vap\_lca\_mplus\_no\_il10

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## Warning: Using an external vector in selections was deprecated in tidyselect 1.1.0.  
## ℹ Please use `all\_of()` or `any\_of()` instead.  
## # Was:  
## data %>% select(vap\_biomarkers)  
##   
## # Now:  
## data %>% select(all\_of(vap\_biomarkers))  
##   
## See <https://tidyselect.r-lib.org/reference/faq-external-vector.html>.  
## This warning is displayed once every 8 hours.  
## Call `lifecycle::last\_lifecycle\_warnings()` to see where this warning was  
## generated.

## Warning: 強制変換により NA が生成されました

## png   
## 2

|  | 1 (N=160) | 2 (N=55) | 3 (N=130) | 4 (N=121) | Total (N=466) |
| --- | --- | --- | --- | --- | --- |
| Age |  |  |  |  |  |
| - Median | 55.476 | 38.656 | 52.550 | 49.369 | 51.522 |
| - Q1, Q3 | 38.214, 65.001 | 28.348, 54.628 | 38.925, 64.066 | 34.541, 63.003 | 35.900, 63.694 |
| Sex |  |  |  |  |  |
| - Female | 43 (26.9%) | 18 (32.7%) | 32 (24.6%) | 28 (23.1%) | 121 (26.0%) |
| - Male | 117 (73.1%) | 37 (67.3%) | 98 (75.4%) | 93 (76.9%) | 345 (74.0%) |
| BMI |  |  |  |  |  |
| - Median | 28.727 | 26.298 | 28.180 | 26.489 | 27.444 |
| - Q1, Q3 | 24.359, 34.434 | 23.309, 29.222 | 23.769, 33.203 | 24.135, 31.142 | 23.983, 32.406 |
| Race |  |  |  |  |  |
| - American Indian or Native Alaskan | 8 (5.0%) | 3 (5.5%) | 4 (3.1%) | 6 (5.0%) | 21 (4.5%) |
| - Another Race | 0 (0.0%) | 1 (1.8%) | 1 (0.8%) | 1 (0.8%) | 3 (0.6%) |
| - Asian | 13 (8.1%) | 7 (12.7%) | 9 (6.9%) | 5 (4.1%) | 34 (7.3%) |
| - Black or African American | 18 (11.2%) | 7 (12.7%) | 12 (9.2%) | 15 (12.4%) | 52 (11.2%) |
| - Declined to Answer | 0 (0.0%) | 0 (0.0%) | 4 (3.1%) | 0 (0.0%) | 4 (0.9%) |
| - Native Hawaiian or Pacific Islander | 4 (2.5%) | 0 (0.0%) | 3 (2.3%) | 1 (0.8%) | 8 (1.7%) |
| - Unavailable or Unknown | 5 (3.1%) | 2 (3.6%) | 2 (1.5%) | 4 (3.3%) | 13 (2.8%) |
| - White | 112 (70.0%) | 35 (63.6%) | 95 (73.1%) | 89 (73.6%) | 331 (71.0%) |
| icu\_admit\_type |  |  |  |  |  |
| - | 43 (26.9%) | 22 (40.0%) | 30 (23.1%) | 42 (34.7%) | 137 (29.4%) |
| - Medical | 30 (18.8%) | 10 (18.2%) | 27 (20.8%) | 11 (9.1%) | 78 (16.7%) |
| - Neuro | 31 (19.4%) | 6 (10.9%) | 28 (21.5%) | 19 (15.7%) | 84 (18.0%) |
| - Surgical | 56 (35.0%) | 17 (30.9%) | 45 (34.6%) | 49 (40.5%) | 167 (35.8%) |
| bronch\_day\_1 |  |  |  |  |  |
| - Median | 7.000 | 5.000 | 8.000 | 7.000 | 7.000 |
| - Q1, Q3 | 4.000, 13.000 | 3.000, 7.000 | 5.000, 15.000 | 4.000, 11.000 | 4.000, 12.000 |
| bronch\_day\_1\_indexed\_to\_intubation |  |  |  |  |  |
| - Median | 6.000 | 4.000 | 7.000 | 6.000 | 6.000 |
| - Q1, Q3 | 3.000, 11.000 | 2.000, 6.000 | 4.000, 14.000 | 3.000, 10.000 | 3.000, 10.750 |
| X28d\_mortality |  |  |  |  |  |
| - 0 | 142 (88.8%) | 49 (89.1%) | 110 (84.6%) | 96 (79.3%) | 397 (85.2%) |
| - 1 | 18 (11.2%) | 6 (10.9%) | 20 (15.4%) | 25 (20.7%) | 69 (14.8%) |
| colony\_1000\_yes1\_no0 |  |  |  |  |  |
| - 0 | 82 (51.2%) | 28 (50.9%) | 75 (57.7%) | 65 (53.7%) | 250 (53.6%) |
| - 1 | 78 (48.8%) | 27 (49.1%) | 55 (42.3%) | 56 (46.3%) | 216 (46.4%) |
| colony\_10000\_yes1\_no0 |  |  |  |  |  |
| - 0 | 117 (73.1%) | 42 (76.4%) | 104 (80.0%) | 87 (71.9%) | 350 (75.1%) |
| - 1 | 43 (26.9%) | 13 (23.6%) | 26 (20.0%) | 34 (28.1%) | 116 (24.9%) |
| perc\_neutrophils\_bal\_b1 |  |  |  |  |  |
| - Median | 73.000 | 85.500 | 13.500 | 94.000 | 84.000 |
| - Q1, Q3 | 57.000, 83.000 | 82.500, 89.000 | 6.500, 43.750 | 89.000, 97.000 | 58.000, 91.000 |
| bal\_nucleated\_cells\_b1 |  |  |  |  |  |
| - Median | 792.500 | 1875.500 | 293.000 | 2584.000 | 1105.000 |
| - Q1, Q3 | 371.750, 1307.500 | 1206.250, 4189.750 | 179.500, 547.750 | 1994.000, 7623.000 | 418.000, 2455.000 |
