

Predicting mortality after hospitalisation for COPD using electronic health records

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Analysis of predictors of death within 90 days

Supplementary material 2 – Multivariable analysis

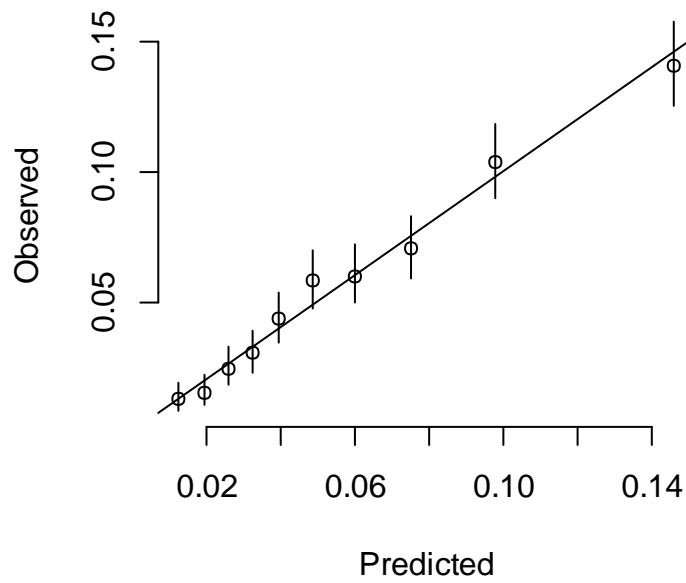
Table 1.1: Base Model. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.36	(0.30, 0.43)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.45	(0.32, 0.58)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.10	(-0.28, 0.08)	p=0.2744	p=0.5797
	Q3 vs. Q1	-0.04	(-0.24, 0.17)	p=0.7364	
	Q4 vs. Q1	-0.14	(-0.38, 0.10)	p=0.2403	
	Q5 vs. Q1	0.06	(-0.18, 0.29)	p=0.6455	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-51.07	(-63.41, -38.73)	p<0.0001	p<0.0001
	Quadratic	31.97	(20.88, 43.05)	p<0.0001	
	Cubic	-12.63	(-21.97, -3.28)	p=0.0081	

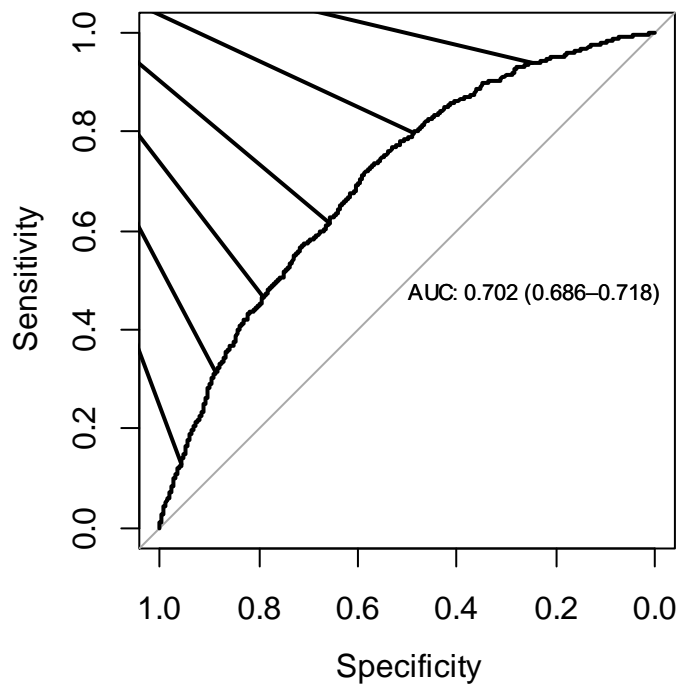
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation.

Table 1.2: Base Model. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC.; AUC – Area Under the Curve.

