| Method  | 25%   | 50%   | 75%   | 100%  | 25%   | 50%   | 75%  | 100%  |
|---|---|---|---|---|---|---|--|---|
| Cox   | 0.56 (0.56,0.57)  | 0.41 (0.4,0.41)   | -0.53 (-0.54,-0.52)   | -1.87 (-1.89,-1.84)   | 0.93 (0.93,0.94)  | 0.89 (0.88,0.89)  | 0.79 (0.79,0.79)   | 0.77 (0.76,0.77)  |
| CBLR  | 0.56 (0.56,0.57)  | 0.4 (0.4,0.41)  | -0.46 (-0.46,-0.45)   | -1.5 (-1.52,-1.48)  | 0.94 (0.94,0.94)  | 0.89 (0.89,0.89)  | 0.78 (0.78,0.79)   | 0.75 (0.75,0.75)  |
| DeepSurv  | 0.65 (0.65,0.65)  | 0.4 (0.4,0.4)   | -0.16 (-0.18,-0.13)   | -1.02 (-1.08,-0.95)   | 0.94 (0.94,0.94)  | 0.89 (0.89,0.89)  | 0.85 (0.85,0.85)   | 0.88 (0.88,0.89)  |
| DeepHit   | 0.68 (0.68,0.68)  | 0.3 (0.3,0.31)  | 0.00 (-0.01,0.02)   | 0.14 (0.13,0.15)  | 0.96 (0.96,0.96)  | 0.88 (0.88,0.89)  | 0.94 (0.94,0.95)   | 0.98 (0.97,0.98)  |
| CBNN  | 0.69 (0.69,0.69)  | 0.43 (0.43,0.43)  | 0.25 (0.25,0.26)  | 0.27 (0.26,0.28)  | 0.96 (0.96,0.96)  | 0.9 (0.9,0.9)   | 0.96 (0.96,0.96)   | 0.99 (0.99,0.99)  |
| Optimal   | 0.69 (0.69,0.69)  | 0.44 (0.43,0.44)  | 0.27 (0.27,0.27)  | 0.34 (0.33,0.34)  | 0.96 (0.96,0.96)  | 0.9 (0.9,0.9)   | 0.96 (0.96,0.96)   | 1 (1,1)   |
| D. MM   |   |   |   |   |   |   |  |   |
| B: MM   | IPA   |   |   |   | AUC   |   |  |   |
| Method  | 25%   | 50%   | 75%   | 100%  | 25%   | 50%   | 75%  | 100%  |
| Cox   | 0.00 (0.00,0.00)  | -0.09 (-0.1,-0.09)  | -0.26 (-0.27,-0.25)   | -0.45 (-0.47,-0.42)   | 0.51 (0.51,0.51)  | 0.37 (0.37,0.37)  | 0.13 (0.13,0.13)   | 0.03 (0.03,0.03)  |
| CBLR  | 0.00 (0.00,0.00)  | -0.1 (-0.1,-0.09)   | -0.25 (-0.26,-0.24)   | -0.42 (-0.44,-0.4)  | 0.51 (0.51,0.51)  | 0.37 (0.37,0.37)  | 0.13 (0.13,0.13)   | 0.03 (0.03,0.03)  |
| DeepSurv  | 0.00 (-0.01,0.00)   | -0.09 (-0.09,-0.08)   | -0.24 (-0.26,-0.22)   | -0.49 (-0.53,-0.45)   | 0.52 (0.52,0.53)  | 0.39 (0.39,0.4)   | 0.24 (0.21,0.27)   | 0.09 (0.06,0.12)  |
| DeepHit   | -0.16 (-0.2,-0.12)  | -1.21 (-1.42,-1)  | -3.86 (-4.4,-3.31)  | -3.66 (-4.17,-3.15)   | 0.59 (0.58,0.59)  | 0.53 (0.51,0.55)  | 0.52 (0.48,0.56)   | 0.32 (0.25,0.38)  |
| CBNN  | 0.04 (0.04,0.04)  | 0.00 (-0.01,0.00)   | -0.01 (-0.01,-0.01)   | -0.01 (-0.01,-0.01)   | 0.55 (0.55,0.56)  | 0.51 (0.49,0.53)  | 0.43 (0.4,0.47)  | 0.22 (0.17,0.27)  |
|   |   |   |   |   |   |   |  |   |
| C: FLC  | IPA   |   |   |   | AUC   |   |  |   |
| Method  | 25%   | 50%   | 75%   | 100%  | 25%   | 50%   | 75%  | 100%  |
| Cox   | 0.19 (0.19,0.19)  | 0.29 (0.29,0.29)  | 0.33 (0.33,0.33)  | 0.44 (0.44,0.44)  | 0.85 (0.85,0.85)  | 0.85 (0.85,0.86)  | 0.84 (0.84,0.84)   | 0.8 (0.79,0.8)  |
|   |   |   |   |   |   |   |  |   |
| CBLR  | 0.19 (0.19,0.19)  | 0.3 (0.29,0.3)  | 0.33 (0.33,0.33)  | 0.32 (0.31,0.32)  | 0.85 (0.85,0.85)  | 0.86 (0.86,0.86)  | 0.84 (0.84,0.84)   | 0.8 (0.8,0.8)   |