| hospital\_mortality |  |  |  |  |  |
| - 0 | 134 (83.8%) | 47 (85.5%) | 101 (77.7%) | 88 (72.7%) | 370 (79.4%) |
| - 1 | 26 (16.2%) | 8 (14.5%) | 29 (22.3%) | 33 (27.3%) | 96 (20.6%) |
| icu\_mortality |  |  |  |  |  |
| - 0 | 137 (85.6%) | 49 (89.1%) | 113 (86.9%) | 96 (79.3%) | 395 (84.8%) |
| - 1 | 23 (14.4%) | 6 (10.9%) | 17 (13.1%) | 25 (20.7%) | 71 (15.2%) |
| apache\_iii\_admit |  |  |  |  |  |
| - Median | 87.000 | 84.000 | 82.000 | 87.000 | 85.000 |
| - Q1, Q3 | 63.750, 106.500 | 59.500, 106.000 | 64.000, 104.000 | 61.000, 112.000 | 63.000, 106.000 |
| sofa\_icu |  |  |  |  |  |
| - Median | 6.000 | 7.000 | 6.000 | 6.000 | 6.000 |
| - Q1, Q3 | 3.000, 8.000 | 4.000, 10.000 | 3.000, 9.000 | 3.000, 9.000 | 3.000, 9.000 |
| sofa\_b1 |  |  |  |  |  |
| - Median | 6.000 | 7.000 | 5.000 | 6.000 | 6.000 |
| - Q1, Q3 | 4.000, 8.000 | 5.000, 9.000 | 4.000, 7.000 | 4.000, 8.000 | 4.000, 8.000 |
| bronch\_ecmo\_0 |  |  |  |  |  |
| - N-Miss | 155 | 54 | 128 | 119 | 456 |
| - 1 | 5 (100.0%) | 1 (100.0%) | 2 (100.0%) | 2 (100.0%) | 10 (100.0%) |
| bronch\_pf\_8am\_calculated\_0 |  |  |  |  |  |
| - Median | 177.500 | 180.000 | 197.500 | 185.000 | 185.000 |
| - Q1, Q3 | 140.000, 246.000 | 106.000, 226.667 | 157.750, 251.667 | 128.333, 290.000 | 139.500, 252.411 |
| bronch\_sf\_8am\_calculated\_0 |  |  |  |  |  |
| - Median | 242.500 | 200.000 | 315.000 | 242.500 | 247.500 |
| - Q1, Q3 | 192.000, 328.333 | 161.667, 250.000 | 242.500, 335.714 | 194.000, 322.500 | 194.000, 326.667 |
| bronch\_oi\_8am\_calculated\_0 |  |  |  |  |  |
| - Median | 6.452 | 6.436 | 5.567 | 6.292 | 6.269 |
| - Q1, Q3 | 4.572, 10.211 | 4.895, 11.594 | 3.925, 7.749 | 4.507, 8.630 | 4.439, 9.635 |
| vfds\_admit |  |  |  |  |  |
| - Median | 10.000 | 11.000 | 7.500 | 4.000 | 8.000 |
| - Q1, Q3 | 0.000, 17.000 | 0.000, 19.000 | 0.000, 15.000 | 0.000, 14.000 | 0.000, 16.000 |
| vfds\_bronch |  |  |  |  |  |
| - Median | 16.000 | 16.000 | 14.000 | 9.000 | 14.000 |
| - Q1, Q3 | 0.000, 22.000 | 0.000, 23.000 | 0.000, 21.000 | 0.000, 19.000 | 0.000, 21.000 |
| vfds\_first\_intubtation |  |  |  |  |  |
| - Median | 10.000 | 11.000 | 6.000 | 4.000 | 8.000 |
| - Q1, Q3 | 0.000, 17.000 | 0.000, 19.000 | 0.000, 15.000 | 0.000, 14.000 | 0.000, 16.000 |
| mapped\_organism |  |  |  |  |  |
| - cineto1 | 3 (1.9%) | 0 (0.0%) | 1 (0.8%) | 1 (0.8%) | 5 (1.1%) |
| - bahstrep2 | 2 (1.2%) | 2 (3.6%) | 1 (0.8%) | 1 (0.8%) | 6 (1.3%) |
| - candida3 | 2 (1.2%) | 0 (0.0%) | 1 (0.8%) | 2 (1.7%) | 5 (1.1%) |
| - citrobacter4 | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (1.7%) | 2 (0.4%) |
| - oralflora5 | 7 (4.4%) | 1 (1.8%) | 5 (3.8%) | 7 (5.8%) | 20 (4.3%) |
| - coryneanddipther6 | 1 (0.6%) | 0 (0.0%) | 1 (0.8%) | 2 (1.7%) | 4 (0.9%) |
| - enterbacter7 | 1 (0.6%) | 0 (0.0%) | 3 (2.3%) | 2 (1.7%) | 6 (1.3%) |
| - ecoli8 | 1 (0.6%) | 1 (1.8%) | 0 (0.0%) | 1 (0.8%) | 3 (0.6%) |
| - hinflu9 | 2 (1.2%) | 2 (3.6%) | 7 (5.4%) | 0 (0.0%) | 11 (2.4%) |
| - klebs10 | 9 (5.6%) | 0 (0.0%) | 3 (2.3%) | 6 (5.0%) | 18 (3.9%) |
| - neisseria11 | 5 (3.1%) | 0 (0.0%) | 3 (2.3%) | 2 (1.7%) | 10 (2.1%) |
| - pseudomonas12 | 2 (1.2%) | 0 (0.0%) | 7 (5.4%) | 2 (1.7%) | 11 (2.4%) |
| - serratia13 | 4 (2.5%) | 1 (1.8%) | 2 (1.5%) | 0 (0.0%) | 7 (1.5%) |
| - staph14 | 37 (23.1%) | 17 (30.9%) | 26 (20.0%) | 23 (19.0%) | 103 (22.1%) |
| - spneumo15 | 2 (1.2%) | 0 (0.0%) | 2 (1.5%) | 3 (2.5%) | 7 (1.5%) |
| - yeast16 | 3 (1.9%) | 2 (3.6%) | 3 (2.3%) | 5 (4.1%) | 13 (2.8%) |
| - multiple17 | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
| - other18 | 15 (9.4%) | 5 (9.1%) | 9 (6.9%) | 11 (9.1%) | 40 (8.6%) |
| - nothing19 | 64 (40.0%) | 24 (43.6%) | 56 (43.1%) | 51 (42.1%) | 195 (41.8%) |

