714 0.6714 0.6714 0.7189

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.37520 0.01719 79.995 <2e-16 \*\*\*

chrnek\_morb -0.15399 0.07062 -2.181 0.0292 \*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22429 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22433

Number of Fisher Scoring iterations: 4

[[5]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7854 0.6739 0.6739 0.6739 0.7140

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36668 0.01669 81.894 <2e-16 \*\*\*

dementie\_morb -0.12992 0.37901 -0.343 0.732

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22433 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22437

Number of Fisher Scoring iterations: 4

[[6]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7862 0.6734 0.6734 0.6734 0.6974

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36859 0.01691 80.933 <2e-16 \*\*\*

Angst\_morb -0.07858 0.10124 -0.776 0.438

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22433 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22437

Number of Fisher Scoring iterations: 4

[[7]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7853 0.6740 0.6740 0.6740 0.6758

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.366545 0.016820 81.246 <2e-16 \*\*\*

persoon\_morb -0.005893 0.127232 -0.046 0.963

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22433 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22437

Number of Fisher Scoring iterations: 4

[[8]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7860 0.6735 0.6735 0.6735 0.8447

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36802 0.02263 60.449 <2e-16 \*\*\*

nr\_contacts\_infection -0.02604 0.02228 -1.169 0.242

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14525 on 14330 degrees of freedom

(10060 observations deleted due to missingness)

AIC: 14529

Number of Fisher Scoring iterations: 4

[[9]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7825 0.6759 0.6759 0.6759 0.7194

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36026 0.02148 63.326 <2e-16 \*\*\*

nr\_prescriptions\_AB -0.02811 0.05770 -0.487 0.626

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

(10060 observations deleted due to missingness)

AIC: 14530

Number of Fisher Scoring iterations: 4

[[10]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7862 0.6734 0.6734 0.6734 0.8061

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36857 0.02176 62.901 <2e-16 \*\*\*

nr\_contacts\_resp -0.05876 0.03443 -1.707 0.0879 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14523 on 14330 degrees of freedom

(10060 observations deleted due to missingness)

AIC: 14527

Number of Fisher Scoring iterations: 4

[[11]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7853 0.6740 0.6740 0.6740 0.6876

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36648 0.01668 81.925 <2e-16 \*\*\*

fever -0.04472 0.56298 -0.079 0.937

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22433 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22437

Number of Fisher Scoring iterations: 4

[[12]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = variables\_outcome)

Deviance Residuals:

Min 1Q Median 3Q Max

-1.8135 0.6623 0.6735 0.6786 0.6813

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.334e+00 3.141e-02 42.482 <2e-16 \*\*\*

practice\_size 5.602e-06 4.651e-06 1.204 0.228

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 22433 on 22219 degrees of freedom

Residual deviance: 22432 on 22218 degrees of freedom

(2172 observations deleted due to missingness)

AIC: 22436

Number of Fisher Scoring iterations: 4

2 or

> selected\_vars.or <- labels(rate)[unlist(rate)> 0.01]

> selected\_vars.or

[1] "nr\_medication.AB\_nose\_infection" "nr\_contacts\_infection.AB\_nose\_infection" "nr\_prescriptions\_AB.AB\_nose\_infection"

[4] "nr\_contacts\_resp.AB\_nose\_infection"

3. lasso

x\_t<-model.matrix(type\_AB\_nose ~., variables\_treatment\_omit)

y\_t<-variables\_treatment\_omit$type\_AB\_nose

lasso.coef\_t[lasso.coef\_t!=0]

(Intercept) age nr\_medication gezichtst\_morb aangaf\_morb hartfalen\_morb beroerte\_morb chrnek\_morb

1.346643277 0.001495833 0.012330976 -0.003425619 -0.070022781 -0.084210973 -0.054462439 -0.036730269

