Additional file 5

Obtained model coefficients per experimental setting, including the real data settings.

In this section, we report the mean coefficients of the estimated models in all simulated, and real-data settings, together with some general statistics about the coefficients: the sum, and proportion of all negative dose-coefficients ($\sum_{\beta<-0.01}$ and $P_{\beta<-0.01}$ respectively), and the sum and proportion of all positive dose-coefficients ($\sum_{\beta>0.01}$ and $P_{\beta>0.01}$ respectively).
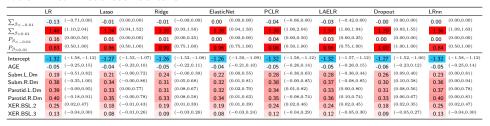
Table 1 Mean model coefficients for A.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-0.13 (−0.71,0.00)	-0.01 (0.00,0.00)	-0.01 (−0.09,0.00)	0.00 (0.00,0.00)	-0.04 (−0.66,0.00)	-0.03 (−0.42,0.00)	-0.00 (0.00,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	1.48 (1.10,2.04)	1.24 (0.94,1.52)	1.20 (0.93,1.56)	1.20 (0.94,1.50)	1.38 (1.06,2.04)	1.37 (1.06,1.94)	1.20 (0.83,1.55)	1.36 (1.09,1.63)
$P_{\beta<-0.01}$	0.16 (0.00,0.50)	0.01 (0.00,0.00)	0.01 (0.00,0.25)	0.00 (0.00,0.00)	0.04 (0.00,0.50)	0.03 (0.00,0.25)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.83 (0.50,1.00)	0.86 (0.50,1.00)	0.99 (0.75,1.00)	0.96 (0.75,1.00)	0.96 (0.75,1.00)	0.96 (0.75,1.00)	1.00 (1.00,1.00)	0.84 (0.50,1.00)
Intercept	-1.32 (−1.58,−1.12)	-1.27 (−1.53,−1.07)	-1.26 (−1.52,−1.08)	-1.26 (−1.50,−1.09)	-1.32 (−1.58,−1.12)	-1.32 (−1.57,−1.12)	-1.27 (−1.52,−1.06)	-1.32 (−1.58,−1.12)
AGE	-0.05 (−0.25,0.15)	-0.04 (−0.23,0.10)	-0.05 (−0.22,0.11)	-0.04 (−0.21,0.10)	-0.05 (−0.26,0.14)	-0.05 (−0.26,0.15)	-0.06 (−0.23,0.12)	-0.05 (−0.25,0.14)
Subm.L.Dm	0.19 (−0.51,0.82)	0.21 (−0.00,0.72)	0.24 (−0.00,0.39)	0.22 (0.00,0.55)	0.28 (−0.36,0.63)	0.28 (−0.36,0.44)	0.26 (0.09,0.40)	0.23 (0.00,0.81)
Subm.R.Dm	0.38 (−0.35,1.00)	0.34 (−0.00,0.86)	0.31 (0.05,0.68)	0.32 (0.01,0.81)	0.38 (−0.00,0.85)	0.37 (−0.08,0.85)	0.30 (0.10,0.58)	0.36 (0.00,0.94)
Parotid.L.Dm	0.39 (−0.09,0.95)	0.33 (0.00,0.77)	0.31 (0.08,0.67)	0.32 (0.02,0.70)	0.34 (0.01,0.82)	0.33 (0.00,0.80)	0.31 (0.08,0.56)	0.37 (0.00,0.78)
Parotid.R.Dm	0.40 (−0.18,0.91)	0.35 (−0.00,0.78)	0.33 (0.08,0.58)	0.34 (0.01,0.63)	0.35 (−0.08,0.74)	0.36 (0.10,0.74)	0.33 (0.06,0.67)	0.40 (0.00,0.81)
XER.BSL.2	0.25 (0.02,0.47)	0.18 (−0.01,0.43)	0.19 (0.01,0.39)	0.19 (0.01,0.39)	0.24 (0.02,0.46)	0.24 (0.02,0.45)	0.18 (0.02,0.35)	0.25 (0.02,0.47)
XER.BSL.3	0.13 (−0.04,0.30)	0.08 (−0.01,0.26)	0.09 (−0.03,0.26)	0.08 (−0.03,0.24)	0.12 (−0.04,0.29)	0.12 (−0.05,0.30)	0.09 (−0.05,0.27)	0.13 (−0.04,0.30)

Table 2 Mean model coefficients for $A_{\triangle}$.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-0.65 (−3.03,0.00)	0.00 (0.00,0.00)	-0.01 (−0.15,0.00)	0.00 (0.00,0.00)	-0.30 (−3.76,0.00)	-0.34 (−3.66,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	2.08 (1.17,3.74)	1.27 (0.97,1.65)	1.27 (1.00,1.64)	1.26 (1.00,1.63)	1.74 (1.15,5.87)	1.78 (1.15,5.81)	1.28 (0.99,1.68)	1.43 (1.13,1.84)
$P_{\beta<-0.01}$	0.28 (0.00,0.50)	0.00 (0.00,0.00)	0.01 (0.00,0.25)	0.00 (0.00,0.00)	0.06 (0.00,0.50)	0.08 (0.00,0.50)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.71 (0.50,1.00)	0.85 (0.50,1.00)	0.99 (0.75,1.00)	0.97 (0.75,1.00)	0.93 (0.50,1.00)	0.92 (0.50,1.00)	1.00 (1.00,1.00)	0.70 (0.50,1.00)
Intercept	-1.35 (−1.56,−1.04)	-1.28 (−1.49,−1.02)	-1.28 (−1.48,−1.01)	-1.28 (−1.48,−1.01)	-1.34 (−1.56,−1.04)	-1.34 (−1.56,−1.04)	-1.29 (−1.53,−1.01)	-1.34 (−1.56,−1.04)
AGE	0.02 (−0.77,0.85)	-0.01 (−0.16,0.09)	-0.01 (−0.20,0.14)	0.04 (−0.67,1.22)	0.04 (−0.73,1.19)	0.04 (−0.73,1.19)	-0.00 (−0.20,0.17)	0.02 (−0.24,0.35)
Subm.L.Dm	0.26 (−2.04,2.82)	0.15 (−0.00,0.73)	0.24 (0.13,0.37)	0.20 (0.00,0.38)	0.32 (−2.22,3.98)	0.31 (−2.09,3.95)	0.26 (0.12,0.39)	0.25 (0.00,0.97)
Subm.R.Dm	0.26 (−1.57,1.86)	0.35 (−0.00,1.01)	0.31 (0.15,0.59)	0.33 (0.00,0.87)	0.28 (−3.00,1.89)	0.29 (−2.49,1.77)	0.32 (0.12,0.52)	0.29 (0.00,1.11)
Parotid.L.Dm	0.41 (−0.65,1.40)	0.38 (0.00,1.00)	0.33 (0.09,0.59)	0.35 (0.00,0.88)	0.37 (−0.83,1.52)	0.39 (−0.75,1.49)	0.33 (0.11,0.59)	0.40 (0.00,1.12)
Parotid.R.Dm	0.51 (−0.18,1.28)	0.39 (0.01,0.83)	0.38 (0.22,0.67)	0.38 (0.15,0.69)	0.47 (−0.10,1.50)	0.46 (0.02,1.39)	0.37 (0.21,0.78)	0.49 (0.07,0.97)
XER.BSL.2	0.14 (−0.08,0.44)	0.09 (−0.03,0.38)	0.12 (−0.06,0.35)	0.10 (−0.02,0.38)	0.13 (−0.08,0.42)	0.13 (−0.09,0.42)	0.11 (−0.05,0.35)	0.14 (−0.08,0.43)
XER.BSL.3	0.06 (−0.12,0.26)	0.03 (−0.08,0.18)	0.03 (−0.10,0.19)	0.03 (−0.09,0.19)	0.05 (−0.12,0.26)	0.05 (−0.14,0.26)	0.04 (−0.12,0.19)	0.06 (−0.12,0.27)

Table 3 Mean model coefficients for B.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-1.18 (−2.25,−0.34)	-0.01 (−0.20,0.00)	-0.04 (−0.22,0.00)	-0.02 (−0.17,0.00)	-0.06 (−0.56,0.00)	-0.07 (−0.46,0.00)	-0.05 (−0.22,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	2.81 (1.98,3.92)	1.39 (1.00,1.82)	1.44 (1.01,1.81)	1.42 (1.04,1.78)	1.65 (1.26,2.51)	1.65 (1.21,2.25)	1.51 (1.16,1.98)	1.65 (1.26,2.02)
$P_{\beta<-0.01}$	0.34 (0.19,0.50)	0.01 (0.00,0.06)	0.05 (0.00,0.19)	0.03 (0.00,0.19)	0.04 (0.00,0.25)	0.05 (0.00,0.25)	0.06 (0.00,0.19)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.63 (0.44,0.81)	0.65 (0.44,0.88)	0.92 (0.75,1.00)	0.83 (0.44,1.00)	0.94 (0.69,1.00)	0.93 (0.69,1.00)	0.89 (0.69,1.00)	0.56 (0.44,0.75)
Intercept	-1.37 (−1.71,−1.10)	-1.27 (−1.55,−1.02)	-1.25 (−1.53,−1.01)	-1.26 (−1.53,−1.03)	-1.33 (−1.64,−1.08)	-1.33 (−1.64,−1.08)	-1.29 (−1.61,−1.04)	-1.35 (−1.67,−1.09)
AGE	-0.03 (−0.31,0.28)	-0.02 (−0.20,0.17)	-0.03 (−0.18,0.13)	-0.03 (−0.17,0.12)	-0.04 (−0.23,0.20)	-0.03 (−0.22,0.24)	-0.03 (−0.19,0.12)	-0.02 (−0.25,0.27)
Subm.L.Dm	0.05 (−1.12,1.05)	0.08 (−0.00,0.47)	0.08 (−0.02,0.20)	0.09 (−0.02,0.24)	0.10 (0.01,0.18)	0.10 (−0.02,0.24)	0.09 (−0.02,0.24)	0.06 (0.00,0.53)
Subm.L.V10	0.12 (−0.29,0.49)	0.07 (−0.01,0.30)	0.07 (−0.04,0.21)	0.07 (−0.02,0.24)	0.07 (−0.11,0.24)	0.07 (−0.10,0.25)	0.08 (−0.04,0.26)	0.10 (0.00,0.40)
Subm.L.V30	0.04 (−0.46,0.47)	0.05 (−0.01,0.31)	0.06 (−0.04,0.20)	0.06 (−0.03,0.21)	0.07 (−0.09,0.21)	0.07 (−0.07,0.20)	0.06 (−0.08,0.18)	0.06 (0.00,0.35)
Subm.L.V50	0.10 (−0.23,0.47)	0.07 (−0.01,0.27)	0.08 (−0.02,0.17)	0.07 (−0.03,0.21)	0.09 (−0.09,0.26)	0.09 (−0.10,0.23)	0.08 (−0.04,0.19)	0.09 (0.00,0.33)
Subm.R.Dm	0.16 (−0.47,0.81)	0.10 (−0.00,0.44)	0.10 (0.01,0.25)	0.10 (0.00,0.27)	0.12 (−0.02,0.27)	0.12 (−0.01,0.27)	0.12 (0.00,0.32)	0.12 (0.00,0.53)
Subm.R.V10	0.05 (−0.45,0.51)	0.07 (−0.01,0.35)	0.07 (−0.04,0.18)	0.07 (−0.04,0.21)	0.09 (0.01,0.26)	0.09 (−0.00,0.21)	0.08 (−0.05,0.20)	0.08 (0.00,0.41)
Subm.R.V30	0.12 (−0.51,0.56)	0.08 (−0.01,0.41)	0.08 (−0.10,0.18)	0.08 (−0.03,0.26)	0.09 (0.02,0.17)	0.09 (−0.09,0.19)	0.08 (−0.05,0.21)	0.08 (0.00,0.38)
Subm.R.V50	0.12 (−0.29,0.44)	0.10 (−0.00,0.33)	0.10 (−0.01,0.22)	0.10 (−0.00,0.24)	0.11 (0.02,0.24)	0.12 (−0.03,0.24)	0.10 (−0.05,0.25)	0.12 (0.00,0.37)
Parotid.L.Dm	0.09 (−0.54,0.74)	0.07 (−0.00,0.26)	0.08 (−0.06,0.16)	0.08 (−0.01,0.17)	0.08 (−0.02,0.18)	0.10 (−0.03,0.20)	0.09 (−0.04,0.18)	0.09 (0.00,0.34)
Parotid.L.V10	0.14 (−0.28,0.57)	0.11 (−0.01,0.37)	0.10 (−0.04,0.23)	0.10 (−0.05,0.27)	0.10 (−0.16,0.36)	0.10 (−0.09,0.34)	0.11 (−0.02,0.25)	0.14 (0.00,0.43)
Parotid.L.V30	0.17 (−0.43,0.73)	0.11 (−0.00,0.37)	0.10 (−0.02,0.23)	0.10 (−0.00,0.25)	0.10 (0.02,0.22)	0.10 (−0.00,0.22)	0.10 (−0.03,0.27)	0.12 (0.00,0.40)
Parotid.L.V50	0.06 (−0.55,0.60)	0.05 (−0.03,0.29)	0.06 (−0.11,0.18)	0.05 (−0.08,0.23)	0.07 (−0.08,0.21)	0.06 (−0.21,0.23)	0.06 (−0.09,0.19)	0.07 (0.00,0.35)
Parotid.R.Dm	0.15 (−0.68,0.95)	0.08 (−0.00,0.37)	0.10 (0.00,0.21)	0.09 (−0.00,0.27)	0.12 (0.01,0.22)	0.13 (0.02,0.26)	0.10 (−0.00,0.23)	0.10 (0.00,0.40)
Parotid.R.V10	0.19 (−0.27,0.68)	0.10 (−0.00,0.52)	0.13 (0.04,0.27)	0.15 (0.01,0.38)	0.13 (0.05,0.37)	0.12 (−0.01,0.27)	0.14 (0.00,0.32)	0.19 (0.00,0.54)
Parotid.R.V30	0.09 (−0.55,0.81)	0.13 (−0.00,0.47)	0.11 (−0.00,0.23)	0.11 (−0.00,0.35)	0.13 (0.05,0.26)	0.12 (−0.01,0.26)	0.11 (−0.01,0.24)	0.12 (0.00,0.51)
Parotid.R.V50	0.06 (−0.75,0.71)	0.08 (−0.01,0.36)	0.08 (−0.04,0.20)	0.08 (−0.02,0.30)	0.11 (−0.04,0.22)	0.10 (−0.06,0.22)	0.08 (−0.05,0.21)	0.11 (0.00,0.43)
XER.BSL.2	0.43 (0.18,0.70)	0.31 (0.08,0.56)	0.24 (0.09,0.51)	0.26 (0.11,0.52)	0.38 (0.00,0.67)	0.36 (0.00,0.68)	0.23 (0.07,0.46)	0.42 (0.18,0.69)
XER.BSL.3	0.16 (−0.03,0.41)	0.09 (−0.01,0.31)	0.09 (−0.01,0.24)	0.09 (−0.01,0.25)	0.15 (−0.06,0.38)	0.14 (−0.09,0.37)	0.08 (−0.01,0.22)	0.16 (−0.03,0.39)