| CBLR<br>DeepSurv  | 0.19 (0.19,0.19)<br>0.19 (0.18,0.2)   | <b>0.3 (0.29,0.3)</b><br>0.29 (0.28,0.31)   | 0.33 (0.33,0.33)<br>0.33 (0.32,0.34)  | 0.32 (0.31,0.32)<br>0.38 (0.33,0.43)  | <b>0.85 (0.85,0.85)</b><br>0.84 (0.82,0.85)   | <b>0.86 (0.86,0.86)</b><br>0.85 (0.83,0.87)   | 0.84 (0.84,0.84)<br>0.83 (0.82,0.85)   | 0.8 (0.8,0.8)<br>0.82 (0.8,0.84)  |
|   |   |   |   |   |   |   |  |   |
| DeepSurv  | 0.19 (0.18,0.2)   | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)  | 0.33 (0.32,0.34)  | 0.38 (0.33,0.43)  | 0.84 (0.82,0.85)  | 0.85 (0.83,0.87)  | 0.83 (0.82,0.85)   | 0.82 (0.8,0.84)   |
| DeepSurv<br>DeepHit   | <b>0.19 (0.18,0.2)</b><br>0.18 (0.18,0.19)  | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)  | 0.33 (0.32,0.34)<br>0.33 (0.33,0.33)  | 0.38 (0.33,0.43)<br>0.41 (0.36,0.46)  | 0.84 (0.82,0.85)<br><b>0.85 (0.85,0.85)</b>   | 0.85 (0.83,0.87)<br><b>0.86 (0.86,0.86)</b>   | 0.83 (0.82,0.85)<br><b>0.85 (0.85,0.85)</b>  | 0.82 (0.8,0.84)<br>0.83 (0.83,0.84)   |
| DeepSurv<br>DeepHit   | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)  | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b>  | 0.33 (0.32,0.34)<br>0.33 (0.33,0.33)  | 0.38 (0.33,0.43)<br>0.41 (0.36,0.46)  | 0.84 (0.82,0.85)<br><b>0.85 (0.85,0.85)</b>   | 0.85 (0.83,0.87)<br><b>0.86 (0.86,0.86)</b><br><b>0.86 (0.86,0.86)</b>  | 0.83 (0.82,0.85)<br><b>0.85 (0.85,0.85)</b>  | 0.82 (0.8,0.84)<br>0.83 (0.83,0.84)   |
| DeepSurv<br>DeepHit<br>CBNN                                 | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)  | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b>  | 0.33 (0.32,0.34)<br>0.33 (0.33,0.33)<br><b>0.34 (0.34,0.34)</b>   | 0.38 (0.33,0.43)<br>0.41 (0.36,0.46)  | 0.84 (0.82,0.85)<br><b>0.85 (0.85,0.85)</b>   | 0.85 (0.83,0.87)<br><b>0.86 (0.86,0.86)</b><br><b>0.86 (0.86,0.86)</b>  | 0.83 (0.82,0.85) <b>0.85 (0.85,0.85) 0.85 (0.85,0.85)</b>  | 0.82 (0.8,0.84)<br>0.83 (0.83,0.84)   |
| DeepSurv DeepHit CBNN  D: Prostate                          | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)  | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b>  | 0.33 (0.32,0.34)<br>0.33 (0.33,0.33)<br><b>0.34 (0.34,0.34)</b>   | 0.38 (0.33,0.43)<br>0.41 (0.36,0.46)<br>0.42 (0.41,0.42)  | 0.84 (0.82,0.85)<br><b>0.85 (0.85,0.85)</b><br><b>0.85 (0.85,0.85)</b>  | 0.85 (0.83,0.87)  0.86 (0.86,0.86)  0.86 (0.86,0.86)  | 0.83 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)   | 0.82 (0.8,0.84)<br>0.83 (0.83,0.84)<br><b>0.84 (0.83,0.84)</b>  |
| DeepSurv DeepHit CBNN  D: Prostate Method                   | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)  | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b><br>50%<br><b>0.09 (0.09,0.09)</b>  | 0.33 (0.32,0.34) 0.33 (0.33,0.33) 0.34 (0.34,0.34) PA 75%   | 0.38 (0.33,0.43) 0.41 (0.36,0.46) 0.42 (0.41,0.42)  | 0.84 (0.82,0.85) <b>0.85 (0.85,0.85) 0.85 (0.85,0.85)</b>   | 0.85 (0.83,0.87)  0.86 (0.86,0.86)  0.86 (0.86,0.86)  Al  | 0.83 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)   | 0.82 (0.8,0.84)<br>0.83 (0.83,0.84)<br><b>0.84 (0.83,0.84)</b>  |