Add postcode and delete nr\_practice

Step: AIC=14351.79

outcome\_4 ~ age + nr\_medication + kanker\_morb + coronhartz\_morb +

RA\_morb + alcmisb\_morb + COPD\_morb + hartritme\_morb + migraine\_morb +

nr\_prescriptions\_AB + nr\_chron3 + practice\_size

Df Deviance AIC

<none> 14326 14352

- age 1 14328 14352

- hartritme\_morb 1 14328 14352

- kanker\_morb 1 14328 14352

- RA\_morb 1 14329 14353

- practice\_size 1 14329 14353

- migraine\_morb 1 14331 14355

- coronhartz\_morb 1 14331 14355

- nr\_prescriptions\_AB 1 14331 14355

- nr\_chron3 1 14336 14360

- COPD\_morb 1 14337 14361

- alcmisb\_morb 1 14338 14362

- nr\_medication 1 14478 14502

Step: AIC=22284.85

AB\_nose\_infection ~ postalcode + age + nr\_medication + hartfalen\_morb +

chrnek\_morb + dementie\_morb + Angst\_morb + astma\_morb + persoon\_morb +

nr\_contacts\_infection + nr\_prescriptions\_AB + nr\_contacts\_resp +

fever + nr\_chron3 + practice\_size

Df Deviance AIC

<none> 22085 22285

- age 1 22087 22285

- Angst\_morb 1 22087 22285

- nr\_chron3 1 22087 22285

- astma\_morb 1 22088 22286

- dementie\_morb 1 22088 22286

- fever 1 22088 22286

- persoon\_morb 1 22088 22286

- nr\_contacts\_resp 1 22091 22289

- chrnek\_morb 1 22092 22290

- hartfalen\_morb 1 22092 22290

- nr\_prescriptions\_AB 1 22097 22295

- nr\_contacts\_infection 1 22099 22297

- practice\_size 1 22101 22299

- nr\_medication 1 22129 22327

- postalcode 85 22704 22734

|  |
| --- |
| > models <- lapply(vars\_aic\_t, function(x) {  + glm(substitute(outcome\_4 ~ i, list(i = as.name(x))), family = binomial, data = variables\_outcome)  + })  > lapply(models, summary)  [[1]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -2.1460 0.5985 0.6436 0.7031 0.8446  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.82813 0.25394 7.199 6.06e-13 \*\*\*  postalcode10 -0.20890 0.26652 -0.784 0.43314  postalcode11 -0.64513 0.29855 -2.161 0.03071 \*  postalcode12 -0.51025 0.26956 -1.893 0.05837 .  postalcode13 10.73794 324.74380 0.033 0.97362  postalcode14 -0.51405 0.29203 -1.760 0.07836 .  postalcode15 -0.42187 0.29080 -1.451 0.14686  postalcode16 -0.24401 0.46382 -0.526 0.59883  postalcode17 -0.81831 0.30205 -2.709 0.00674 \*\*  postalcode18 -0.71724 0.33722 -2.127 0.03342 \*  postalcode19 -0.58709 0.27864 -2.107 0.03512 \*  postalcode20 -0.47382 0.27167 -1.744 0.08114 .  postalcode21 -0.68151 0.29340 -2.323 0.02019 \*  postalcode22 -0.70724 0.28706 -2.464 0.01375 \*  postalcode23 0.08142 0.33515 0.243 0.80806  postalcode24 -0.32505 0.27477 -1.183 0.23681  postalcode25 -0.50989 0.28489 -1.790 0.07349 .  postalcode26 -0.38356 0.29867 -1.284 0.19905  postalcode27 -0.60572 0.30755 -1.969 0.04890 \*  postalcode28 10.73794 229.62861 0.047 0.96270  postalcode29 -0.27753 0.31483 -0.882 0.37803  postalcode30 -0.35900 0.26472 -1.356 0.17505  postalcode31 -0.28038 0.27359 -1.025 0.30544  postalcode32 -0.66498 0.38985 -1.706 0.08806 .  postalcode33 0.02817 0.33277 0.085 0.93253  postalcode34 -0.63247 0.26978 -2.344 0.01906 \*  postalcode35 -0.13711 0.30674 -0.447 0.65489  postalcode36 0.36910 1.08425 0.340 0.73354  postalcode37 10.73794 132.57630 0.081 0.93545  postalcode38 -0.77374 0.27345 -2.829 0.00466 \*\*  postalcode39 -0.59220 0.28503 -2.078 0.03774 \*  postalcode40 -0.68456 0.33160 -2.064 0.03898 \*  postalcode41 -0.62923 0.28453 -2.211 0.02700 \*  postalcode42 -0.68721 0.29819 -2.305 0.02119 \*  postalcode43 -0.33865 0.34317 -0.987 0.32373  postalcode46 10.73794 229.62861 0.047 0.96270  postalcode47 -0.48439 0.52405 -0.924 0.35532  postalcode50 -0.37729 0.38311 -0.985 0.32472  postalcode51 10.73794 229.62861 0.047 0.96270  postalcode52 -0.66338 0.31325 -2.118 0.03420 \*  postalcode53 -0.37378 0.28611 -1.306 0.19141  postalcode54 -0.61792 0.27930 -2.212 0.02694 \*  postalcode55 -0.09353 0.67575 -0.138 0.88992  postalcode56 -0.59441 0.29807 -1.994 0.04613 \*  postalcode57 -0.63565 0.27731 -2.292 0.02189 \*  postalcode58 -0.34529 0.31248 -1.105 0.26916  postalcode59 -0.84730 0.72306 -1.172 0.24127  postalcode60 -0.55674 0.28519 -1.952 0.05092 .  