Table 4 Mean model coefficients for B△.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-3.99 (-7.41,-1.42)	-0.10 (-1.37,0.00)	-0.09 (-0.93,0.00)	-0.03 (-0.50,0.00)	-0.14 (-1.33,0.00)	-0.30 (-4.09,0.00)	-0.06 (-0.58,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	5.52 (2.92,8.67)	1.43 (0.97,2.89)	1.46 (1.04,2.51)	1.39 (1.01,1.96)	1.58 (1.26,3.17)	1.83 (1.23,5.58)	1.50 (1.09,2.09)	1.57 (1.23,2.00)
$P_{\beta<-0.01}$	0.45 (0.31,0.62)	0.02 (0.00,0.25)	0.04 (0.00,0.38)	0.01 (0.00,0.19)	0.06 (0.00,0.44)	0.06 (0.00,0.50)	0.06 (0.00,0.31)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.54 (0.38,0.69)	0.60 (0.31,0.88)	0.95 (0.56,1.00)	0.87 (0.31,1.00)	0.93 (0.50,1.00)	0.93 (0.50,1.00)	0.90 (0.69,1.00)	0.39 (0.25,0.56)
Intercept	-1.39 (-1.66,-1.09)	-1.29 (-1.52,-1.02)	-1.29 (-1.53,-1.01)	-1.29 (-1.55,-1.01)	-1.35 (-1.61,-1.06)	-1.35 (-1.61,-1.06)	-1.32 (-1.57,-1.04)	-1.37 (-1.63,-1.07)
AGE	-0.04 (-0.29,0.15)	-0.03 (-0.21,0.06)	-0.03 (-0.21,0.07)	-0.03 (-0.20,0.08)	-0.02 (-0.25,0.16)	-0.02 (-0.27,0.10)	-0.03 (-0.20,0.11)	-0.04 (-0.26,0.17)
Subm.L.Dm	0.06 (-1.60,1.40)	0.08 (-0.00,0.62)	0.08 (-0.03,0.19)	0.08 (-0.00,0.25)	0.10 (-0.08,0.26)	0.09 (-0.14,0.26)	0.08 (-0.08,0.20)	0.07 (0.00,0.51)
Subm.L.V10	0.00 (-1.51,1.65)	0.06 (-0.01,0.46)	0.07 (-0.04,0.14)	0.07 (-0.01,0.34)	0.09 (-0.03,0.17)	0.09 (-0.13,0.18)	0.07 (-0.05,0.18)	0.07 (0.00,0.56)
Subm.L.V30	-0.00 (-1.09,1.02)	0.04 (-0.01,0.38)	0.05 (-0.24,0.14)	0.06 (-0.01,0.16)	0.07 (-0.12,0.15)	0.06 (-0.76,0.23)	0.07 (-0.09,0.18)	0.05 (0.00,0.37)
Subm.L.V50	0.07 (-0.88,1.01)	0.06 (-0.07,0.37)	0.07 (-0.08,0.16)	0.06 (-0.07,0.18)	0.07 (-0.35,0.28)	0.09 (-0.25,0.38)	0.08 (-0.07,0.23)	0.08 (0.00,0.41)
Subm.R.Dm	0.24 (-1.33,2.12)	0.14 (-0.00,0.89)	0.12 (0.03,0.43)	0.11 (0.01,0.47)	0.12 (0.04,0.18)	0.15 (0.03,0.90)	0.11 (0.02,0.23)	0.10 (0.00,0.72)
Subm.R.V10	0.00 (-1.17,1.40)	0.04 (-0.00,0.51)	0.08 (-0.01,0.20)	0.07 (-0.00,0.19)	0.10 (-0.04,0.22)	0.10 (-0.17,0.44)	0.09 (-0.04,0.20)	0.08 (0.00,0.58)
Subm.R.V30	0.22 (-1.19,1.60)	0.11 (-0.00,0.64)	0.09 (0.02,0.27)	0.09 (0.00,0.35)	0.09 (-0.13,0.20)	0.09 (-0.47,0.33)	0.09 (-0.04,0.25)	0.15 (0.00,0.73)
Subm.R.V50	0.07 (-1.10,0.99)	0.11 (-0.00,0.53)	0.09 (-0.15,0.19)	0.10 (-0.00,0.29)	0.09 (-0.19,0.27)	0.07 (-0.43,0.17)	0.10 (-0.06,0.24)	0.13 (0.00,0.57)
Parotid.L.Dm	0.35 (-2.12,2.97)	0.09 (-0.00,0.50)	0.10 (0.04,0.34)	0.09 (0.00,0.21)	0.11 (0.01,0.29)	0.13 (0.03,0.56)	0.10 (-0.01,0.20)	0.05 (0.00,0.38)
Parotid.L.V10	0.11 (-1.00,0.91)	0.15 (-0.00,0.79)	0.12 (0.02,0.64)	0.13 (0.00,0.73)	0.13 (0.05,0.57)	0.14 (0.05,0.80)	0.12 (-0.02,0.34)	0.16 (0.00,0.73)
Parotid.L.V30	0.08 (-1.20,1.82)	0.11 (-0.00,0.57)	0.09 (0.01,0.32)	0.10 (0.00,0.53)	0.09 (-0.15,0.30)	0.09 (-0.17,0.47)	0.10 (-0.02,0.34)	0.12 (0.00,0.57)
Parotid.L.V50	-0.06 (-1.31,0.93)	0.03 (-0.01,0.31)	0.05 (-0.16,0.14)	0.05 (-0.14,0.16)	0.07 (-0.25,0.25)	0.06 (-0.37,0.21)	0.05 (-0.10,0.18)	0.09 (0.00,0.36)
Parotid.R.Dm	0.08 (-3.11,3.09)	0.11 (-0.01,0.42)	0.09 (0.00,0.14)	0.09 (0.00,0.18)	0.11 (0.01,0.18)	0.09 (-0.27,0.21)	0.10 (0.00,0.19)	0.04 (0.00,0.33)
Parotid.R.V10	0.16 (-0.99,1.40)	0.14 (-0.01,0.49)	0.11 (0.02,0.29)	0.12 (0.00,0.36)	0.13 (-0.01,0.52)	0.11 (-0.08,0.54)	0.13 (-0.01,0.38)	0.17 (0.00,0.57)
Parotid.R.V30	0.07 (-1.48,1.93)	0.07 (-0.01,0.46)	0.09 (-0.03,0.17)	0.09 (-0.00,0.29)	0.10 (-0.32,0.25)	0.09 (-0.36,0.43)	0.09 (-0.03,0.20)	0.13 (0.00,0.51)
Parotid.R.V50	0.08 (-1.25,1.62)	0.04 (-0.01,0.32)	0.07 (-0.08,0.20)	0.06 (-0.04,0.21)	0.08 (-0.22,0.30)	0.09 (-0.19,0.40)	0.06 (-0.07,0.17)	0.10 (0.00,0.39)
XER.BSL.2	0.20 (-0.01,0.40)	0.12 (-0.00,0.35)	0.11 (-0.01,0.34)	0.12 (-0.00,0.29)	0.14 (-0.04,0.37)	0.12 (-0.08,0.37)	0.11 (-0.03,0.30)	0.20 (-0.03,0.37)
XER.BSL.3	0.09 (-0.15,0.33)	0.04 (-0.05,0.22)	0.05 (-0.05,0.21)	0.05 (-0.05,0.24)	0.06 (-0.13,0.29)	0.05 (-0.14,0.27)	0.05 (-0.07,0.21)	0.09 (-0.12,0.32)