|  | 1 (N=160) | 2 (N=55) | 3 (N=130) | 4 (N=121) | Total (N=466) |
| --- | --- | --- | --- | --- | --- |
| Age |  |  |  |  |  |
| - Median | 55.476 | 38.656 | 52.550 | 49.369 | 51.522 |
| - Q1, Q3 | 38.214, 65.001 | 28.348, 54.628 | 38.925, 64.066 | 34.541, 63.003 | 35.900, 63.694 |
| Sex |  |  |  |  |  |
| - Female | 43 (26.9%) | 18 (32.7%) | 32 (24.6%) | 28 (23.1%) | 121 (26.0%) |
| - Male | 117 (73.1%) | 37 (67.3%) | 98 (75.4%) | 93 (76.9%) | 345 (74.0%) |
| hospital\_mortality |  |  |  |  |  |
| - 0 | 134 (83.8%) | 47 (85.5%) | 101 (77.7%) | 88 (72.7%) | 370 (79.4%) |
| - 1 | 26 (16.2%) | 8 (14.5%) | 29 (22.3%) | 33 (27.3%) | 96 (20.6%) |
| vfds\_bronch |  |  |  |  |  |
| - Median | 16.000 | 16.000 | 14.000 | 9.000 | 14.000 |
| - Q1, Q3 | 0.000, 22.000 | 0.000, 23.000 | 0.000, 21.000 | 0.000, 19.000 | 0.000, 21.000 |