postalcode61 0.14131 0.50439 0.280 0.77935  postalcode62 -0.06454 0.50963 -0.127 0.89923  postalcode63 -0.03637 1.10957 -0.033 0.97385  postalcode64 -0.07209 0.30878 -0.233 0.81541  postalcode65 -0.27257 0.29041 -0.939 0.34794  postalcode66 -0.31200 0.27490 -1.135 0.25639  postalcode67 0.04368 0.50675 0.086 0.93132  postalcode68 -0.44183 0.34142 -1.294 0.19563  postalcode69 -0.58348 0.29797 -1.958 0.05021 .  postalcode70 -0.19936 0.30604 -0.651 0.51476  postalcode71 -0.36822 0.31419 -1.172 0.24121  postalcode72 -0.20699 0.36734 -0.563 0.57310  postalcode73 -0.52699 0.27833 -1.893 0.05830 .  postalcode74 -0.62286 0.28524 -2.184 0.02899 \*  postalcode75 -0.58520 0.28659 -2.042 0.04116 \*  postalcode76 -0.27632 0.33609 -0.822 0.41099  postalcode77 -0.51594 0.31741 -1.625 0.10406  postalcode78 -0.34790 0.31888 -1.091 0.27527  postalcode79 -0.54507 0.26570 -2.051 0.04022 \*  postalcode80 -0.89531 0.35006 -2.558 0.01054 \*  postalcode81 -0.20011 0.31917 -0.627 0.53067  postalcode82 -0.70320 0.30162 -2.331 0.01973 \*  postalcode83 -0.61173 0.32403 -1.888 0.05904 .  postalcode84 -0.39398 0.29793 -1.322 0.18605  postalcode85 -0.20380 0.30726 -0.663 0.50715  postalcode87 10.73794 229.62861 0.047 0.96270  postalcode88 -0.63084 0.30564 -2.064 0.03902 \*  postalcode89 -0.53156 0.28895 -1.840 0.06582 .  postalcode90 -0.50637 0.47204 -1.073 0.28339  postalcode91 -0.49029 0.31401 -1.561 0.11844  postalcode92 -0.54884 0.27774 -1.976 0.04814 \*  postalcode93 -0.98083 0.47246 -2.076 0.03789 \*  postalcode94 -0.23419 0.39627 -0.591 0.55453  postalcode95 -0.79204 0.43319 -1.828 0.06749 .  postalcode96 -0.36010 0.27929 -1.289 0.19728  postalcode97 -0.33227 0.27815 -1.195 0.23226  postalcode98 -0.53235 0.33686 -1.580 0.11403  postalcode99 -0.63502 0.31577 -2.011 0.04432 \*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22303 on 22134 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22475  Number of Fisher Scoring iterations: 11  [[2]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.8334 0.6480 0.6673 0.6824 0.7281  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.478113 0.037162 39.775 < 2e-16 \*\*\*  age -0.003574 0.001054 -3.391 0.000696 \*\*\*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22422 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22426  Number of Fisher Scoring iterations: 4  [[3]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.9170 0.6007 0.6371 0.6883 1.2392  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.707048 0.030515 55.94 <2e-16 \*\*\*  nr\_medication -0.043053 0.003105 -13.87 <2e-16 \*\*\*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22247 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22251  Number of Fisher Scoring iterations: 4  [[4]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7874 0.6725 0.6725 0.6725 0.7938  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.37133 0.01679 81.653 <2e-16 \*\*\*  hartfalen\_morb1 -0.37808 0.14092 -2.683 0.0073 \*\*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22427 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22431  Number of Fisher Scoring iterations: 4  [[5]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7892 0.6714 0.6714 0.6714 0.7189  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.37520 0.01719 79.995 <2e-16 \*\*\*  chrnek\_morb1 -0.15399 0.07062 -2.181 0.0292 \*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22429 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22433  Number of Fisher Scoring iterations: 4  [[6]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7854 0.6739 0.6739 0.6739 0.7140  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.36668 0.01669 81.894 <2e-16 \*\*\*  dementie\_morb1 -0.12992 0.37901 -0.343 0.732  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22433 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22437  Number of Fisher Scoring iterations: 4  [[7]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7862 0.6734 0.6734 0.6734 0.6974  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.36859 0.01691 80.933 <2e-16 \*\*\*  Angst\_morb1 -0.07858 0.10124 -0.776 0.438  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22433 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22437  Number of Fisher Scoring iterations: 4  [[8]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7926 0.6691 0.6749 0.6749 0.6749  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.36358 0.01806 75.522 <2e-16 \*\*\*  astma\_morb1 0.01931 0.04704 0.411 0.681  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22433 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22437  Number of Fisher Scoring iterations: 4  [[9]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7853 0.6740 0.6740 0.6740 0.6758  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.366545 0.016820 81.246 <2e-16 \*\*\*  persoon\_morb1 -0.005893 0.127232 -0.046 0.963  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22433 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22437  Number of Fisher Scoring iterations: 4  [[10]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7858 0.6737 0.6737 0.6737 0.7863  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.39277 0.03827 36.39 <2e-16 \*\*\*  nr\_contacts\_infection -0.02515 0.02286 -1.10 0.271  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 14526 on 14331 degrees of freedom  Residual deviance: 14525 on 14330 degrees of freedom  (10060 observations deleted due to missingness)  AIC: 14529  Number of Fisher Scoring iterations: 4  [[11]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7825 0.6759 0.6759 0.6759 0.7194  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.38837 0.06671 20.811 <2e-16 \*\*\*  nr\_prescriptions\_AB -0.02811 0.05770 -0.487 0.626  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 14526 on 14331 degrees of freedom  Residual deviance: 14526 on 14330 degrees of freedom  (10060 observations deleted due to missingness)  AIC: 14530  Number of Fisher Scoring iterations: 4  [[12]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7862 0.6734 0.6734 0.6734 0.8061  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.42732 0.04603 31.007 <2e-16 \*\*\*  nr\_contacts\_resp -0.05876 0.03443 -1.707 0.0879 .  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 14526 on 14331 degrees of freedom  Residual deviance: 14523 on 14330 degrees of freedom  (10060 observations deleted due to missingness)  AIC: 14527  Number of Fisher Scoring iterations: 4  [[13]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7853 0.6740 0.6740 0.6740 0.6876  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.36648 0.01668 81.925 <2e-16 \*\*\*  fever1 -0.04472 0.56298 -0.079 0.937  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22433 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22437  Number of Fisher Scoring iterations: 4  [[14]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.8021 0.6627 0.6627 0.6763 0.7039  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.44924 0.03486 41.578 < 2e-16 \*\*\*  nr\_chron3 -0.04511 0.01656 -2.725 0.00644 \*\*  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22426 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22430  Number of Fisher Scoring iterations: 4  [[15]]  Call:  glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),  family = binomial, data = variables\_outcome)  Deviance Residuals:  Min 1Q Median 3Q Max  -1.7954 0.6675 0.6706 0.6767 0.6867  Coefficients:  Estimate Std. Error z value Pr(>|z|)  (Intercept) 1.3245295 0.0415770 31.857 <2e-16 \*\*\*  practice\_size 0.0002197 0.0002001 1.098 0.272  ---  Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1  (Dispersion parameter for binomial family taken to be 1)  Null deviance: 22433 on 22219 degrees of freedom  Residual deviance: 22432 on 22218 degrees of freedom  (2172 observations deleted due to missingness)  AIC: 22436  Number of Fisher Scoring iterations: 4  20180927 |
|  |
| |  | | --- | | model\_AICo <- glm(  outcome\_4 ~ .,  data = dplyr::select(data\_first\_treatment\_relevant\_0.4\_na.omit, - vars\_treatment),  family=binomial) | |

