# statelearner sim results

#### Anders Munch

### April 4, 2024

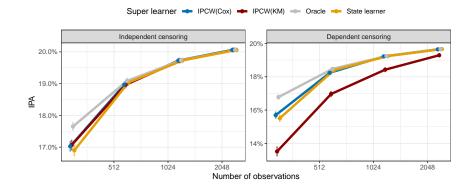
## Contents

1 IPCW super learners

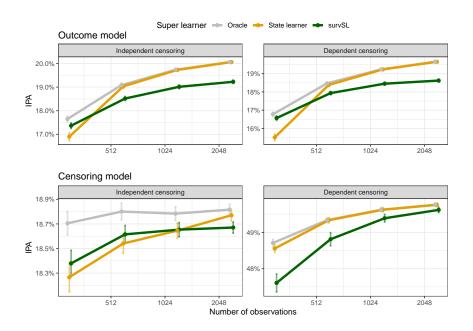
<i>Z</i> S	survaL								3				
3	3.1 Sta 3.2 Tar	elefski data v te learner . get paramete TIONS: num:	 r										
1	IPCV	W super l	earne	ers									
	n_obs	sim_set	type		SL	time	type.1	-	IPA		Ş	se	
1	: 300	original	cens		survSL	6	cens	0.69	78450	0.0	00083056:	14	
2	: 300	original	cens	State	learner	6	cens	0.69	89384	0.0	000819238	37	
3	: 300	original	cens		Oracle	6	cens	0.69	92857	0.0	000814900	9	
4	: 300	original	event		survSL	6	event	0.34	88385	0.0	001982309	97	
5	: 300	original	event	State	learner	6	event	0.34	68667	0.0	00199721	22	
	_												
380	: 2400	indep_cens	event		survSL	36	event	0.19	22440	0.0	00037271	66	
381	: 2400	indep_cens	event	State	learner	36	event	0.20	05905	0.0	000275574	10	
382	: 2400	indep_cens	event		IPCW(KM)	36	event	0.20	05905	0.0	000275574	10	
383	: 2400	indep_cens	event	I	PCW(Cox)	36	event	0.20	05905	0.0	000275574	10	
384	: 2400	indep_cens	event		Oracle	36	event	0.20	05905	0.0	000275574	10	
	n_obs		sir	n_set	type		SL	time	type.1	L	IPA		\$
1	: 300	Dependent	censo	oring	cens	S	survSL	6	cens	0 8	.6978450	0	.00083056
2	: 300	Dependent	censo	oring	cens St	ate le	earner	6	cens	0 8	.6989384	0	.000819238
3	: 300	Dependent	cens	oring	cens	(	Oracle	6	cens	0 8	.6992857	0	.00081490

1

```
4:
       300
             Dependent censoring event
                                                            event 0.3488385 0.001982309
                                              survSL
       300
             Dependent censoring event State learner
                                                            event 0.3468667 0.001997212
  5:
 _ _ _
                                                            event 0.1922440 0.000372716
380:
      2400 Independent censoring event
                                                        36
                                               survSL
381:
      2400 Independent censoring event State learner
                                                        36
                                                           event 0.2005905 0.000275574
382:
      2400 Independent censoring event
                                                           event 0.2005905 0.000275574
                                             IPCW(KM)
                                                        36
                                                            event 0.2005905 0.000275574
383:
      2400 Independent censoring event
                                           IPCW(Cox)
                                                        36
                                                           event 0.2005905 0.000275574
384:
      2400 Independent censoring event
                                               Oracle
                                                        36
```