## Saving 5 x 4 in image

##   
## Call:  
## glm(formula = hospital\_mortality ~ cluster, family = "binomial",   
## data = vap\_df\_cluster\_mplus)  
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)   
## (Intercept) -1.7707 0.3825 -4.630 3.66e-06 \*\*\*  
## cluster1 0.1310 0.4384 0.299 0.7652   
## cluster3 0.5229 0.4366 1.197 0.2311   
## cluster4 0.7899 0.4335 1.822 0.0685 .   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 474.03 on 465 degrees of freedom  
## Residual deviance: 467.44 on 462 degrees of freedom  
## AIC: 475.44  
##   
## Number of Fisher Scoring iterations: 4

##   
## Call:  
## glm(formula = hospital\_mortality ~ cluster + Age + Sex + bronch\_day\_1\_indexed\_to\_intubation,   
## family = "binomial", data = vap\_df\_cluster\_mplus)  
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)   
## (Intercept) -3.368853 0.589245 -5.717 1.08e-08 \*\*\*  
## cluster1 -0.127868 0.461244 -0.277 0.782   
## cluster3 0.321572 0.461267 0.697 0.486   
## cluster4 0.678836 0.457160 1.485 0.138   
## Age 0.038259 0.007621 5.020 5.16e-07 \*\*\*  
## SexMale -0.242005 0.267947 -0.903 0.366   
## bronch\_day\_1\_indexed\_to\_intubation -0.009931 0.010027 -0.990 0.322   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 474.03 on 465 degrees of freedom  
## Residual deviance: 436.16 on 459 degrees of freedom  
## AIC: 450.16  
##   
## Number of Fisher Scoring iterations: 5

##   
## Call:  
## glm(formula = vfds\_bronch\_cat ~ cluster, family = "binomial",   
## data = vap\_df\_cluster\_mplus)  
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)   
## (Intercept) 0.55962 0.28031 1.996 0.0459 \*  
## cluster1 0.03206 0.32531 0.099 0.9215   
## cluster3 -0.05699 0.33365 -0.171 0.8644   
## cluster4 -0.47692 0.33419 -1.427 0.1536   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 625.25 on 465 degrees of freedom  
## Residual deviance: 620.29 on 462 degrees of freedom  
## AIC: 628.29  
##   
## Number of Fisher Scoring iterations: 4

##   
## Call:  
## glm(formula = vfds\_bronch\_cat ~ cluster + Age + Sex + bronch\_day\_1\_indexed\_to\_intubation,   
## family = "binomial", data = vap\_df\_cluster\_mplus)  
##   
## Coefficients:  
## Estimate Std. Error z value Pr(>|z|)   
## (Intercept) 1.808130 0.432845 4.177 2.95e-05 \*\*\*  
## cluster1 0.371697 0.340297 1.092 0.274713   
## cluster3 0.318148 0.350409 0.908 0.363913   
## cluster4 -0.201609 0.346055 -0.583 0.560167   
## Age -0.021542 0.005936 -3.629 0.000285 \*\*\*  
## SexMale -0.294772 0.229673 -1.283 0.199337   
## bronch\_day\_1\_indexed\_to\_intubation -0.022807 0.007955 -2.867 0.004145 \*\*   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## (Dispersion parameter for binomial family taken to be 1)  
##   
## Null deviance: 625.25 on 465 degrees of freedom  
## Residual deviance: 596.65 on 459 degrees of freedom  
## AIC: 610.65  
##   
## Number of Fisher Scoring iterations: 4