Step: AIC=14472.58

outcome\_4 ~ sex + age + poor\_immune\_response + nr\_medication +

hartfalen\_morb + osteop\_morb + alcmisb\_morb + COPD\_morb +

migraine\_morb + nr\_contacts\_resp

Df Deviance AIC

<none> 14451 14473

- osteop\_morb 1 14453 14473

- nr\_contacts\_resp 1 14453 14473

- hartfalen\_morb 1 14454 14474

- poor\_immune\_response 1 14455 14475

- sex 1 14456 14476

- COPD\_morb 1 14456 14476

- migraine\_morb 1 14456 14476

- age 1 14457 14477

- alcmisb\_morb 1 14462 14482

- nr\_medication 1 14471 14491

model\_AICt <- glm(

AB\_nose\_infection ~ .,

data = select(data\_first\_treatment\_relevant\_0.4\_na.omit[!names(data\_first\_treatment\_relevant\_0.4\_na.omit) %in% vars\_outcome],- type\_AB\_nose),

family=binomial)

Step: AIC=19315.67

AB\_nose\_infection ~ postalcode + nr\_medication + diab\_morb +

HIV\_morb + Angst\_morb + astma\_morb + hartklep\_morb + persoon\_morb +

nr\_contacts\_infection + nr\_prescriptions\_AB + nr\_contacts\_resp +

fever + practice\_size

Df Deviance AIC

<none> 19120 19316

- hartklep\_morb 1 19122 19316

- persoon\_morb 1 19122 19316

- HIV\_morb 1 19123 19317

- nr\_contacts\_infection 1 19123 19317

- Angst\_morb 1 19123 19317

- fever 1 19125 19319

- nr\_contacts\_resp 1 19125 19319

- nr\_prescriptions\_AB 1 19127 19321

- diab\_morb 1 19127 19321

- astma\_morb 1 19127 19321

- practice\_size 1 19137 19331

- nr\_medication 1 19167 19361

- postalcode 85 19675 19701

models <- lapply(vars\_AICt,

+ function(x) {

+ glm(substitute(outcome\_4 ~ i, list(i = as.name(x))),

+ family = binomial,

+ data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,-vars\_treatment))

+ }

+ )

> lapply(models, summary)

[[1]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-2.248 0.578 0.645 0.709 0.940

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.711717 0.301350 5.680 1.35e-08 \*\*\*

postalcode10 -0.127812 0.317710 -0.402 0.6875

postalcode11 -0.717464 0.357546 -2.007 0.0448 \*

postalcode12 -0.394592 0.321505 -1.227 0.2197

postalcode13 10.854346 324.743836 0.033 0.9733

postalcode14 -0.357999 0.350821 -1.020 0.3075

postalcode15 -0.247461 0.352263 -0.702 0.4824

postalcode16 -0.507744 0.554508 -0.916 0.3598

postalcode17 -0.784376 0.359970 -2.179 0.0293 \*

postalcode18 -0.541646 0.404486 -1.339 0.1805

postalcode19 -0.478185 0.335161 -1.427 0.1537

postalcode20 -0.248233 0.325599 -0.762 0.4458

postalcode21 -0.663115 0.351780 -1.885 0.0594 .

postalcode22 -0.733249 0.341719 -2.146 0.0319 \*

postalcode23 0.348307 0.421354 0.827 0.4084

postalcode24 -0.280971 0.326963 -0.859 0.3902

postalcode25 -0.250889 0.346621 -0.724 0.4692

postalcode26 -0.311629 0.354174 -0.880 0.3789

postalcode27 -0.358575 0.381479 -0.940 0.3472

postalcode28 10.854346 229.628667 0.047 0.9623

postalcode29 -0.295864 0.374861 -0.789 0.4300

postalcode30 -0.177786 0.316262 -0.562 0.5740

postalcode31 -0.217288 0.325465 -0.668 0.5044

postalcode32 -0.458954 0.501524 -0.915 0.3601

postalcode33 -0.264798 0.390611 -0.678 0.4978

postalcode34 -0.591126 0.321623 -1.838 0.0661 .