Table 5 Mean model coefficients for C.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-1.02 (-2.38,-0.21)	-0.05 (-0.50,0.00)	-0.08 (-0.55,0.00)	-0.06 (-0.54,0.00)	-0.18 (-1.69,0.00)	-0.15 (-1.65,0.00)	-0.06 (-0.25,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	3.43 (2.44,5.28)	2.07 (1.50,3.11)	2.05 (1.58,3.00)	2.06 (1.49,2.92)	2.49 (1.83,4.17)	2.46 (1.81,4.16)	2.01 (1.50,2.73)	2.52 (1.93,3.62)
$P_{\beta<-0.01}$	0.32 (0.20,0.50)	0.02 (0.00,0.20)	0.08 (0.00,0.30)	0.05 (0.00,0.20)	0.08 (0.00,0.30)	0.07 (0.00,0.30)	0.07 (0.00,0.20)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.67 (0.50,0.80)	0.69 (0.50,0.90)	0.90 (0.70,1.00)	0.85 (0.50,1.00)	0.91 (0.60,1.00)	0.91 (0.70,1.00)	0.92 (0.80,1.00)	0.64 (0.40,0.90)
Intercept	-2.96 (-3.58,-2.49)	-2.69 (-3.16,-2.28)	-2.66 (-3.12,-2.27)	-2.67 (-3.14,-2.28)	-2.89 (-3.48,-2.44)	-2.88 (-3.52,-2.44)	-2.69 (-3.19,-2.33)	-2.93 (-3.56,-2.47)
AGE	0.01 (-0.28,0.25)	0.00 (-0.17,0.18)	-0.01 (-0.19,0.17)	-0.01 (-0.18,0.18)	0.03 (-0.30,0.27)	0.04 (-0.31,0.27)	-0.01 (-0.22,0.17)	0.02 (-0.25,0.26)
Subm.L.Dm	0.22 (-0.75,1.07)	0.19 (-0.00,0.66)	0.22 (-0.12,0.53)	0.22 (-0.07,0.54)	0.28 (-0.17,0.88)	0.28 (-0.16,0.80)	0.23 (0.05,0.44)	0.21 (0.00,0.64)
Subm.R.Dm	0.26 (-0.82,1.37)	0.22 (-0.00,0.89)	0.24 (0.03,0.55)	0.24 (-0.00,0.74)	0.28 (-0.10,0.69)	0.27 (-0.50,0.71)	0.25 (0.05,0.57)	0.25 (0.01,1.01)
Parotid.L.Dm	0.12 (-0.54,0.86)	0.14 (-0.03,0.60)	0.18 (-0.07,0.43)	0.17 (-0.05,0.46)	0.21 (-0.33,0.58)	0.21 (-0.30,0.41)	0.19 (-0.10,0.40)	0.15 (0.00,0.63)
Parotid.R.Dm	0.21 (-0.52,1.05)	0.23 (-0.00,0.73)	0.23 (0.00,0.56)	0.22 (-0.00,0.64)	0.27 (-0.16,0.72)	0.28 (-0.13,0.71)	0.22 (-0.05,0.42)	0.22 (0.00,0.78)
PCM.Sup.Dm	0.27 (-0.95,1.56)	0.20 (-0.00,0.85)	0.24 (0.01,0.42)	0.23 (0.00,0.59)	0.25 (-0.02,0.80)	0.24 (-0.15,0.77)	0.24 (0.05,0.39)	0.33 (0.00,1.10)
PCM.Med.Dm	0.22 (-0.83,1.51)	0.29 (-0.00,1.00)	0.23 (-0.00,0.47)	0.25 (-0.00,0.72)	0.26 (-0.71,0.55)	0.29 (-0.38,0.55)	0.23 (0.00,0.56)	0.23 (0.00,1.04)
PCM.Inf.Dm	0.33 (-0.43,1.19)	0.13 (-0.01,0.50)	0.15 (-0.06,0.40)	0.15 (-0.03,0.42)	0.18 (-0.03,0.58)	0.15 (0.01,0.52)	0.13 (-0.04,0.45)	0.21 (0.00,0.63)
Supraglottic.Dm	0.19 (-0.78,1.02)	0.18 (-0.08,0.65)	0.17 (-0.17,0.47)	0.17 (-0.21,0.55)	0.21 (-0.60,0.65)	0.21 (-0.58,0.61)	0.18 (-0.20,0.44)	0.20 (0.00,0.74)
OralCavity.Ext.Dm	0.62 (-0.75,1.86)	0.40 (0.00,1.27)	0.30 (0.13,0.89)	0.32 (0.00,1.00)	0.33 (0.19,1.05)	0.33 (0.19,1.16)	0.27 (0.11,0.72)	0.57 (0.00,1.55)
GlotticArea.Dm	0.02 (-0.79,1.03)	0.03 (-0.37,0.50)	0.02 (-0.19,0.32)	0.03 (-0.20,0.39)	0.03 (-0.37,0.57)	0.04 (-0.19,0.56)	0.02 (-0.24,0.30)	0.15 (0.00,0.83)
DYSFAGIE..BSL.2	0.23 (-0.06,0.50)	0.15 (-0.01,0.42)	0.17 (-0.04,0.38)	0.17 (-0.01,0.37)	0.19 (-0.14,0.47)	0.16 (-0.16,0.48)	0.17 (-0.01,0.39)	0.23 (-0.08,0.49)
DYSFAGIE..BSL.3	0.42 (0.12,0.81)	0.31 (0.01,0.61)	0.30 (0.09,0.56)	0.30 (0.08,0.55)	0.38 (0.10,0.77)	0.36 (0.10,0.80)	0.29 (0.08,0.61)	0.42 (0.13,0.80)

Table 6 Mean model coefficients for C△.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-3.14 (-7.37,-0.74)	-0.08 (-1.10,0.00)	-0.11 (-1.31,0.00)	-0.06 (-0.61,0.00)	-0.23 (-3.40,0.00)	-0.39 (-4.87,0.00)	-0.08 (-0.50,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	5.40 (2.87,10.86)	1.86 (1.24,3.37)	1.89 (1.30,3.21)	1.82 (1.33,2.82)	2.36 (1.63,6.30)	2.44 (1.59,6.79)	1.84 (1.23,2.72)	2.13 (1.62,3.33)
$P_{\beta<-0.01}$	0.40 (0.20,0.60)	0.03 (0.00,0.20)	0.08 (0.00,0.40)	0.04 (0.00,0.20)	0.10 (0.00,0.50)	0.10 (0.00,0.50)	0.09 (0.00,0.30)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.60 (0.40,0.80)	0.60 (0.30,0.90)	0.90 (0.60,1.00)	0.88 (0.50,1.00)	0.90 (0.50,1.00)	0.89 (0.70,1.00)	0.89 (0.70,1.00)	0.48 (0.30,0.70)
Intercept	-2.89 (-3.43,-2.41)	-2.65 (-3.22,-2.22)	-2.62 (-3.10,-2.24)	-2.62 (-3.06,-2.21)	-2.82 (-3.40,-2.37)	-2.82 (-3.39,-2.37)	-2.66 (-3.13,-2.26)	-2.86 (-3.41,-2.40)
AGE	0.07 (-0.70,0.79)	0.02 (-0.18,0.34)	0.02 (-0.22,0.29)	0.02 (-0.18,0.28)	0.07 (-0.25,0.36)	0.09 (-0.26,0.59)	0.02 (-0.20,0.25)	0.06 (-0.26,0.42)
Subm.L.Dm	0.22 (-2.42,3.20)	0.10 (-0.00,0.54)	0.15 (-0.15,0.38)	0.14 (-0.01,0.39)	0.16 (-0.39,0.44)	0.24 (-0.34,1.86)	0.14 (-0.17,0.33)	0.17 (0.00,0.97)
Subm.R.Dm	0.16 (-2.67,2.36)	0.12 (-0.00,0.88)	0.19 (-0.17,0.42)	0.19 (0.00,0.43)	0.19 (-0.49,0.36)	0.21 (-0.62,0.49)	0.20 (-0.01,0.43)	0.14 (0.00,0.98)
Parotid.L.Dm	0.00 (-1.63,1.55)	0.18 (-0.01,0.79)	0.18 (-0.03,0.36)	0.17 (-0.00,0.53)	0.19 (-0.43,0.62)	0.17 (-0.90,0.40)	0.18 (-0.04,0.42)	0.15 (0.00,0.79)
Parotid.R.Dm	0.23 (-1.26,1.62)	0.30 (-0.04,0.97)	0.24 (-0.10,0.52)	0.26 (-0.00,0.73)	0.26 (-0.32,0.78)	0.28 (-0.27,0.95)	0.25 (-0.05,0.61)	0.29 (0.00,1.01)
PCM.Sup.Dm	0.47 (-2.25,3.16)	0.21 (-0.00,0.96)	0.25 (0.13,0.59)	0.24 (0.01,0.69)	0.33 (0.11,1.48)	0.29 (0.02,1.23)	0.24 (0.11,0.43)	0.24 (0.00,1.20)
PCM.Med.Dm	0.12 (-2.38,2.67)	0.39 (-0.00,1.26)	0.24 (0.10,0.51)	0.26 (0.00,0.76)	0.31 (0.08,0.57)	0.25 (-0.68,0.53)	0.24 (0.08,0.47)	0.26 (0.00,1.27)
PCM.Inf.Dm	0.33 (-1.20,2.03)	0.08 (-0.01,0.80)	0.09 (-0.06,0.28)	0.07 (-0.13,0.36)	0.11 (-0.48,0.44)	0.09 (-0.52,0.29)	0.09 (-0.09,0.31)	0.18 (0.00,0.75)
Supraglottic.Dm	0.23 (-1.02,1.96)	0.20 (-0.00,0.81)	0.22 (0.04,0.74)	0.22 (0.00,0.80)	0.29 (-0.06,1.11)	0.32 (0.11,1.58)	0.23 (0.03,0.67)	0.20 (0.00,0.76)
OralCavity.Ext.Dm	0.55 (-2.06,3.07)	0.25 (-0.00,1.30)	0.23 (0.10,0.75)	0.22 (0.00,0.60)	0.26 (-0.10,0.99)	0.25 (-0.34,1.04)	0.22 (0.03,0.44)	0.57 (0.00,1.86)
GlotticArea.Dm	-0.06 (-1.19,1.08)	-0.02 (-0.58,0.33)	-0.02 (-0.30,0.16)	-0.02 (-0.33,0.15)	-0.04 (-0.71,0.25)	-0.04 (-0.77,0.16)	-0.03 (-0.30,0.14)	0.11 (0.00,0.49)
DYSFAGIE..BSL.2	0.15 (-0.16,0.49)	0.11 (-0.01,0.41)	0.14 (-0.02,0.33)	0.13 (-0.01,0.39)	0.13 (-0.11,0.46)	0.13 (-0.08,0.44)	0.15 (-0.09,0.40)	0.15 (-0.14,0.50)
DYSFAGIE..BSL.3	0.27 (-0.12,0.62)	0.20 (-0.02,0.46)	0.21 (-0.02,0.41)	0.21 (-0.01,0.45)	0.26 (-0.05,0.54)	0.26 (-0.04,0.55)	0.21 (-0.02,0.43)	0.26 (-0.12,0.55)