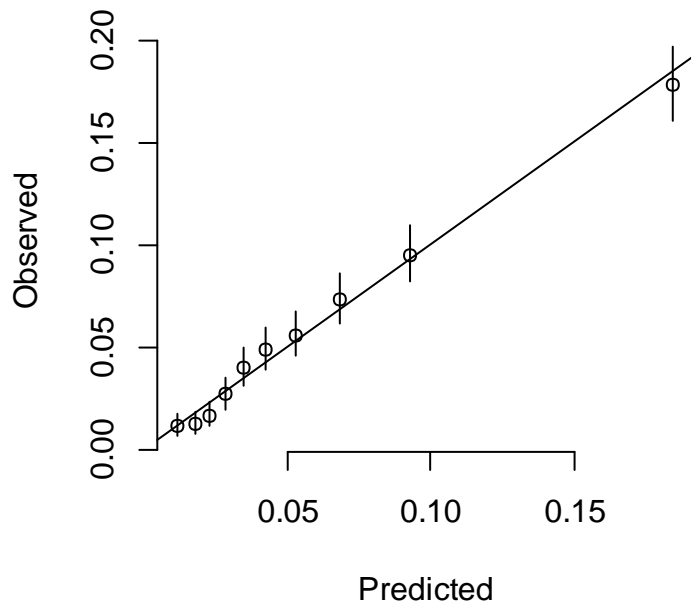
Table 2.1: Base Model + Recent Medical History (all predictors). Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.35	(0.28, 0.42)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.35	(0.22, 0.49)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.08	(-0.26, 0.10)	p=0.3631	p=0.5995
	Q3 vs. Q1	-0.05	(-0.26, 0.16)	p=0.6278	
	Q4 vs. Q1	-0.17	(-0.41, 0.07)	p=0.1757	
	Q5 vs. Q1	0.03	(-0.20, 0.27)	p=0.7761	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-44.79	(-57.37, -32.22)	p<0.0001	p<0.0001
	Quadratic	27.90	(16.68, 39.12)	p<0.0001	
	Cubic	-11.06	(-20.58, -1.53)	p=0.0229	
Recent (within 90 days) Medical History.					
	AF	0.19	(-0.01, 0.38)	p=0.0654	p<0.0001
	AKI	0.08	(-0.18, 0.35)	p=0.5288	
	Anaemia	0.07	(-0.36, 0.50)	p=0.7506	
	Angina	-0.01	(-0.57, 0.56)	p=0.9779	
	Stroke	-1.01	(-1.65, -0.36)	p=0.0022	
	HF	0.21	(-0.04, 0.45)	p=0.0999	
	Liver	0.58	(0.11, 1.04)	p=0.0159	
	CKD	0.31	(-0.33, 0.95)	p=0.3484	
	Pulmonary	0.14	(-0.20, 0.48)	p=0.4170	
	CVD	0.88	(0.28, 1.49)	p=0.0044	
	Dementia	0.58	(0.34, 0.82)	p<0.0001	
	Depression	0.21	(-0.27, 0.69)	p=0.3923	
	Diabetes	-0.06	(-0.28, 0.16)	p=0.5875	
	Fluid Disorders	0.30	(0.01, 0.58)	p=0.0394	
	Hypertension	-0.26	(-0.45, -0.07)	p=0.0080	
	Hypothyroidism	0.07	(-0.40, 0.54)	p=0.7631	
	Cancer	1.64	(1.44, 1.84)	p<0.0001	
	MI	-0.17	(-0.44, 0.10)	p=0.2172	
	Osteoporosis	0.11	(-0.24, 0.46)	p=0.5382	
	PVD	-0.20	(-0.61, 0.21)	p=0.3445	
	Renal	-0.36	(-0.98, 0.26)	p=0.2580	