postalcode35 0.037483 0.373798 0.100 0.9201

postalcode36 0.234193 1.110707 0.211 0.8330

postalcode37 10.854346 162.372128 0.067 0.9467

postalcode38 -0.550191 0.328427 -1.675 0.0939 .

postalcode39 -0.484487 0.340833 -1.421 0.1552

postalcode40 -0.659624 0.390051 -1.691 0.0908 .

postalcode41 -0.556271 0.337462 -1.648 0.0993 .

postalcode42 -0.524551 0.356461 -1.472 0.1411

postalcode43 -0.042560 0.426881 -0.100 0.9206

postalcode46 10.854346 229.628667 0.047 0.9623

postalcode47 -0.102279 0.625150 -0.164 0.8700

postalcode50 -0.180240 0.492787 -0.366 0.7145

postalcode51 10.854346 229.628667 0.047 0.9623

postalcode52 -0.527162 0.375551 -1.404 0.1604

postalcode53 -0.306004 0.339452 -0.901 0.3673

postalcode54 -0.593104 0.333037 -1.781 0.0749 .

postalcode55 -1.018570 0.768643 -1.325 0.1851

postalcode56 -0.463292 0.360292 -1.286 0.1985

postalcode57 -0.578166 0.329298 -1.756 0.0791 .

postalcode58 -0.020041 0.383670 -0.052 0.9583

postalcode59 -0.795426 0.889276 -0.894 0.3711

postalcode60 -0.467739 0.342202 -1.367 0.1717

postalcode61 -0.053489 0.623242 -0.086 0.9316

postalcode62 0.730630 0.796423 0.917 0.3589

postalcode63 -0.613104 1.193376 -0.514 0.6074

postalcode64 -0.003339 0.371562 -0.009 0.9928

postalcode65 -0.113149 0.351146 -0.322 0.7473

postalcode66 -0.180632 0.329302 -0.549 0.5833

postalcode67 0.120865 0.617100 0.196 0.8447

postalcode68 -0.401795 0.406827 -0.988 0.3233

postalcode69 -0.499445 0.356166 -1.402 0.1608

postalcode70 -0.153572 0.366122 -0.419 0.6749

postalcode71 -0.347401 0.381315 -0.911 0.3623

postalcode72 -0.136180 0.437478 -0.311 0.7556

postalcode73 -0.401307 0.332184 -1.208 0.2270

postalcode74 -0.414370 0.343369 -1.207 0.2275

postalcode75 -0.684796 0.341228 -2.007 0.0448 \*

postalcode76 0.103573 0.416975 0.248 0.8038

postalcode77 -0.325422 0.384227 -0.847 0.3970

postalcode78 -0.143101 0.388881 -0.368 0.7129

postalcode79 -0.418044 0.317197 -1.318 0.1875

postalcode80 -0.746636 0.420858 -1.774 0.0760 .

postalcode81 -0.006969 0.387173 -0.018 0.9856

postalcode82 -0.613104 0.362237 -1.693 0.0905 .

postalcode83 -0.452762 0.382931 -1.182 0.2371

postalcode84 -0.102279 0.367772 -0.278 0.7809

postalcode85 -0.236869 0.369220 -0.642 0.5212

postalcode87 10.854346 324.743836 0.033 0.9733

postalcode88 -0.527947 0.366537 -1.440 0.1498

postalcode89 -0.592051 0.345012 -1.716 0.0862 .

postalcode90 -0.185660 0.578178 -0.321 0.7481

postalcode91 -0.538997 0.375737 -1.435 0.1514

postalcode92 -0.425893 0.331033 -1.287 0.1982

postalcode93 -0.923259 0.617836 -1.494 0.1351

postalcode94 -0.037740 0.471971 -0.080 0.9363

postalcode95 -1.123930 0.496354 -2.264 0.0236 \*

postalcode96 -0.060046 0.337904 -0.178 0.8590

postalcode97 -0.109714 0.336247 -0.326 0.7442

postalcode98 -0.556752 0.384693 -1.447 0.1478

postalcode99 -0.713188 0.373743 -1.908 0.0564 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14409 on 14246 degrees of freedom

