simulation to study strategies to handle small strata

Wei Zou

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Version history

- 4_imvigor011_mdd: power analysis at mdd HR of 0.74
- 3_imvigor011: power analysis at target HR of 0.65

this program compare stratified vs unstratified analyses

simulate imvigor011 power

sim without strata

```
## [1] "finding 1000 input files when looking for r1"
## [1] "modification interval: 9.6 min"
## [1] "will add file name to the returned data"
```

Table 1: power of stratified: 49.3 unstratified: 51.7

var	n	mean	sd	min	25%	50%	75%	max
n	20000	246.000	0.000	246.000	246.000	246.000	246.000	246.000
nevent	20000	192.000	0.000	192.000	192.000	192.000	192.000	192.000
qad_hr	20000	0.750	0.113	0.413	0.670	0.741	0.821	1.349
p_s	20000	0.158	0.226	0.000	0.008	0.052	0.212	1.000
delta_p	20000	-0.012	0.078	-0.634	-0.025	-0.001	0.006	0.586

sim with with strata

```
## [1] "finding 1000 input files when looking for r1"
## [1] "modification interval: 9.2 min"
## [1] "will add file name to the returned data"
```

Table 2: power of stratified: 49.8 unstratified: 43.4

var	n	mean	sd	min	25%	50%	75%	max
n	20000	246.000	0.000	246.000	246.000	246.000	246.000	246.000
nevent	20000	192.000	0.000	192.000	192.000	192.000	192.000	192.000
qad_hr	20000	0.769	0.108	0.445	0.693	0.764	0.838	1.314
p_s	20000	0.155	0.224	0.000	0.008	0.051	0.206	1.000
delta_p	20000	0.018	0.101	-0.676	-0.006	0.005	0.045	0.756

try different collapsing strategy

different number of minE

```
## [1] "finding 1000 input files when looking for r1"
## [1] "modification interval: 7.9 min"
## [1] "will add file name to the returned data"
```

power changes as threshold number for collapseGroup
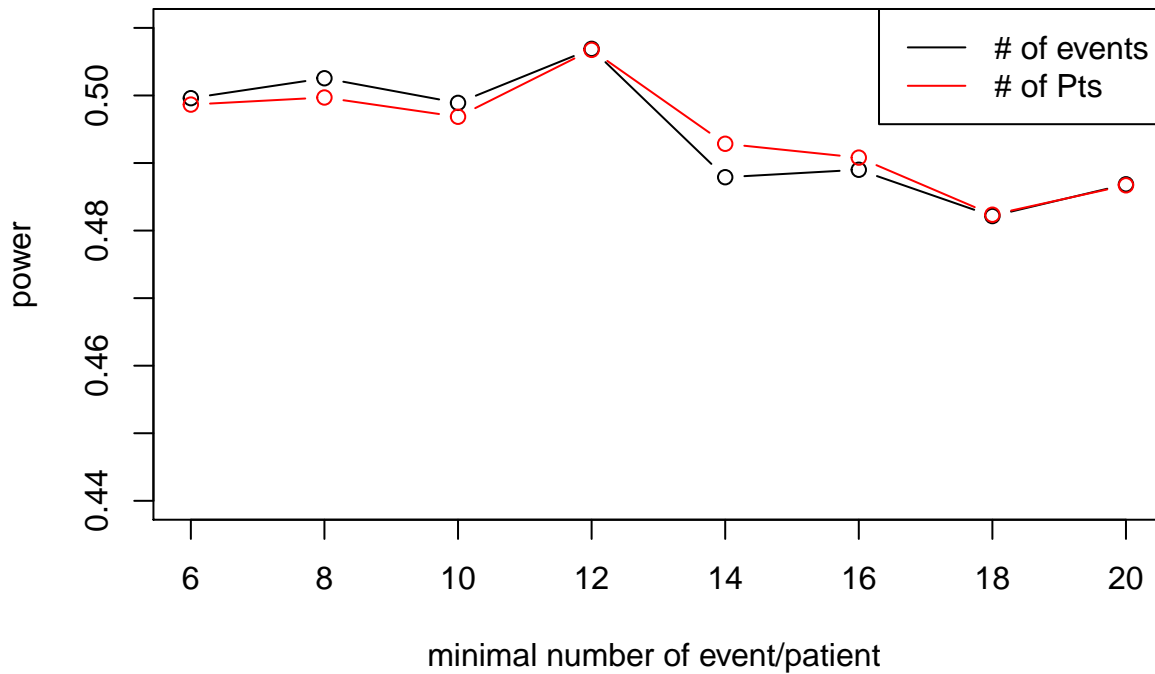

```
## [1] "finding 1000 input files when looking for r1"
## [1] "modification interval: 4.2 min"
## [1] "will add file name to the returned data"
```

power changes as threshold number for removeStratum