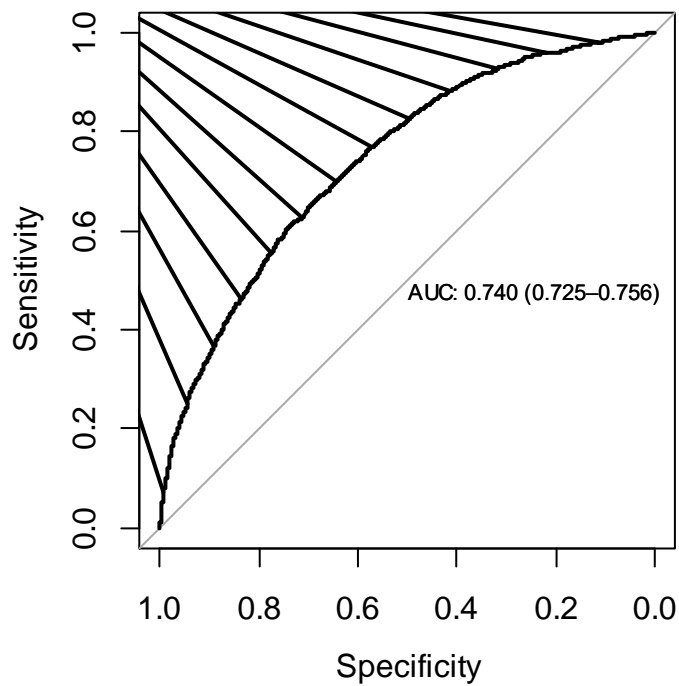
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation; AF – Atrial Fibrillation; AKI – Acute Kidney Injury; HF – Heart Failure; CKD – Chronic Kidney Disease; CVD – Cardiovascular Disease; MI – Myocardial Infarction; PVD – Peripheral Vascular Disease.

Table 2.2: Base Model + Recent Medical History (all predictors). Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

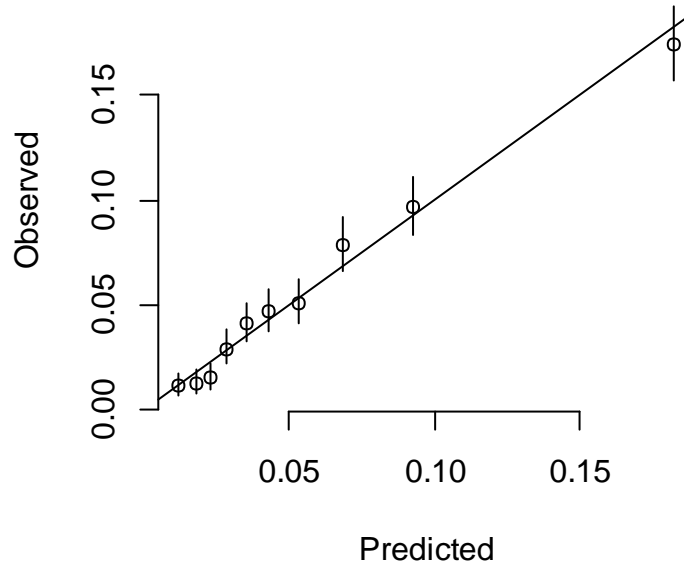
Table 3.1: Base Model + Recent Medical History (best predictors, according to AIC). Model chosen by forward selection. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.35	(0.28, 0.42)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.35	(0.22, 0.48)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.08	(-0.26, 0.10)	p=0.3832	p=0.5635
	Q3 vs. Q1	-0.05	(-0.26, 0.16)	p=0.6159	
	Q4 vs. Q1	-0.17	(-0.41, 0.07)	p=0.1608	
	Q5 vs. Q1	0.05	(-0.19, 0.28)	p=0.7122	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-44.55	(-57.05, -32.05)	p<0.0001	p<0.0001
	Quadratic	27.73	(16.55, 38.91)	p<0.0001	
	Cubic	-11.42	(-20.89, -1.95)	p=0.0182	
Recent (within 90 days) Medical History.					
	Cancer	1.64	(1.43, 1.84)	p<0.0001	p<0.0001
	Dementia	0.57	(0.33, 0.81)	p<0.0001	
	Hypertension	-0.27	(-0.46, -0.08)	p=0.0047	
	Liver	0.58	(0.11, 1.04)	p=0.0153	
	Fluid Disorders	0.31	(0.03, 0.59)	p=0.0316	
	AF	0.18	(-0.01, 0.38)	p=0.0646	
	Angina	-0.31	(-0.63, 0.01)	p=0.0591	
	HF	0.20	(-0.04, 0.44)	p=0.1011	