Table 7 Mean model coefficients for D.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum \beta_{<-0.01}$	-7.10 (-10.95,-4.18)	-0.05 (-0.29,0.00)	-0.32 (-1.22,-0.01)	-0.19 (-1.10,0.00)	-0.41 (-1.25,0.00)	-0.40 (-1.57,0.00)	-0.48 (-0.98,-0.17)	0.00 (0.00,0.00)
$\sum \beta_{>0.01}$	9.90 (6.87,13.90)	1.91 (1.23,2.92)	2.35 (1.64,3.61)	2.17 (1.40,3.25)	2.77 (1.86,4.09)	2.75 (1.75,4.25)	2.63 (1.98,3.58)	2.85 (2.05,3.63)
$P_{\beta_{<-0.01}}$	0.44 (0.35,0.55)	0.03 (0.00,0.10)	0.15 (0.03,0.30)	0.08 (0.00,0.25)	0.16 (0.00,0.40)	0.16 (0.00,0.40)	0.21 (0.10,0.33)	0.00 (0.00,0.00)
$P_{\beta_{>0.01}}$	0.54 (0.42,0.62)	0.46 (0.33,0.62)	0.76 (0.62,0.90)	0.64 (0.33,0.88)	0.76 (0.55,0.97)	0.77 (0.55,0.97)	0.72 (0.57,0.85)	0.34 (0.20,0.45)
Intercept	-3.08 (-3.81,-2.62)	-2.42 (-2.82,-2.09)	-2.43 (-2.92,-2.09)	-2.43 (-2.84,-2.10)	-2.67 (-3.20,-2.31)	-2.65 (-3.20,-2.26)	-2.58 (-3.02,-2.25)	-2.79 (-3.33,-2.42)
AGE	0.02 (-0.48,0.43)	0.00 (-0.13,0.12)	-0.00 (-0.11,0.13)	-0.00 (-0.13,0.13)	0.01 (-0.26,0.32)	0.01 (-0.21,0.34)	0.01 (-0.16,0.18)	0.06 (-0.27,0.35)
Subm.L.Dm	0.14 (-1.82,1.98)	0.06 (-0.00,0.38)	0.07 (-0.03,0.17)	0.07 (-0.00,0.26)	0.07 (-0.05,0.19)	0.06 (-0.07,0.16)	0.08 (-0.04,0.21)	0.04 (0.00,0.31)
Subm.L.V10	0.03 (-1.37,1.09)	0.01 (-0.01,0.23)	0.01 (-0.11,0.17)	0.02 (-0.08,0.18)	-0.00 (-0.11,0.08)	-0.00 (-0.11,0.08)	0.02 (-0.17,0.16)	0.05 (0.00,0.43)
Subm.L.V30	0.02 (-1.01,1.41)	0.02 (-0.01,0.15)	0.02 (-0.08,0.15)	0.03 (-0.08,0.15)	0.01 (-0.15,0.14)	0.01 (-0.16,0.13)	0.03 (-0.12,0.17)	0.02 (0.00,0.24)
Subm.L.V50	0.03 (-0.68,0.75)	0.07 (-0.01,0.35)	0.07 (-0.06,0.24)	0.07 (-0.03,0.35)	0.09 (-0.06,0.24)	0.08 (-0.09,0.25)	0.07 (-0.07,0.23)	0.09 (0.00,0.47)
Subm.R.Dm	0.09 (-1.66,1.43)	0.07 (-0.01,0.31)	0.06 (-0.06,0.20)	0.06 (-0.04,0.22)	0.08 (-0.06,0.19)	0.07 (-0.11,0.19)	0.07 (-0.06,0.21)	0.06 (0.00,0.33)
Subm.R.V10	-0.00 (-1.15,0.98)	0.01 (-0.01,0.14)	0.02 (-0.12,0.10)	0.02 (-0.11,0.11)	0.01 (-0.07,0.08)	0.01 (-0.07,0.08)	0.02 (-0.12,0.13)	0.03 (0.00,0.33)
Subm.R.V30	-0.04 (-1.18,0.96)	0.02 (-0.01,0.15)	0.02 (-0.09,0.11)	0.02 (-0.08,0.11)	0.02 (-0.08,0.09)	0.02 (-0.10,0.09)	0.02 (-0.14,0.14)	0.03 (0.00,0.23)
Subm.R.V50	0.06 (-0.69,0.64)	0.04 (-0.01,0.33)	0.06 (-0.10,0.17)	0.05 (-0.07,0.15)	0.08 (-0.11,0.23)	0.08 (-0.11,0.22)	0.07 (-0.09,0.19)	0.05 (0.00,0.35)
Parotid.L.Dm	-0.05 (-1.52,1.57)	0.02 (-0.01,0.24)	0.03 (-0.06,0.11)	0.03 (-0.07,0.15)	0.03 (-0.12,0.14)	0.04 (-0.13,0.14)	0.04 (-0.13,0.15)	0.03 (0.00,0.23)
Parotid.L.V10	0.06 (-0.66,0.70)	0.03 (-0.00,0.22)	0.05 (-0.06,0.16)	0.05 (-0.01,0.19)	0.06 (-0.09,0.17)	0.06 (-0.05,0.17)	0.06 (-0.11,0.19)	0.05 (0.00,0.35)
Parotid.L.V30	0.09 (-1.08,1.33)	0.05 (-0.01,0.31)	0.05 (-0.06,0.17)	0.05 (-0.03,0.19)	0.05 (-0.08,0.14)	0.04 (-0.08,0.14)	0.02 (-0.17,0.16)	0.04 (0.00,0.36)
Parotid.L.V50	0.07 (-1.08,1.12)	0.05 (-0.01,0.29)	0.06 (-0.06,0.20)	0.05 (-0.04,0.24)	0.06 (-0.11,0.23)	0.07 (-0.16,0.28)	0.07 (-0.09,0.21)	0.07 (0.00,0.37)
Parotid.R.Dm	0.12 (-1.67,1.89)	0.04 (-0.01,0.26)	0.05 (-0.05,0.16)	0.05 (-0.01,0.16)	0.05 (-0.10,0.16)	0.06 (-0.14,0.19)	0.06 (-0.07,0.18)	0.04 (0.00,0.32)
Parotid.R.V10	0.03 (-0.95,0.76)	0.04 (-0.01,0.24)	0.04 (-0.10,0.16)	0.04 (-0.06,0.16)	0.04 (-0.09,0.13)	0.05 (-0.05,0.13)	0.05 (-0.09,0.19)	0.05 (0.00,0.34)
Parotid.R.V30	0.03 (-1.62,1.34)	0.05 (-0.01,0.30)	0.05 (-0.04,0.16)	0.06 (-0.01,0.21)	0.06 (-0.03,0.15)	0.07 (-0.04,0.17)	0.06 (-0.07,0.19)	0.03 (0.00,0.24)
Parotid.R.V50	0.02 (-1.15,1.47)	0.05 (-0.01,0.39)	0.07 (-0.03,0.20)	0.07 (-0.01,0.25)	0.07 (-0.10,0.23)	0.08 (-0.11,0.22)	0.06 (-0.07,0.18)	0.08 (0.00,0.49)
PCM.Sup.Dm	0.04 (-1.18,1.54)	0.04 (-0.01,0.26)	0.07 (-0.06,0.18)	0.06 (-0.01,0.19)	0.09 (-0.01,0.19)	0.09 (-0.01,0.20)	0.11 (-0.06,0.19)	0.11 (0.00,0.56)
PCM.Sup.V10	-0.01 (-1.12,1.21)	0.03 (-0.01,0.32)	0.03 (-0.06,0.12)	0.03 (-0.04,0.21)	0.04 (-0.06,0.13)	0.03 (-0.09,0.09)	0.03 (-0.10,0.14)	0.07 (0.00,0.60)
PCM.Sup.V30	0.11 (-0.72,1.08)	0.05 (-0.00,0.32)	0.06 (-0.04,0.16)	0.06 (-0.01,0.24)	0.07 (-0.00,0.17)	0.07 (0.00,0.16)	0.05 (-0.06,0.17)	0.05 (0.00,0.32)
PCM.Sup.V50	0.16 (-0.86,1.09)	0.08 (-0.00,0.51)	0.09 (-0.01,0.24)	0.09 (-0.01,0.28)	0.12 (0.02,0.27)	0.12 (0.02,0.26)	0.09 (-0.04,0.25)	0.14 (0.00,0.71)
PCM.Med.Dm	0.22 (-0.66,1.07)	0.13 (-0.01,0.46)	0.09 (-0.03,0.24)	0.10 (-0.01,0.38)	0.10 (-0.06,0.23)	0.11 (-0.06,0.30)	0.11 (-0.03,0.25)	0.11 (0.00,0.49)
PCM.Med.V10	0.02 (-0.76,0.85)	0.03 (-0.02,0.24)	0.04 (-0.09,0.20)	0.04 (-0.10,0.23)	0.02 (-0.09,0.17)	0.03 (-0.08,0.21)	0.05 (-0.11,0.21)	0.06 (0.00,0.41)
PCM.Med.V30	0.12 (-0.69,0.97)	0.05 (-0.01,0.25)	0.05 (-0.06,0.14)	0.05 (-0.05,0.17)	0.02 (-0.10,0.10)	0.03 (-0.11,0.10)	0.06 (-0.07,0.19)	0.06 (0.00,0.39)
PCM.Med.V50	0.02 (-0.66,0.74)	0.06 (-0.00,0.35)	0.06 (-0.07,0.22)	0.06 (-0.02,0.25)	0.10 (-0.01,0.27)	0.10 (-0.12,0.27)	0.06 (-0.10,0.20)	0.06 (0.00,0.38)
PCM.Inf.Dm	0.30 (-0.35,0.95)	0.08 (-0.01,0.35)	0.10 (-0.03,0.25)	0.09 (-0.02,0.26)	0.10 (-0.01,0.30)	0.11 (-0.03,0.31)	0.10 (-0.09,0.26)	0.14 (0.00,0.48)
PCM.Inf.V10	0.10 (-0.66,1.00)	0.01 (-0.14,0.17)	0.02 (-0.14,0.16)	0.02 (-0.11,0.13)	0.02 (-0.13,0.11)	0.01 (-0.12,0.15)	0.02 (-0.15,0.20)	0.04 (0.00,0.26)
PCM.Inf.V30	-0.10 (-0.56,0.48)	0.00 (-0.11,0.14)	-0.01 (-0.17,0.11)	-0.00 (-0.16,0.12)	0.00 (-0.19,0.18)	0.01 (-0.27,0.18)	-0.02 (-0.16,0.16)	0.02 (0.00,0.17)
PCM.Inf.V50	0.09 (-0.62,0.96)	0.03 (-0.01,0.47)	0.06 (-0.06,0.23)	0.06 (-0.02,0.38)	0.10 (-0.01,0.33)	0.10 (-0.03,0.32)	0.06 (-0.07,0.25)	0.12 (0.00,0.68)
Supraglottic.Dm	0.12 (-0.57,0.83)	0.07 (-0.01,0.31)	0.07 (-0.08,0.21)	0.07 (-0.03,0.27)	0.10 (-0.06,0.32)	0.09 (-0.06,0.31)	0.08 (-0.06,0.24)	0.10 (0.00,0.41)
Supraglottic.V10	0.02 (-0.74,0.77)	0.03 (-0.01,0.24)	0.03 (-0.12,0.16)	0.03 (-0.08,0.18)	0.04 (-0.11,0.14)	0.04 (-0.11,0.26)	0.02 (-0.16,0.15)	0.04 (0.00,0.34)
Supraglottic.V30	-0.02 (-0.75,0.65)	0.02 (-0.02,0.26)	0.03 (-0.15,0.16)	0.03 (-0.14,0.26)	0.03 (-0.12,0.17)	0.03 (-0.13,0.18)	0.03 (-0.16,0.27)	0.02 (0.00,0.22)
Supraglottic.V50	0.12 (-0.52,0.68)	0.07 (-0.01,0.33)	0.08 (-0.02,0.24)	0.07 (-0.01,0.28)	0.12 (0.00,0.26)	0.11 (0.00,0.26)	0.10 (-0.03,0.26)	0.06 (0.00,0.40)
OralCavity.Ext.Dm	0.23 (-1.26,2.17)	0.17 (-0.00,0.65)	0.13 (0.03,0.30)	0.13 (0.00,0.44)	0.15 (0.04,0.35)	0.14 (0.04,0.34)	0.13 (-0.00,0.28)	0.15 (0.00,0.71)
OralCavity.Ext.V10	0.04 (-1.29,1.28)	0.01 (-0.01,0.19)	0.04 (-0.05,0.14)	0.03 (-0.03,0.14)	0.04 (-0.03,0.12)	0.05 (-0.04,0.11)	0.04 (-0.06,0.15)	0.03 (0.00,0.28)
OralCavity.Ext.V30	0.15 (-1.11,1.27)	0.05 (-0.00,0.45)	0.08 (-0.02,0.21)	0.08 (-0.02,0.26)	0.10 (-0.02,0.25)	0.08 (0.03,0.24)	0.08 (-0.04,0.22)	0.14 (0.00,0.62)
OralCavity.Ext.V50	0.34 (-1.54,2.33)	0.14 (-0.00,0.57)	0.13 (-0.01,0.29)	0.14 (-0.00,0.49)	0.15 (0.01,0.31)	0.15 (0.01,0.39)	0.14 (-0.01,0.31)	0.31 (0.00,0.82)
GlotticArea.Dm	0.12 (-0.66,0.84)	0.02 (-0.01,0.18)	0.03 (-0.07,0.18)	0.03 (-0.05,0.19)	0.02 (-0.09,0.19)	0.02 (-0.12,0.15)	0.03 (-0.15,0.18)	0.11 (0.00,0.50)
GlotticArea.V10	0.01 (-0.81,0.64)	0.01 (-0.04,0.15)	0.02 (-0.11,0.17)	0.02 (-0.09,0.21)	0.02 (-0.11,0.18)	0.02 (-0.10,0.18)	0.02 (-0.12,0.15)	0.03 (0.00,0.26)
GlotticArea.V30	-0.12 (-0.64,0.41)	-0.00 (-0.17,0.13)	-0.02 (-0.17,0.14)	-0.02 (-0.18,0.15)	-0.04 (-0.33,0.15)	-0.04 (-0.33,0.11)	-0.02 (-0.17,0.15)	0.02 (0.00,0.22)
GlotticArea.V50	0.03 (-0.81,0.81)	0.02 (-0.02,0.17)	0.03 (-0.09,0.15)	0.02 (-0.06,0.18)	0.05 (-0.08,0.18)	0.04 (-0.07,0.20)	0.03 (-0.11,0.18)	0.11 (0.00,0.52)
DYSFAGIE..BSL.2	0.33 (-0.09,0.63)	0.15 (-0.01,0.45)	0.14 (-0.01,0.34)	0.14 (-0.00,0.42)	0.24 (-0.04,0.63)	0.20 (-0.09,0.65)	0.14 (-0.04,0.34)	0.29 (-0.08,0.66)
DYSFAGIE..BSL.3	0.59 (0.25,0.97)	0.34 (0.03,0.64)	0.26 (0.09,0.49)	0.30 (0.05,0.61)	0.43 (0.00,0.87)	0.38 (-0.00,0.89)	0.28 (0.09,0.51)	0.54 (0.24,0.90)