| DeepSurv DeepHit CBNN  D: Prostate Method Cox               | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)<br>25%<br>0.04 (0.04,0.04)   | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b><br>50%<br><b>0.09 (0.09,0.09)</b>  | 0.33 (0.32,0.34) 0.33 (0.33,0.33) 0.34 (0.34,0.34)  PA  75%  0.14 (0.14,0.14)                                     | 0.38 (0.33,0.43)<br>0.41 (0.36,0.46)<br>0.42 (0.41,0.42)<br>100%<br>0.17 (0.17,0.17)                        | 0.84 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)  25%  0.77 (0.76,0.77)                                     | 0.85 (0.83,0.87)  0.86 (0.86,0.86)  0.86 (0.86,0.86)  All  50%  | 0.83 (0.82,0.85) <b>0.85 (0.85,0.85) 0.85 (0.85,0.85)</b> JC  75% <b>0.76 (0.76,0.76)</b>                          | 0.82 (0.8,0.84) 0.83 (0.83,0.84)  0.84 (0.83,0.84)  100%  0.71 (0.71,0.71)                                  |
| DeepSurv DeepHit CBNN  D: Prostate Method Cox CBLR          | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)<br>25%<br>0.04 (0.04,0.04)<br>0.04 (0.04,0.04)                     | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b><br>50%<br><b>0.09 (0.09,0.09)</b><br><b>0.09 (0.09,0.09)</b><br>0.06 (0.05,0.07)                     | 0.33 (0.32,0.34) 0.33 (0.33,0.33) 0.34 (0.34,0.34)  PA  75%  0.14 (0.14,0.14) 0.14 (0.13,0.14)                    | 0.38 (0.33,0.43) 0.41 (0.36,0.46) 0.42 (0.41,0.42)  100% 0.17 (0.17,0.17) 0.17 (0.17,0.17)                  | 0.84 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)  25%  0.77 (0.76,0.77)  0.77 (0.76,0.77)                   | 0.85 (0.83,0.87)  0.86 (0.86,0.86)  0.86 (0.86,0.86)  All  50%  0.75 (0.75,0.75)  0.75 (0.75,0.75)                  | 0.83 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)  JC  75%  0.76 (0.76,0.76)  0.76 (0.76,0.76)                  | 0.82 (0.8,0.84) 0.83 (0.83,0.84)  0.84 (0.83,0.84)  100%  0.71 (0.71,0.71) 0.71 (0.71,0.71)                 |
| DeepSurv DeepHit CBNN  D: Prostate Method Cox CBLR DeepSurv | 0.19 (0.18,0.2)<br>0.18 (0.18,0.19)<br>0.19 (0.19,0.2)<br>25%<br>0.04 (0.04,0.04)<br>0.04 (0.04,0.04)<br>0.03 (0.03,0.04) | 0.29 (0.28,0.31)<br>0.29 (0.29,0.29)<br><b>0.3 (0.3,0.3)</b><br>50%<br><b>0.09 (0.09,0.09)</b><br><b>0.09 (0.09,0.09)</b><br>0.06 (0.05,0.07)<br>0.08 (0.08,0.09) | 0.33 (0.32,0.34) 0.33 (0.33,0.33)  0.34 (0.34,0.34)  PA  75%  0.14 (0.14,0.14)  0.14 (0.13,0.14)  0.1 (0.09,0.11) | 0.38 (0.33,0.43) 0.41 (0.36,0.46) 0.42 (0.41,0.42)  100%  0.17 (0.17,0.17) 0.17 (0.17,0.17) 0.12 (0.1,0.13) | 0.84 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)  25%  0.77 (0.76,0.77)  0.77 (0.76,0.77)  0.71 (0.69,0.73) | 0.85 (0.83,0.87)  0.86 (0.86,0.86)  0.86 (0.86,0.86)  All  50%  0.75 (0.75,0.75)  0.75 (0.75,0.75)  0.7 (0.68,0.72) | 0.83 (0.82,0.85)  0.85 (0.85,0.85)  0.85 (0.85,0.85)  JC  75%  0.76 (0.76,0.76)  0.76 (0.76,0.76)  0.7 (0.68,0.72) | 0.82 (0.8,0.84) 0.83 (0.83,0.84)  0.84 (0.83,0.84)  100%  0.71 (0.71,0.71) 0.71 (0.71,0.71) 0.68 (0.66,0.7) |

AUC

IPA

A: Complex