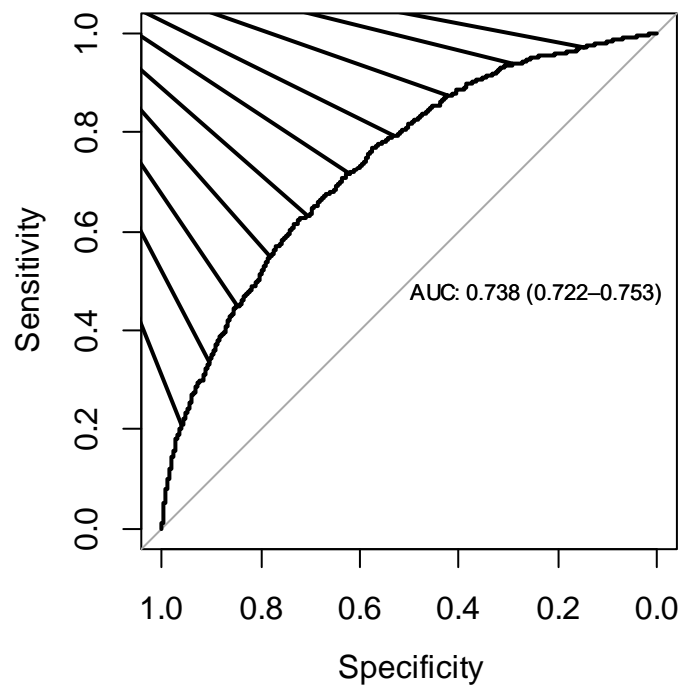
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation; AF – Atrial Fibrillation; HF – Heart Failure.

Table 3.2: Base Model + Recent Medical History (best predictors, according to AIC). Model chosen by forward selection. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

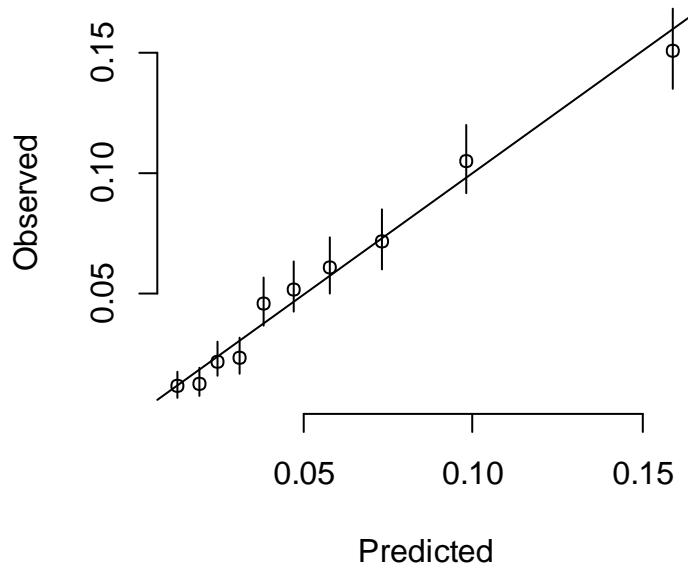
Table 4.1: Base Model + Medications (all predictors). Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.36	(0.29, 0.42)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.48	(0.35, 0.61)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.10	(-0.28, 0.07)	p=0.2539	p=0.5198
	Q3 vs. Q1	-0.06	(-0.27, 0.15)	p=0.5590	
	Q4 vs. Q1	-0.16	(-0.39, 0.08)	p=0.1997	
	Q5 vs. Q1	0.05	(-0.19, 0.29)	p=0.6782	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-48.76	(-61.15, -36.38)	p<0.0001	p<0.0001
	Quadratic	30.32	(19.19, 41.45)	p<0.0001	
	Cubic	-12.63	(-22.03, -3.22)	p=0.0085	
Any inhaled bronchodilator prescription in past 90 days.					
	Yes vs. No	0.01	(-0.14, 0.16)	p=0.8628	p=0.8628
Any inhaled corticosteroid prescription in past 90 days.					
	Yes vs. No	-0.08	(-0.23, 0.07)	p=0.3196	p=0.3194
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.43	(0.15, 0.72)	p=0.0032	p=0.0046
Any diuretic prescription in past 90 days.					
	Yes vs. No	0.32	(-0.17, 0.80)	p=0.2003	p=0.2038
Any anti arrhythmic prescription in past 90 days.					
	Yes vs. No	-0.13	(-0.91, 0.66)	p=0.7478	p=0.7436
Any beta blocker prescription in past 90 days.					
	Yes vs. No	-0.07	(-0.25, 0.11)	p=0.4466	p=0.4443
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.20	(-0.36, -0.05)	p=0.0116	p=0.0110
Any lipid lowering prescription in past 90 days.					
	Yes vs. No	-0.19	(-0.34, -0.05)	p=0.0075	p=0.0074
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.49	(1.00, 1.98)	p<0.0001	p<0.0001
Any thyroid prescription in past 90 days.					
	Yes vs. No	-0.04	(-0.28, 0.20)	p=0.7408	p=0.7397
Any potassium sparing diuretic prescription in past 90 days.					
	Yes vs. No	0.27	(-0.15, 0.69)	p=0.2066	p=0.2172
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.04	(-0.43, 0.51)	p=0.8772	p=0.8772
Any thiazide diuretic prescription in past 90 days.					
	Yes vs. No	-0.37	(-0.86, 0.12)	p=0.1363	p=0.1349