Table 8 Mean model coefficients for $D_\triangle$.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum \beta_{<-0.01}$	-12.37 (-17.94,-7.79)	-0.05 (-0.62,0.00)	-0.15 (-0.90,0.00)	-0.12 (-0.75,0.00)	-0.26 (-1.67,0.00)	-0.27 (-1.70,0.00)	-0.38 (-1.11,-0.09)	0.00 (0.00,0.00)
$\sum \beta_{>0.01}$	14.95 (10.05,19.91)	1.75 (1.16,2.67)	2.04 (1.38,3.15)	1.97 (1.33,3.10)	2.46 (1.75,4.65)	2.50 (1.70,4.57)	2.43 (1.86,3.48)	2.57 (1.85,3.63)
$P_{\beta_{<-0.01}}$	0.46 (0.38,0.55)	0.02 (0.00,0.10)	0.08 (0.00,0.25)	0.06 (0.00,0.23)	0.10 (0.00,0.30)	0.10 (0.00,0.38)	0.18 (0.05,0.33)	0.00 (0.00,0.00)
$P_{\beta_{>0.01}}$	0.53 (0.45,0.60)	0.46 (0.28,0.68)	0.84 (0.68,0.97)	0.71 (0.28,0.95)	0.82 (0.57,1.00)	0.83 (0.57,1.00)	0.74 (0.60,0.88)	0.27 (0.15,0.38)
Intercept	-3.02 (-3.63,-2.57)	-2.44 (-2.89,-2.09)	-2.46 (-2.86,-2.12)	-2.47 (-2.84,-2.14)	-2.66 (-3.16,-2.29)	-2.65 (-3.13,-2.26)	-2.61 (-3.01,-2.27)	-2.77 (-3.33,-2.40)
AGE	0.01 (-0.32,0.37)	-0.01 (-0.16,0.11)	-0.02 (-0.15,0.13)	-0.02 (-0.15,0.12)	-0.02 (-0.29,0.27)	-0.01 (-0.21,0.24)	-0.02 (-0.22,0.15)	0.01 (-0.31,0.35)
Subm.L.Dm	0.00 (-2.43,1.84)	0.04 (-0.00,0.36)	0.05 (0.01,0.12)	0.05 (-0.00,0.14)	0.05 (-0.01,0.11)	0.05 (-0.01,0.11)	0.05 (-0.04,0.17)	0.03 (0.00,0.33)
Subm.L.V10	0.10 (-1.79,2.57)	0.02 (-0.01,0.16)	0.03 (-0.02,0.08)	0.03 (-0.02,0.09)	0.02 (-0.05,0.07)	0.02 (-0.06,0.08)	0.03 (-0.10,0.15)	0.04 (0.00,0.45)
Subm.L.V30	-0.05 (-2.33,1.97)	0.02 (-0.00,0.11)	0.02 (-0.04,0.09)	0.02 (-0.00,0.13)	0.02 (-0.16,0.08)	0.02 (-0.09,0.14)	0.03 (-0.09,0.14)	0.03 (0.00,0.41)
Subm.R.Dm	0.10 (-2.14,1.77)	0.06 (-0.00,0.60)	0.06 (-0.02,0.14)	0.05 (-0.00,0.17)	0.07 (0.02,0.29)	0.07 (0.02,0.25)	0.06 (-0.03,0.18)	0.05 (0.00,0.62)
Subm.R.V10	0.01 (-2.02,1.96)	0.01 (-0.00,0.03)	0.03 (-0.05,0.10)	0.02 (-0.04,0.10)	0.02 (-0.04,0.17)	0.02 (-0.04,0.09)	0.03 (-0.11,0.14)	0.01 (0.00,0.15)
Subm.R.V30	-0.10 (-2.10,1.65)	0.02 (-0.01,0.17)	0.03 (-0.07,0.12)	0.03 (-0.04,0.22)	0.03 (-0.05,0.12)	0.03 (-0.05,0.12)	0.02 (-0.12,0.16)	0.03 (0.00,0.43)
Subm.R.V50	0.14 (-1.14,1.39)	0.10 (-0.00,0.49)	0.07 (-0.01,0.20)	0.09 (0.00,0.38)	0.09 (0.03,0.23)	0.09 (-0.10,0.31)	0.08 (-0.05,0.25)	0.11 (0.00,0.60)
Parotid.L.Dm	0.18 (-1.88,2.23)	0.03 (-0.00,0.30)	0.05 (-0.00,0.11)	0.05 (-0.00,0.11)	0.06 (-0.04,0.14)	0.07 (-0.06,0.15)	0.05 (-0.07,0.16)	0.01 (0.00,0.23)
Parotid.L.V10	0.14 (-1.09,1.49)	0.06 (-0.00,0.41)	0.05 (-0.03,0.12)	0.05 (-0.05,0.15)	0.04 (-0.30,0.10)	0.05 (-0.18,0.11)	0.06 (-0.07,0.18)	0.06 (0.00,0.54)
Parotid.L.V30	-0.11 (-1.98,2.00)	0.05 (-0.00,0.27)	0.05 (-0.02,0.12)	0.04 (-0.01,0.17)	0.06 (-0.08,0.36)	0.07 (-0.08,0.16)	0.05 (-0.06,0.17)	0.04 (0.00,0.29)
Parotid.L.V50	0.07 (-1.25,1.28)	0.04 (-0.01,0.35)	0.05 (-0.05,0.16)	0.05 (-0.04,0.24)	0.09 (-0.08,0.36)	0.09 (-0.12,0.24)	0.06 (-0.08,0.21)	0.09 (0.00,0.42)
Parotid.R.Dm	0.31 (-2.32,1.94)	0.03 (-0.00,0.20)	0.06 (0.01,0.13)	0.05 (-0.00,0.13)	0.08 (-0.05,0.17)	0.09 (-0.09,0.18)	0.06 (-0.04,0.15)	0.01 (0.00,0.18)
Parotid.R.V10	-0.08 (-1.72,1.23)	0.05 (-0.01,0.39)	0.05 (-0.12,0.14)	0.04 (-0.07,0.11)	0.06 (-0.07,0.13)	0.06 (-0.06,0.12)	0.05 (-0.07,0.15)	0.06 (0.00,0.48)
Parotid.R.V30	-0.04 (-1.57,1.82)	0.06 (-0.00,0.38)	0.06 (0.01,0.14)	0.06 (-0.00,0.18)	0.08 (-0.07,0.18)	0.09 (-0.07,0.18)	0.06 (-0.04,0.18)	0.04 (0.00,0.36)
Parotid.R.V50	0.02 (-1.09,1.26)	0.07 (-0.01,0.45)	0.07 (-0.04,0.21)	0.07 (-0.00,0.20)	0.10 (-0.10,0.23)	0.10 (-0.10,0.31)	0.08 (-0.08,0.24)	0.12 (0.00,0.53)
PCM.Sup.Dm	0.20 (-2.79,2.57)	0.02 (-0.00,0.10)	0.06 (0.02,0.11)	0.05 (0.00,0.10)	0.07 (0.03,0.11)	0.07 (0.02,0.16)	0.06 (-0.03,0.17)	0.02 (0.00,0.26)
PCM.Sup.V10	-0.24 (-2.36,1.94)	0.02 (-0.01,0.20)	0.03 (-0.04,0.10)	0.03 (-0.03,0.10)	0.03 (-0.03,0.11)	0.03 (-0.03,0.11)	0.03 (-0.08,0.11)	0.03 (0.00,0.43)
PCM.Sup.V30	0.12 (-1.57,2.01)	0.04 (-0.00,0.34)	0.05 (0.01,0.12)	0.04 (-0.00,0.11)	0.05 (-0.03,0.10)	0.06 (0.01,0.10)	0.05 (-0.04,0.16)	0.07 (0.00,0.70)
PCM.Sup.V50	-0.04 (-1.30,1.34)	0.05 (-0.00,0.40)	0.07 (0.01,0.17)	0.07 (-0.00,0.19)	0.10 (-0.01,0.19)	0.10 (-0.00,0.20)	0.08 (-0.04,0.20)	0.11 (0.00,0.67)
PCM.Med.Dm	0.18 (-2.08,1.98)	0.12 (-0.00,0.58)	0.07 (0.02,0.14)	0.08 (-0.00,0.25)	0.08 (0.03,0.17)	0.08 (0.02,0.18)	0.07 (-0.05,0.22)	0.04 (0.00,0.44)
PCM.Med.V10	0.08 (-1.45,1.35)	0.03 (-0.01,0.34)	0.04 (-0.04,0.13)	0.04 (-0.02,0.25)	0.02 (-0.06,0.14)	0.02 (-0.06,0.14)	0.05 (-0.04,0.16)	0.08 (0.00,0.50)
PCM.Med.V30	0.14 (-1.74,1.50)	0.03 (-0.00,0.30)	0.04 (-0.03,0.12)	0.04 (-0.01,0.12)	0.04 (-0.02,0.08)	0.04 (-0.02,0.10)	0.05 (-0.05,0.18)	0.04 (0.00,0.53)
PCM.Med.V50	-0.01 (-1.47,1.02)	0.12 (-0.00,0.53)	0.07 (-0.05,0.19)	0.09 (-0.05,0.33)	0.12 (0.02,0.26)	0.10 (-0.11,0.29)	0.08 (-0.05,0.24)	0.12 (0.00,0.55)
PCM.Inf.Dm	0.07 (-1.81,1.54)	0.05 (-0.02,0.13)	0.05 (-0.02,0.13)	0.04 (-0.00,0.16)	0.06 (-0.00,0.15)	0.05 (-0.02,0.24)	0.06 (-0.07,0.24)	0.07 (0.00,0.53)
PCM.Inf.V10	0.04 (-1.12,1.37)	0.02 (-0.02,0.15)	0.02 (-0.07,0.12)	0.02 (-0.05,0.12)	0.00 (-0.10,0.15)	0.00 (-0.11,0.13)	0.01 (-0.09,0.15)	0.02 (0.00,0.30)
PCM.Inf.V30	-0.04 (-0.92,0.85)	0.01 (-0.02,0.20)	0.01 (-0.10,0.10)	0.01 (-0.11,0.13)	0.04 (-0.21,0.13)	0.04 (-0.21,0.13)	0.02 (-0.17,0.16)	0.02 (0.00,0.21)
PCM.Inf.V50	0.15 (-1.35,1.76)	0.04 (-0.02,0.38)	0.05 (-0.05,0.17)	0.05 (-0.02,0.14)	0.05 (-0.02,0.23)	0.06 (-0.02,0.23)	0.05 (-0.08,0.24)	0.10 (0.00,0.55)
Supraglottic.Dm	0.05 (-1.93,2.55)	0.06 (-0.01,0.35)	0.07 (0.00,0.14)	0.06 (-0.00,0.14)	0.08 (0.02,0.23)	0.07 (0.02,0.23)	0.07 (-0.05,0.21)	0.07 (0.00,0.43)
Supraglottic.V10	0.04 (-1.32,1.39)	0.04 (-0.01,0.24)	0.03 (-0.06,0.15)	0.03 (-0.04,0.23)	0.01 (-0.13,0.17)	0.01 (-0.06,0.21)	0.03 (-0.14,0.16)	0.05 (0.00,0.41)
Supraglottic.V30	-0.07 (-1.22,1.15)	0.03 (-0.01,0.27)	0.02 (-0.07,0.12)	0.02 (-0.09,0.15)	0.04 (-0.23,0.17)	0.04 (-0.23,0.17)	0.03 (-0.13,0.14)	0.03 (0.00,0.36)
Supraglottic.V50	0.24 (-1.28,1.72)	0.07 (-0.00,0.35)	0.08 (0.01,0.20)	0.08 (-0.00,0.32)	0.09 (0.01,0.21)	0.09 (0.02,0.23)	0.09 (-0.02,0.25)	0.10 (0.00,0.43)
OralCavity.Ext.Dm	0.34 (-1.43,2.39)	0.08 (-0.00,0.54)	0.08 (0.04,0.15)	0.09 (-0.00,0.37)	0.09 (-0.00,0.24)	0.08 (0.01,0.28)	0.09 (-0.01,0.19)	0.05 (0.00,0.60)
OralCavity.Ext.V10	0.07 (-2.63,2.08)	0.03 (-0.01,0.29)	0.04 (-0.07,0.10)	0.04 (-0.07,0.19)	0.03 (-0.02,0.10)	0.04 (-0.02,0.14)	0.04 (-0.11,0.14)	0.11 (0.00,0.78)
OralCavity.Ext.V30	0.10 (-1.64,1.66)	0.07 (-0.00,0.58)	0.07 (0.02,0.15)	0.07 (0.00,0.20)	0.08 (0.00,0.24)	0.08 (0.04,0.21)	0.07 (-0.05,0.19)	0.12 (0.00,0.87)
OralCavity.Ext.V50	0.26 (-0.97,1.22)	0.15 (-0.00,0.60)	0.11 (0.03,0.27)	0.12 (0.00,0.35)	0.13 (0.05,0.41)	0.13 (0.04,0.42)	0.13 (-0.01,0.29)	0.33 (0.00,0.83)
GlotticArea.Dm	0.19 (-2.04,2.06)	0.00 (-0.01,0.04)	0.01 (-0.05,0.09)	0.01 (-0.03,0.09)	0.02 (-0.05,0.12)	0.02 (-0.07,0.13)	0.00 (-0.11,0.11)	0.05 (0.00,0.43)
GlotticArea.V10	0.05 (-1.12,1.11)	0.02 (-0.03,0.12)	0.02 (-0.08,0.11)	0.01 (-0.07,0.13)	0.01 (-0.11,0.19)	0.01 (-0.11,0.19)	0.03 (-0.11,0.21)	0.03 (0.00,0.23)
GlotticArea.V30	-0.09 (-0.79,0.78)	-0.01 (-0.15,0.03)	-0.01 (-0.12,0.08)	-0.02 (-0.15,0.07)	0.00 (-0.19,0.12)	0.00 (-0.37,0.11)	-0.02 (-0.17,0.14)	0.01 (0.00,0.14)
GlotticArea.V50	-0.04 (-1.46,1.05)	0.01 (-0.02,0.12)	0.02 (-0.07,0.13)	0.02 (-0.04,0.13)	0.03 (-0.06,0.23)	0.03 (-0.07,0.27)	0.02 (-0.14,0.18)	0.10 (0.00,0.46)
DYSFAGIE..BSL.2	0.20 (-0.14,0.54)	0.08 (-0.01,0.33)	0.08 (-0.02,0.25)	0.09 (-0.01,0.29)	0.10 (-0.13,0.52)	0.08 (-0.11,0.47)	0.11 (-0.07,0.28)	0.18 (-0.13,0.51)
DYSFAGIE..BSL.3	0.36 (0.03,0.74)	0.19 (-0.00,0.48)	0.15 (0.04,0.36)	0.17 (0.04,0.44)	0.21 (0.02,0.61)	0.15 (0.02,0.55)	0.19 (0.01,0.41)	0.34 (0.04,0.65)