AIC: 14581

Number of Fisher Scoring iterations: 11

[[2]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.8425 0.6378 0.6568 0.7035 0.7109

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.500920 0.039253 38.237 < 2e-16 \*\*\*

nr\_medication -0.005914 0.001352 -4.375 1.21e-05 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14507 on 14330 degrees of freedom

AIC: 14511

Number of Fisher Scoring iterations: 4

[[3]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7842 0.6747 0.6747 0.6747 0.7039

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36409 0.02148 63.501 <2e-16 \*\*\*

diab\_morb1 -0.09528 0.08065 -1.181 0.237

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14525 on 14330 degrees of freedom

AIC: 14529

Number of Fisher Scoring iterations: 4

[[4]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7817 0.6764 0.6764 0.6764 0.8383

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.35856 0.02073 65.53 <2e-16 \*\*\*

HIV\_morb1 -0.49357 0.42197 -1.17 0.242

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14525 on 14330 degrees of freedom

AIC: 14529

Number of Fisher Scoring iterations: 4

[[5]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7827 0.6757 0.6757 0.6757 0.7105

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.36067 0.02101 64.758 <2e-16 \*\*\*

Angst\_morb1 -0.11285 0.12343 -0.914 0.361

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14525 on 14330 degrees of freedom

AIC: 14529

Number of Fisher Scoring iterations: 4

[[6]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7882 0.6720 0.6775 0.6775 0.6775

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.35478 0.02244 60.370 <2e-16 \*\*\*

astma\_morb1 0.01821 0.05818 0.313 0.754

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

AIC: 14530

Number of Fisher Scoring iterations: 4

[[7]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7817 0.6764 0.6764 0.6764 0.7508

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.35851 0.02075 65.464 <2e-16 \*\*\*

hartklep\_morb1 -0.23636 0.30841 -0.766 0.443

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

AIC: 14530

Number of Fisher Scoring iterations: 4

[[8]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7813 0.6767 0.6767 0.6767 0.6788

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.35764 0.02091 64.933 <2e-16 \*\*\*

persoon\_morb1 -0.00706 0.15009 -0.047 0.962

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

AIC: 14530

Number of Fisher Scoring iterations: 4

[[9]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7839 0.6759 0.6768 0.6768 0.6768

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.3566604 0.0276515 49.063 <2e-16 \*\*\*

nr\_contacts\_infection 0.0004823 0.0105342 0.046 0.963

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

AIC: 14530

Number of Fisher Scoring iterations: 4

[[10]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7825 0.6759 0.6759 0.6759 0.7194

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.38837 0.06671 20.811 <2e-16 \*\*\*

nr\_prescriptions\_AB -0.02811 0.05770 -0.487 0.626

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

AIC: 14530

Number of Fisher Scoring iterations: 4

[[11]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7862 0.6734 0.6734 0.6734 0.8061

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.42732 0.04603 31.007 <2e-16 \*\*\*

nr\_contacts\_resp -0.05876 0.03443 -1.707 0.0879 .

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14523 on 14330 degrees of freedom

AIC: 14527

Number of Fisher Scoring iterations: 4

[[12]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7813 0.6767 0.6767 0.6767 0.6945

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.35756 0.02071 65.535 <2e-16 \*\*\*

fever1 -0.05827 0.65167 -0.089 0.929

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14526 on 14330 degrees of freedom

AIC: 14530

Number of Fisher Scoring iterations: 4

[[13]]

Call:

glm(formula = substitute(outcome\_4 ~ i, list(i = as.name(x))),

family = binomial, data = select(data\_first\_treatment\_relevant\_0.4\_na.omit,

-vars\_treatment))

Deviance Residuals:

Min 1Q Median 3Q Max

-1.7960 0.6673 0.6718 0.6807 0.6901

Coefficients:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.3132533 0.0419498 31.305 <2e-16 \*\*\*

practice\_size 0.0002628 0.0002176 1.208 0.227

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 14526 on 14331 degrees of freedom

Residual deviance: 14525 on 14330 degrees of freedom

AIC: 14529

Number of Fisher Scoring iterations: 4