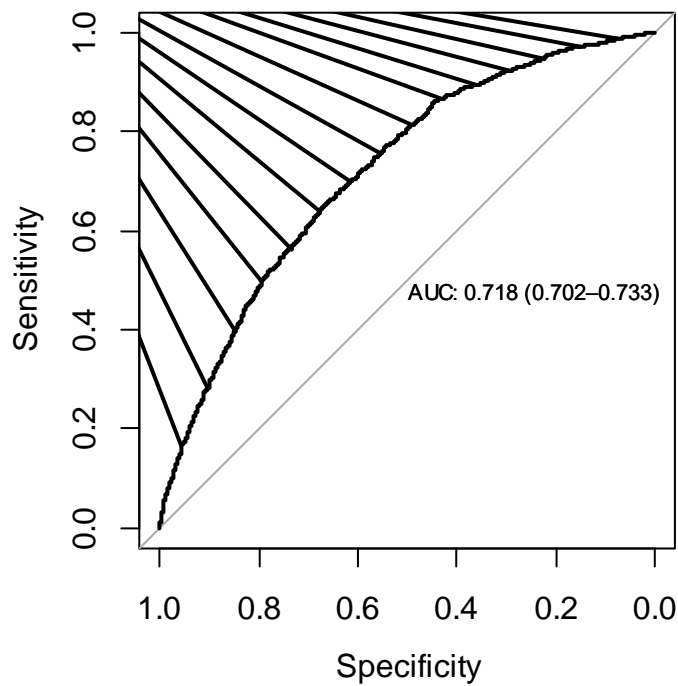
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation.

Table 4.2: Base Model + Medications (all predictors). Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