Table 9 Mean model coefficients for A*.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-0.08 (−0.09,−0.06)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	1.78 (1.76,1.79)	1.35 (1.31,1.41)	1.34 (1.31,1.38)	1.35 (1.29,1.40)	1.72 (1.69,1.74)	1.72 (1.69,1.74)	1.26 (1.17,1.37)	1.72 (1.70,1.73)
$P_{\beta<-0.01}$	0.25 (0.25,0.25)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.75 (0.75,0.75)	0.92 (0.75,1.00)	1.00 (1.00,1.00)	1.00 (1.00,1.00)	1.00 (1.00,1.00)	1.00 (1.00,1.00)	1.00 (1.00,1.00)	0.94 (0.75,1.00)
Intercept	-1.51 (−1.53,−1.49)	-1.35 (−1.37,−1.33)	-1.34 (−1.36,−1.33)	-1.34 (−1.37,−1.31)	-1.52 (−1.54,−1.51)	-1.52 (−1.54,−1.44)	-1.34 (−1.38,−1.31)	-1.52 (−1.53,−1.50)
AGE	-0.02 (−0.02,−0.02)	-0.01 (−0.03,−0.00)	-0.04 (−0.05,−0.04)	-0.02 (−0.04,−0.01)	-0.02 (−0.03,−0.02)	-0.02 (−0.03,−0.02)	-0.05 (−0.08,−0.02)	-0.02 (−0.02,−0.01)
Subm.L.Dm	-0.08 (−0.09,−0.06)	0.02 (0.01,0.05)	0.20 (0.16,0.21)	0.12 (0.06,0.17)	0.37 (0.25,0.46)	0.34 (0.17,0.46)	0.25 (0.22,0.29)	0.03 (0.00,0.08)
Subm.R.Dm	0.85 (0.84,0.86)	0.51 (0.48,0.55)	0.37 (0.36,0.46)	0.42 (0.38,0.47)	0.50 (0.43,0.63)	0.53 (0.44,0.69)	0.38 (0.34,0.44)	0.78 (0.75,0.81)
Parotid.L.Dm	0.58 (0.57,0.59)	0.46 (0.45,0.47)	0.37 (0.36,0.40)	0.41 (0.38,0.43)	0.44 (0.37,0.49)	0.44 (0.38,0.52)	0.30 (0.27,0.34)	0.53 (0.51,0.55)
Parotid.R.Dm	0.34 (0.33,0.35)	0.38 (0.37,0.39)	0.40 (0.39,0.41)	0.40 (0.38,0.42)	0.41 (0.35,0.46)	0.40 (0.33,0.45)	0.33 (0.28,0.36)	0.37 (0.36,0.38)
XER.BSL.2	0.34 (0.33,0.34)	0.24 (0.23,0.26)	0.26 (0.25,0.27)	0.25 (0.23,0.27)	0.32 (0.31,0.33)	0.32 (0.31,0.33)	0.18 (0.15,0.22)	0.33 (0.33,0.34)
XER.BSL.3	0.34 (0.07,0.85)	0.06 (0.04,0.07)	0.09 (0.09,0.11)	0.08 (0.06,0.09)	0.22 (0.08,0.65)	0.39 (−0.01,2.38)	0.14 (−0.01,0.26)	0.32 (0.09,0.75)

Table 10 Mean model coefficients for $B^*_{\triangle}$.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-3.08 (−3.44,−2.77)	-0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	-0.02 (−0.22,0.00)	-0.00 (−0.03,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	5.06 (4.74,5.53)	1.37 (1.29,1.47)	1.50 (1.47,1.54)	1.49 (1.41,1.55)	2.10 (2.05,2.16)	2.13 (2.03,2.43)	1.69 (1.63,1.76)	2.23 (2.14,2.65)
$P_{\beta<-0.01}$	0.47 (0.44,0.50)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.02 (0.00,0.25)	0.00 (0.00,0.06)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.53 (0.50,0.56)	0.69 (0.69,0.88)	1.00 (1.00,1.00)	0.99 (0.88,1.00)	1.00 (1.00,1.00)	0.97 (0.69,1.00)	0.98 (0.94,1.00)	0.77 (0.69,0.88)
Intercept	-1.80 (−1.97,−1.74)	-1.36 (−1.42,−1.33)	-1.39 (−1.41,−1.37)	-1.39 (−1.42,−1.35)	-1.67 (−1.72,−1.65)	-1.69 (−1.75,−1.65)	-1.50 (−1.52,−1.47)	-1.77 (−1.99,−1.72)
AGE	-0.05 (−0.06,−0.05)	-0.01 (−0.03,−0.00)	-0.03 (−0.03,−0.02)	-0.02 (−0.04,−0.01)	0.04 (−0.01,0.07)	0.04 (0.00,0.06)	-0.03 (−0.06,0.01)	-0.04 (−0.04,−0.03)
Subm.L.Dm	-0.29 (−0.33,−0.26)	0.01 (0.00,0.03)	0.06 (0.05,0.06)	0.04 (0.03,0.06)	0.14 (0.11,0.16)	0.14 (−0.03,0.17)	0.07 (0.03,0.11)	0.00 (0.00,0.03)
Subm.L.V10	0.62 (0.51,0.81)	0.02 (0.00,0.08)	0.08 (0.07,0.08)	0.07 (0.04,0.08)	0.16 (0.14,0.19)	0.19 (0.14,0.33)	0.12 (0.08,0.15)	0.10 (0.02,0.28)
Subm.L.V30	-0.71 (−0.76,−0.65)	0.00 (−0.00,0.01)	0.02 (0.01,0.03)	0.02 (0.00,0.02)	0.15 (0.11,0.18)	0.14 (−0.04,0.18)	0.02 (−0.03,0.06)	0.00 (0.00,0.00)
Subm.L.V50	0.39 (0.37,0.41)	0.05 (0.02,0.08)	0.07 (0.07,0.08)	0.07 (0.05,0.08)	0.12 (0.06,0.14)	0.13 (0.08,0.20)	0.08 (0.04,0.11)	0.06 (0.03,0.10)
Subm.R.Dm	0.26 (0.23,0.29)	0.13 (0.07,0.20)	0.12 (0.11,0.12)	0.12 (0.10,0.15)	0.17 (0.16,0.20)	0.18 (0.14,0.27)	0.15 (0.11,0.19)	0.18 (0.12,0.26)
Subm.R.V10	0.01 (−0.14,0.17)	0.01 (0.00,0.03)	0.09 (0.08,0.10)	0.08 (0.05,0.09)	0.18 (0.16,0.21)	0.17 (0.04,0.20)	0.15 (0.11,0.18)	0.17 (0.08,0.26)
Subm.R.V30	0.57 (0.49,0.72)	0.05 (0.02,0.10)	0.10 (0.09,0.11)	0.10 (0.07,0.12)	0.18 (0.16,0.21)	0.19 (0.16,0.38)	0.16 (0.12,0.20)	0.51 (0.40,0.79)
Subm.R.V50	0.07 (0.05,0.09)	0.16 (0.13,0.19)	0.13 (0.12,0.14)	0.14 (0.12,0.17)	0.16 (0.10,0.16)	0.15 (0.12,0.20)	0.13 (0.10,0.16)	0.14 (0.09,0.18)
Parotid.L.Dm	1.25 (1.09,1.40)	0.13 (0.08,0.18)	0.11 (0.10,0.11)	0.11 (0.08,0.15)	0.10 (0.09,0.11)	0.12 (0.08,0.35)	0.11 (0.07,0.14)	0.15 (0.07,0.22)
Parotid.L.V10	-0.32 (−0.38,−0.28)	0.07 (0.04,0.13)	0.12 (0.11,0.12)	0.11 (0.09,0.14)	0.14 (0.13,0.17)	0.13 (0.03,0.16)	0.13 (0.10,0.16)	0.06 (0.01,0.13)
Parotid.L.V30	0.08 (0.03,0.14)	0.14 (0.10,0.19)	0.11 (0.11,0.12)	0.12 (0.10,0.15)	0.09 (0.08,0.10)	0.09 (0.08,0.11)	0.10 (0.06,0.13)	0.18 (0.12,0.23)
Parotid.L.V50	-0.51 (−0.56,−0.46)	0.01 (0.00,0.02)	0.05 (0.04,0.05)	0.04 (0.02,0.05)	0.04 (0.02,0.10)	0.03 (−0.08,0.05)	0.04 (0.01,0.07)	0.01 (0.00,0.04)
Parotid.R.Dm	1.79 (1.58,2.03)	0.07 (0.03,0.13)	0.13 (0.12,0.13)	0.13 (0.10,0.15)	0.13 (0.12,0.14)	0.15 (0.10,0.46)	0.12 (0.08,0.15)	0.07 (0.01,0.12)
Parotid.R.V10	-0.15 (−0.24,−0.08)	0.39 (0.36,0.42)	0.16 (0.15,0.17)	0.20 (0.16,0.28)	0.15 (0.13,0.20)	0.15 (0.08,0.20)	0.14 (0.10,0.21)	0.47 (0.44,0.50)
Parotid.R.V30	-0.37 (−0.45,−0.29)	0.12 (0.07,0.15)	0.13 (0.13,0.14)	0.13 (0.11,0.15)	0.11 (0.11,0.13)	0.10 (−0.02,0.14)	0.12 (0.09,0.14)	0.13 (0.08,0.17)
Parotid.R.V50	-0.70 (−0.78,−0.62)	0.00 (−0.00,0.01)	0.04 (0.02,0.04)	0.02 (0.01,0.04)	0.07 (0.02,0.10)	0.05 (−0.10,0.10)	0.04 (0.01,0.06)	0.00 (0.00,0.00)
XER.BSL.2	0.36 (0.36,0.36)	0.23 (0.21,0.25)	0.20 (0.18,0.21)	0.21 (0.19,0.24)	0.18 (0.13,0.24)	0.16 (0.12,0.22)	0.16 (0.14,0.20)	0.34 (0.34,0.34)
XER.BSL.3	0.38 (0.13,0.78)	0.05 (0.04,0.07)	0.07 (0.06,0.08)	0.07 (0.05,0.09)	0.04 (−0.20,0.44)	-0.01 (−0.22,0.27)	0.11 (0.03,0.20)	0.42 (0.13,0.91)