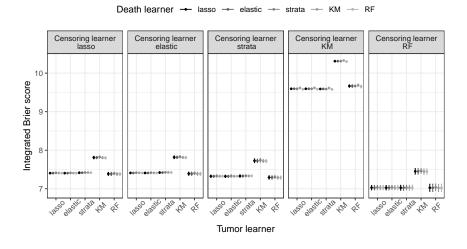


### 2 survSL



# 3 Real Zelefski data with competing event new version

#### 3.1 State learner



#### Table

```
cause1
                                        cause2 censor
                                                            loss
                                                                           sd
                \\texttt{RF}
                                                        7.022057 0.046024265
  1:
                                             km
                                                    rf
  2: \\texttt{Cox strata CT}
                                   cox_elastic
                                                    rf
                                                        7.025097 0.032110343
                                                        7.025267 0.046638952
                \\texttt{RF}
                                   cox_elastic
                                                    rf
  4:
                \\texttt{RF}
                                                        7.025504 0.046457079
  5: \\texttt{Cox strata CT}
                                                        7.025648 0.031585447
                                     cox_lasso
                                                    km 10.299304 0.005481968
121:
                \\texttt{KM}
                                             rf
                \\texttt{KM}
                                                    km 10.310004 0.004864230
122:
                                     cox_lasso
123:
                \\texttt{KM}
                                   cox_elastic
                                                    km 10.310062 0.005185197
                                                    km 10.310763 0.003174509
124:
                \\texttt{KM} cox_strata_stage
125:
                \\texttt{KM}
                                                    km 10.328653 0.004108411
                                                cause2 censor
                       cause1
                                                                    loss
                                                                                  sd
                                                               7.022057 0.046024265
                \\texttt{RF}
  1:
                                          \\texttt{KM}
  2: \\texttt{Cox strata CT}
                                    \\texttt{Elastic}
                                                               7.025097 0.032110343
                                                           rf
  3:
                \\texttt{RF}
                                    \\texttt{Elastic}
                                                           rf
                                                               7.025267 0.046638952
                \\texttt{RF}
                                          \\texttt{RF}
                                                               7.025504 0.046457079
  5: \\texttt{Cox strata CT}
                                      \\texttt{Lasso}
                                                               7.025648 0.031585447
                \\texttt{KM}
                                          \\texttt{RF}
                                                           km 10.299304 0.005481968
121:
122:
                \\texttt{KM}
                                      \\texttt{Lasso}
                                                           km 10.310004 0.004864230
                                                           km 10.310062 0.005185197
123:
                \\texttt{KM}
                                    \\texttt{Elastic}
124:
                \\texttt{KM} \\texttt{Cox strata CT}
                                                           km 10.310763 0.003174509
                \\texttt{KM}
                                                           km 10.328653 0.004108411
125:
                                          \\texttt{KM}
                       cause1
                                                cause2
                                                             censor
                                                                          loss
  1:
                \\texttt{RF}
                                          \\texttt{KM} \\texttt{RF}
                                                                      7.022057 0.04602426
                                    \\texttt{Elastic} \\texttt{RF}
  2: \\texttt{Cox strata CT}
                                                                      7.025097 0.03211034
  3:
                \\texttt{RF}
                                    \\texttt{Elastic} \\texttt{RF}
                                                                      7.025267 0.04663895
                                          \\texttt{RF} \\texttt{RF}
                                                                      7.025504 0.04645707
  4:
                \\texttt{RF}
  5: \\texttt{Cox strata CT}
                                      \\texttt{Lasso} \\texttt{RF}
                                                                      7.025648 0.03158544
                \\texttt{KM}
                                          \\texttt{RF} \\texttt{KM} 10.299304 0.00548196
121:
122:
                \\texttt{KM}
                                      \\texttt{Lasso} \\texttt{KM} 10.310004 0.00486423
                                    \\texttt{Elastic} \\texttt{KM} 10.310062 0.00518519
123:
                \\texttt{KM}
124:
                \\texttt{KM} \\texttt{Cox strata CT} \\texttt{KM} 10.310763 0.00317450
125:
                \\texttt{KM}
                                          \\texttt{KM} \\texttt{KM} 10.328653 0.00410841
```

## 3.2 Target parameter