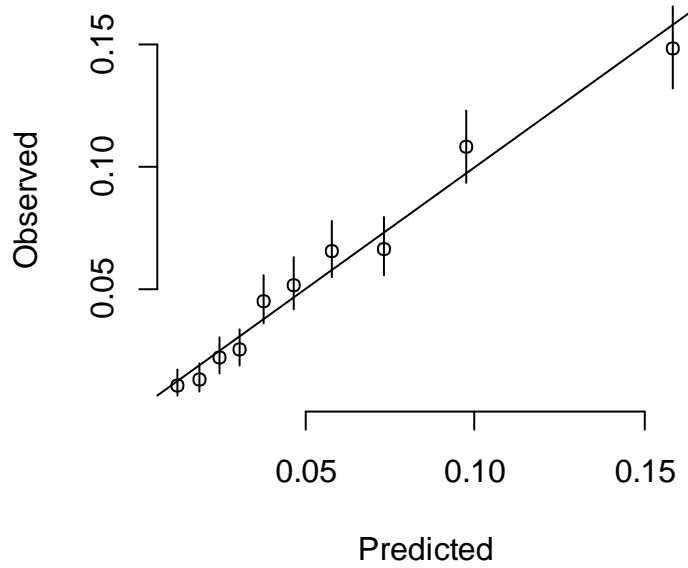
Table 5.1: Base Model + Medications (best predictors, according to AIC). Model chosen by forward selection. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.36	(0.29, 0.42)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.49	(0.35, 0.62)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.11	(-0.29, 0.07)	p=0.2422	p=0.5140
	Q3 vs. Q1	-0.06	(-0.27, 0.15)	p=0.5539	
	Q4 vs. Q1	-0.16	(-0.40, 0.08)	p=0.1930	
	Q5 vs. Q1	0.04	(-0.19, 0.28)	p=0.7100	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-48.86	(-61.24, -36.48)	p<0.0001	p<0.0001
	Quadratic	30.64	(19.52, 41.75)	p<0.0001	
	Cubic	-12.84	(-22.23, -3.46)	p=0.0073	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.48	(0.99, 1.97)	p<0.0001	p<0.0001
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.33	(0.17, 0.49)	p=0.0001	p=0.0001
Any lipid lowering prescription in past 90 days.					
	Yes vs. No	-0.21	(-0.35, -0.07)	p=0.0041	p=0.0040
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.43	(0.14, 0.72)	p=0.0033	p=0.0048
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.22	(-0.37, -0.06)	p=0.0053	p=0.0049
Any potassium sparing diuretic prescription in past 90 days.					
	Yes vs. No	0.35	(-0.05, 0.75)	p=0.0851	p=0.0969

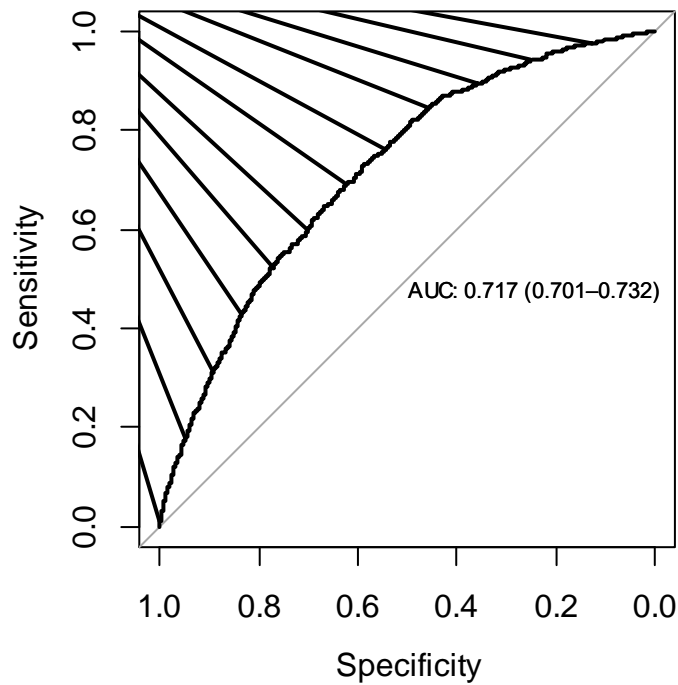
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation.