Table 11 Mean model coefficients for C*.

	LR	Lasso	Ridge	ElasticNet	PCLR	LAELR	Dropout	LRnn
$\sum_{\beta<-0.01}$	-0.53 (−0.58,−0.48)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	-0.01 (−0.03,0.00)	-0.01 (−0.06,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$\sum_{\beta>0.01}$	3.38 (3.32,3.44)	2.30 (2.22,2.40)	2.26 (2.20,2.32)	2.26 (2.17,2.40)	2.79 (2.54,2.86)	2.76 (2.57,2.96)	2.40 (2.25,2.59)	2.95 (2.90,3.01)
$P_{\beta<-0.01}$	0.33 (0.30,0.40)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.00 (0.00,0.00)	0.01 (0.00,0.10)	0.02 (0.00,0.10)	0.00 (0.00,0.00)	0.00 (0.00,0.00)
$P_{\beta>0.01}$	0.55 (0.50,0.70)	0.79 (0.60,1.00)	1.00 (1.00,1.00)	0.97 (0.90,1.00)	0.97 (0.90,1.00)	0.97 (0.90,1.00)	0.99 (0.90,1.00)	0.94 (0.80,1.00)
Intercept	-3.02 (−3.05,−2.99)	-2.69 (−2.75,−2.66)	-2.72 (−2.75,−2.68)	-2.71 (−2.76,−2.64)	-3.02 (−3.10,−2.95)	-3.05 (−3.14,−2.97)	-2.80 (−2.89,−2.73)	-3.04 (−3.08,−3.02)
AGE	0.02 (0.01,0.03)	0.00 (−0.01,0.02)	0.01 (0.00,0.01)	0.00 (−0.01,0.02)	0.05 (0.04,0.07)	0.06 (0.04,0.09)	0.01 (−0.02,0.04)	0.03 (0.02,0.04)
Subm.L.Dm	0.12 (0.08,0.15)	0.03 (0.00,0.10)	0.17 (0.16,0.19)	0.11 (0.05,0.16)	0.29 (0.16,0.39)	0.31 (0.19,0.41)	0.21 (0.16,0.28)	0.11 (0.05,0.18)
Subm.R.Dm	-0.25 (−0.29,−0.22)	0.01 (−0.00,0.04)	0.17 (0.14,0.18)	0.08 (0.02,0.14)	0.32 (0.19,0.45)	0.32 (0.17,0.46)	0.20 (0.13,0.27)	0.05 (0.00,0.14)
Parotid.L.Dm	-0.05 (−0.06,−0.03)	0.04 (0.01,0.06)	0.12 (0.10,0.13)	0.07 (0.04,0.10)	0.21 (0.10,0.30)	0.20 (0.10,0.29)	0.10 (0.06,0.15)	0.02 (0.00,0.05)
Parotid.R.Dm	0.22 (0.20,0.23)	0.15 (0.13,0.16)	0.22 (0.21,0.23)	0.19 (0.17,0.21)	0.26 (0.18,0.31)	0.27 (0.19,0.32)	0.20 (0.17,0.23)	0.13 (0.11,0.15)
PCM.Sup.Dm	-0.22 (−0.25,−0.19)	0.02 (0.00,0.08)	0.27 (0.25,0.28)	0.15 (0.07,0.24)	0.27 (0.27,0.53)	0.33 (0.19,0.50)	0.27 (0.22,0.33)	0.04 (0.00,0.12)
PCM.Med.Dm	0.86 (0.82,0.89)	0.37 (0.31,0.43)	0.27 (0.26,0.29)	0.33 (0.24,0.39)	0.36 (0.27,0.45)	0.40 (0.31,0.52)	0.32 (0.25,0.39)	0.57 (0.50,0.64)
PCM.Inf.Dm	0.57 (0.55,0.59)	0.40 (0.36,0.43)	0.25 (0.23,0.29)	0.32 (0.26,0.37)	0.22 (0.13,0.36)	0.22 (0.13,0.38)	0.24 (0.17,0.30)	0.49 (0.44,0.53)
Supraglottic.Dm	0.01 (−0.01,0.03)	0.15 (0.11,0.20)	0.21 (0.19,0.22)	0.18 (0.15,0.22)	0.24 (0.12,0.31)	0.23 (0.08,0.32)	0.20 (0.15,0.25)	0.09 (0.04,0.16)
OralCavity.Ext.Dm	1.61 (1.58,1.64)	1.15 (1.09,1.19)	0.56 (0.51,0.62)	0.84 (0.65,0.98)	0.40 (0.29,0.64)	0.45 (0.31,0.70)	0.59 (0.46,0.75)	1.37 (1.31,1.41)
GlotticArea.Dm	-0.00 (−0.03,0.03)	0.01 (0.00,0.03)	0.03 (0.02,0.05)	0.02 (0.00,0.04)	0.03 (−0.03,0.13)	0.02 (−0.06,0.12)	0.05 (−0.00,0.09)	0.07 (0.01,0.13)
DYSFAGIE..BSL.2	0.17 (0.17,0.18)	0.16 (0.15,0.17)	0.20 (0.20,0.21)	0.18 (0.17,0.20)	0.22 (0.16,0.24)	0.19 (0.11,0.24)	0.16 (0.13,0.19)	0.19 (0.18,0.19)
DYSFAGIE..BSL.3	0.34 (0.34,0.35)	0.33 (0.33,0.34)	0.36 (0.36,0.37)	0.35 (0.34,0.36)	0.40 (0.36,0.42)	0.38 (0.33,0.42)	0.30 (0.27,0.33)	0.35 (0.35,0.36)

Table 12 Mean model coefficients for $D^*_\triangle$.

	LR		Lasso		Ridge		ElasticNet		PCLR		LAELR		Dropout		LRnn	
$\sum_{\beta_{<-0.01}}$	-9.10	(-9.73,-8.70)	-0.04	(-0.12,0.00)	-0.15	(-0.18,-0.12)	-0.12	(-0.17,-0.07)	-0.46	(-1.20,-0.08)	-0.30	(-0.93,-0.04)	-0.26	(-0.51,-0.09)	0.00	(0.00,0.00)
$\sum_{\beta_{>0.01}}$	13.39	(12.86,14.06)	1.98	(1.81,2.21)	2.43	(2.38,2.52)	2.29	(2.15,2.45)	4.38	(3.07,5.75)	3.76	(2.61,5.08)	3.23	(2.95,3.62)	4.83	(4.65,4.98)
$P_{\beta_{<-0.01}}$	0.46	(0.42,0.50)	0.03	(0.00,0.07)	0.08	(0.07,0.10)	0.08	(0.05,0.10)	0.20	(0.07,0.30)	0.14	(0.03,0.30)	0.14	(0.10,0.20)	0.00	(0.00,0.00)
$P_{\beta_{>0.01}}$	0.53	(0.50,0.57)	0.42	(0.35,0.53)	0.87	(0.85,0.88)	0.81	(0.65,0.88)	0.71	(0.62,0.85)	0.80	(0.65,0.95)	0.80	(0.70,0.88)	0.50	(0.42,0.57)
Intercept	-3.57	(-3.61,-3.54)	-2.49	(-2.57,-2.42)	-2.61	(-2.63,-2.59)	-2.58	(-2.62,-2.53)	-3.13	(-3.36,-2.93)	-3.04	(-3.32,-2.82)	-2.84	(-2.91,-2.80)	-3.42	(-3.48,-3.38)
AGE	0.08	(0.07,0.09)	0.00	(-0.01,0.01)	0.01	(0.00,0.01)	0.01	(-0.00,0.02)	0.03	(-0.03,0.06)	0.01	(-0.08,0.05)	0.01	(-0.03,0.04)	0.05	(0.04,0.06)
Subm.L.Dm	0.54	(0.49,0.61)	0.03	(0.00,0.11)	0.08	(0.08,0.09)	0.07	(0.05,0.09)	0.05	(0.00,0.10)	0.07	(0.03,0.14)	0.12	(0.07,0.16)	0.06	(0.00,0.16)
Subm.L.V10	-0.16	(-0.28,-0.05)	0.00	(-0.00,0.01)	0.02	(0.02,0.02)	0.01	(0.01,0.02)	0.01	(-0.10,0.08)	0.03	(-0.07,0.12)	0.01	(-0.03,0.06)	0.10	(0.00,0.23)
Subm.L.V30	0.20	(0.07,0.38)	0.00	(-0.00,0.01)	0.02	(0.01,0.02)	0.01	(0.01,0.03)	-0.04	(-0.10,0.03)	0.00	(-0.07,0.07)	0.01	(-0.05,0.06)	0.04	(0.00,0.30)
Subm.L.V50	-0.52	(-0.56,-0.48)	0.01	(-0.00,0.02)	0.05	(0.04,0.05)	0.03	(0.02,0.05)	0.09	(0.02,0.16)	0.08	(-0.02,0.15)	0.04	(-0.01,0.08)	0.00	(0.00,0.03)
Subm.R.Dm	-0.49	(-0.57,-0.41)	0.01	(0.00,0.02)	0.07	(0.06,0.07)	0.05	(0.03,0.07)	0.08	(0.04,0.11)	0.07	(0.03,0.11)	0.09	(0.05,0.15)	0.02	(0.00,0.11)
Subm.R.V10	-0.00	(-0.09,0.09)	0.00	(-0.00,0.01)	0.02	(0.01,0.02)	0.01	(0.01,0.01)	0.00	(-0.05,0.05)	0.03	(-0.03,0.10)	0.01	(-0.04,0.06)	0.00	(0.00,0.00)
Subm.R.V30	-0.21	(-0.32,-0.12)	0.00	(-0.00,0.01)	0.01	(0.00,0.01)	0.01	(-0.00,0.01)	-0.02	(-0.12,0.03)	0.01	(-0.08,0.05)	-0.02	(-0.07,0.03)	0.05	(0.00,0.12)
Subm.R.V50	0.33	(0.29,0.39)	0.01	(0.00,0.05)	0.06	(0.05,0.07)	0.05	(0.02,0.06)	0.12	(0.01,0.21)	0.10	(-0.01,0.19)	0.07	(0.03,0.11)	0.02	(0.00,0.08)
Parotid.L.Dm	-0.03	(-0.18,0.12)	0.01	(0.00,0.02)	0.04	(0.03,0.04)	0.03	(0.01,0.04)	0.01	(-0.02,0.05)	0.04	(-0.03,0.09)	0.04	(-0.01,0.08)	0.00	(0.00,0.01)
Parotid.L.V10	0.46	(0.40,0.52)	0.04	(0.01,0.08)	0.08	(0.07,0.08)	0.07	(0.05,0.09)	0.01	(-0.07,0.17)	0.02	(-0.05,0.11)	0.09	(0.05,0.14)	0.04	(0.00,0.08)
Parotid.L.V30	0.01	(-0.06,0.07)	0.01	(0.00,0.03)	0.01	(0.00,0.02)	0.01	(0.00,0.02)	-0.01	(-0.09,0.04)	0.02	(-0.05,0.09)	0.01	(-0.04,0.05)	0.00	(0.00,0.03)
Parotid.L.V50	-0.10	(-0.16,-0.05)	0.01	(0.00,0.03)	0.02	(0.01,0.03)	0.02	(0.01,0.03)	0.05	(-0.01,0.08)	0.06	(-0.01,0.10)	0.02	(-0.01,0.05)	0.01	(0.00,0.03)
Parotid.R.Dm	1.20	(1.02,1.44)	0.03	(0.01,0.08)	0.06	(0.06,0.07)	0.05	(0.03,0.07)	0.03	(0.01,0.06)	0.07	(0.01,0.13)	0.07	(0.03,0.11)	0.01	(0.00,0.06)
Parotid.R.V10	-0.36	(-0.45,-0.28)	0.01	(0.00,0.02)	0.03	(0.03,0.04)	0.02	(0.01,0.04)	-0.03	(-0.11,0.05)	0.01	(-0.10,0.09)	0.03	(-0.01,0.08)	0.00	(0.00,0.04)
Parotid.R.V30	-0.65	(-0.74,-0.55)	0.01	(0.00,0.02)	0.03	(0.02,0.04)	0.02	(0.01,0.04)	0.04	(-0.01,0.12)	0.06	(-0.01,0.12)	0.00	(-0.01,0.08)	0.00	(0.00,0.02)
Parotid.R.V50	-0.11	(-0.20,-0.03)	0.07	(0.04,0.09)	0.08	(0.08,0.09)	0.08	(0.06,0.09)	0.09	(0.05,0.17)	0.10	(0.05,0.14)	0.07	(0.04,0.11)	0.08	(0.05,0.10)
PCM.Sup.Dm	0.61	(0.52,0.71)	0.01	(0.00,0.03)	0.08	(0.08,0.09)	0.06	(0.03,0.08)	0.10	(0.04,0.14)	0.10	(0.05,0.15)	0.10	(0.05,0.14)	0.01	(0.00,0.06)
PCM.Sup.V10	-1.63	(-1.81,-1.45)	0.00	(-0.00,0.01)	-0.01	(-0.02,-0.01)	-0.00	(-0.02,0.01)	-0.03	(-0.17,0.02)	-0.02	(-0.16,0.05)	-0.06	(-0.15,0.01)	0.00	(0.00,0.00)
PCM.Sup.V30	-0.43	(-0.50,-0.35)	0.00	(0.00,0.01)	0.03	(0.03,0.04)	0.02	(0.01,0.03)	0.06	(-0.01,0.09)	0.06	(-0.01,0.09)	0.03	(-0.04,0.08)	0.00	(0.00,0.00)
PCM.Sup.V50	-0.24	(-0.29,-0.20)	0.04	(0.01,0.09)	0.11	(0.11,0.12)	0.10	(0.07,0.14)	0.19	(0.11,0.26)	0.17	(0.09,0.25)	0.11	(0.07,0.14)	0.04	(0.00,0.09)
PCM.Med.Dm	0.62	(0.52,0.71)	0.38	(0.31,0.43)	0.13	(0.12,0.14)	0.18	(0.12,0.28)	0.17	(0.08,0.47)	0.15	(0.08,0.33)	0.18	(0.12,0.24)	0.44	(0.37,0.50)
PCM.Med.V10	0.88	(0.73,1.03)	0.00	(-0.00,0.01)	0.05	(0.04,0.05)	0.03	(0.01,0.04)	0.21	(0.04,0.60)	0.14	(0.01,0.50)	0.12	(0.07,0.19)	0.89	(0.75,1.04)
PCM.Med.V30	1.43	(1.32,1.55)	0.01	(0.00,0.02)	0.06	(0.06,0.07)	0.05	(0.03,0.07)	0.11	(-0.01,0.61)	0.09	(-0.01,0.35)	0.13	(0.07,0.22)	0.08	(0.00,0.21)
PCM.Med.V50	-0.52	(-0.57,-0.48)	0.01	(0.00,0.02)	0.05	(0.03,0.05)	0.03	(0.01,0.05)	0.09	(-0.14,0.23)	0.10	(-0.07,0.24)	0.03	(-0.02,0.08)	0.00	(0.00,0.00)
PCM.Inf.Dm	2.33	(2.28,2.40)	0.28	(0.22,0.37)	0.14	(0.13,0.16)	0.18	(0.13,0.26)	0.13	(0.04,0.29)	0.15	(0.06,0.36)	0.16	(0.09,0.22)	0.37	(0.33,0.40)
PCM.Inf.V10	0.29	(0.17,0.40)	0.00	(-0.00,0.01)	0.02	(0.02,0.03)	0.01	(0.01,0.02)	0.48	(0.11,0.85)	0.28	(-0.08,0.78)	0.23	(0.15,0.31)	0.60	(0.49,0.72)
PCM.Inf.V30	-0.79	(-0.84,-0.75)	-0.03	(-0.08,-0.00)	-0.05	(-0.06,-0.04)	-0.04	(-0.06,-0.02)	-0.07	(-0.15,0.01)	-0.05	(-0.19,0.02)	-0.05	(-0.12,0.00)	0.00	(0.00,0.00)
PCM.Inf.V50	-1.15	(-1.21,-1.09)	0.01	(0.00,0.03)	0.07	(0.06,0.07)	0.05	(0.02,0.07)	0.15	(0.01,0.23)	0.11	(-0.06,0.22)	0.06	(0.02,0.10)	0.01	(0.00,0.05)
Supraglottic.Dm	0.41	(0.33,0.48)	0.07	(0.03,0.12)	0.12	(0.12,0.13)	0.12	(0.09,0.17)	0.12	(0.02,0.30)	0.12	(0.03,0.29)	0.14	(0.10,0.20)	0.05	(0.01,0.15)
Supraglottic.V10	-0.30	(-0.41,-0.21)	0.00	(-0.00,0.01)	0.03	(0.03,0.03)	0.01	(0.01,0.02)	0.35	(-0.15,0.63)	0.25	(-0.04,0.62)	0.10	(0.05,0.16)	0.00	(0.00,0.00)
Supraglottic.V30	-0.53	(-0.58,-0.47)	-0.01	(-0.05,0.00)	-0.04	(-0.05,-0.03)	-0.03	(-0.06,-0.00)	-0.04	(-0.25,0.07)	-0.01	(-0.14,0.07)	-0.05	(-0.11,0.01)	0.00	(0.00,0.00)
Supraglottic.V50	0.24	(0.18,0.28)	0.10	(0.06,0.13)	0.11	(0.10,0.11)	0.10	(0.08,0.12)	0.17	(0.08,0.24)	0.13	(0.00,0.22)	0.11	(0.06,0.15)	0.05	(0.01,0.09)
OralCavity.Ext.Dm	0.66	(0.55,0.78)	0.07	(0.01,0.18)	0.18	(0.17,0.19)	0.17	(0.12,0.22)	0.20	(0.15,0.25)	0.16	(0.09,0.27)	0.22	(0.17,0.29)	0.13	(0.00,0.29)
OralCavity.Ext.V10	0.56	(0.45,0.71)	0.00	(-0.00,0.01)	0.02	(0.02,0.03)	0.02	(0.00,0.02)	0.00	(-0.09,0.05)	0.03	(-0.06,0.08)	0.03	(-0.02,0.07)	0.01	(0.00,0.07)
OralCavity.Ext.V30	0.44	(0.37,0.49)	0.17	(0.11,0.24)	0.14	(0.13,0.15)	0.15	(0.11,0.20)	0.20	(0.14,0.34)	0.17	(0.08,0.27)	0.18	(0.14,0.23)	0.38	(0.28,0.46)
OralCavity.Ext.V50	0.59	(0.52,0.67)	0.58	(0.53,0.61)	0.27	(0.26,0.29)	0.34	(0.27,0.45)	0.31	(0.20,0.46)	0.25	(0.11,0.43)	0.23	(0.17,0.29)	0.64	(0.57,0.71)
GlotticArea.Dm	-0.83	(-0.90,-0.77)	0.01	(-0.00,0.01)	0.04	(0.04,0.05)	0.03	(0.01,0.04)	0.03	(-0.08,0.18)	0.02	(-0.04,0.19)	0.05	(0.01,0.10)	0.01	(0.00,0.07)
GlotticArea.V10	0.82	(0.67,1.04)	0.00	(-0.00,0.01)	0.02	(0.02,0.02)	0.01	(0.00,0.02)	0.48	(0.06,0.88)	0.28	(-0.10,0.77)	0.20	(0.13,0.27)	0.47	(0.36,0.58)
GlotticArea.V30	0.18	(0.14,0.22)	-0.02	(-0.06,-0.00)	-0.05	(-0.07,-0.04)	-0.05	(-0.07,-0.03)	-0.10	(-0.21,-0.03)	-0.09	(-0.18,-0.01)	-0.06	(-0.10,-0.01)	0.00	(0.00,0.00)
GlotticArea.V50	0.54	(0.50,0.58)	0.06	(0.02,0.09)	0.09	(0.08,0.10)	0.08	(0.06,0.11)	0.10	(-0.02,0.17)	0.09	(-0.01,0.18)	0.08	(0.04,0.13)	0.22	(0.19,0.25)
DYSFAGIE..BSL.2	0.16	(0.16,0.17)	0.14	(0.12,0.15)	0.15	(0.15,0.16)	0.15	(0.14,0.16)	0.21	(0.16,0.24)	0.17	(0.07,0.24)	0.11	(0.08,0.15)	0.19	(0.18,0.19)
DYSFAGIE..BSL.3	0.35	(0.34,0.36)	0.31	(0.30,0.32)	0.30	(0.29,0.31)	0.31	(0.29,0.32)	0.38	(0.32,0.41)	0.29	(0.14,0.41)	0.23	(0.19,0.27)	0.36	(0.35,0.36)