Table 5.2: Base Model + Medication (best predictors, according to AIC). Model chosen by forward selection. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 6.1: Base Model + Lab Parameters (all predictors). Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.32	(0.24, 0.39)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.42	(0.28, 0.57)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.11	(-0.30, 0.07)	p=0.2364	p=0.4646
	Q3 vs. Q1	-0.06	(-0.28, 0.16)	p=0.6045	
	Q4 vs. Q1	-0.12	(-0.37, 0.13)	p=0.3325	
	Q5 vs. Q1	0.11	(-0.14, 0.36)	p=0.3857	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-10.29	(-24.09, 3.51)	p=0.1439	p<0.0001
	Quadratic	17.43	(5.50, 29.37)	p=0.0042	
	Cubic	-14.42	(-24.39, -4.44)	p=0.0046	
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-3.52	(-14.87, 7.83)	p=0.5431	p=0.0036
	Quadratic	5.89	(-4.50, 16.27)	p=0.2664	
	Cubic	-12.33	(-22.39, -2.28)	p=0.0162	
Most recent Eosinophil measurement. Polynomial in log(x).					
	Linear	-5.15	(-15.40, 5.10)	p=0.3249	p=0.5859
	Quadratic	-4.27	(-13.46, 4.91)	p=0.3618	
	Cubic	2.36	(-5.24, 9.96)	p=0.5427	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-21.71	(-31.91, -11.50)	p<0.0001	p<0.0001
	Quadratic	8.15	(1.66, 14.63)	p=0.0139	
	Cubic	6.56	(0.11, 13.02)	p=0.0464	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	25.76	(15.94, 35.57)	p<0.0001	p<0.0001
	Quadratic	7.52	(0.00, 15.03)	p=0.0499	
	Cubic	-2.28	(-8.32, 3.76)	p=0.4592	
Most recent Albumin measurement. Polynomial.					
	Linear	-69.81	(-85.36, -54.26)	p<0.0001	p<0.0001
	Quadratic	1.97	(-11.04, 14.99)	p=0.7663	
	Cubic	-6.23	(-15.79, 3.34)	p=0.2019	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	34.73	(22.87, 46.58)	p<0.0001	p<0.0001
	Quadratic	2.13	(-5.98, 10.24)	p=0.6066	
	Cubic	4.89	(-4.01, 13.79)	p=0.2819	
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	20.55	(8.70, 32.41)	p=0.0007	p=0.0023
	Quadratic	-5.92	(-16.65, 4.82)	p=0.2798	
	Cubic	-6.27	(-16.26, 3.71)	p=0.2181	
Most recent Potassium measurement. Polynomial.					
	Linear	-0.39	(-9.43, 8.65)	p=0.9325	p=0.2043
	Quadratic	7.69	(-0.06, 15.43)	p=0.0517	
	Cubic	3.36	(-3.90, 10.62)	p=0.3642	
Most recent Sodium measurement. Polynomial.					

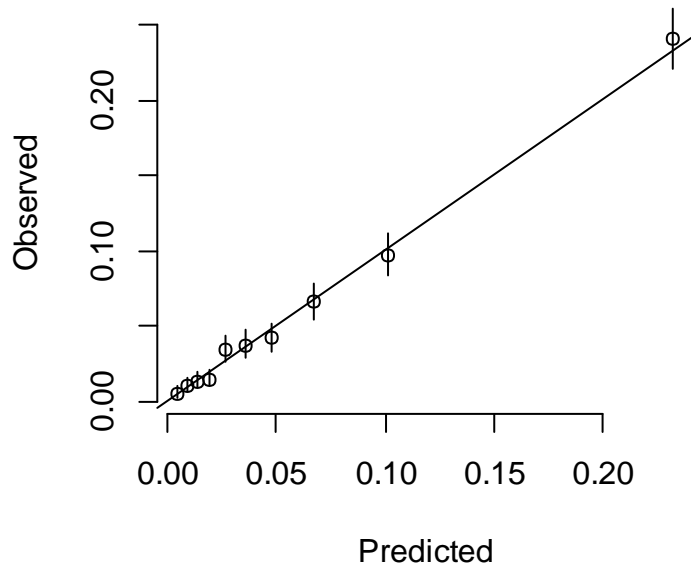
Table 6.1: Base Model + Lab Parameters (all predictors). Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
	Linear	7.06	(-3.47, 17.60)	p=0.1889	
	Quadratic	7.69	(-0.98, 16.36)	p=0.0822	p=0.0010
	Cubic	18.15	(5.02, 31.28)	p=0.0067	
Most recent Chloride measurement. Polynomial.					
	Linear	-28.11	(-38.91, -17.30)	p<0.0001	
	Quadratic	12.34	(4.69, 19.99)	p=0.0016	p<0.0001
	Cubic	3.17	(-5.01, 11.35)	p=0.4477	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	44.75	(31.98, 57.52)	p<0.0001	
	Quadratic	17.33	(8.92, 25.75)	p=0.0001	p<0.0001
	Cubic	-8.44	(-15.17, -1.71)	p=0.0140	

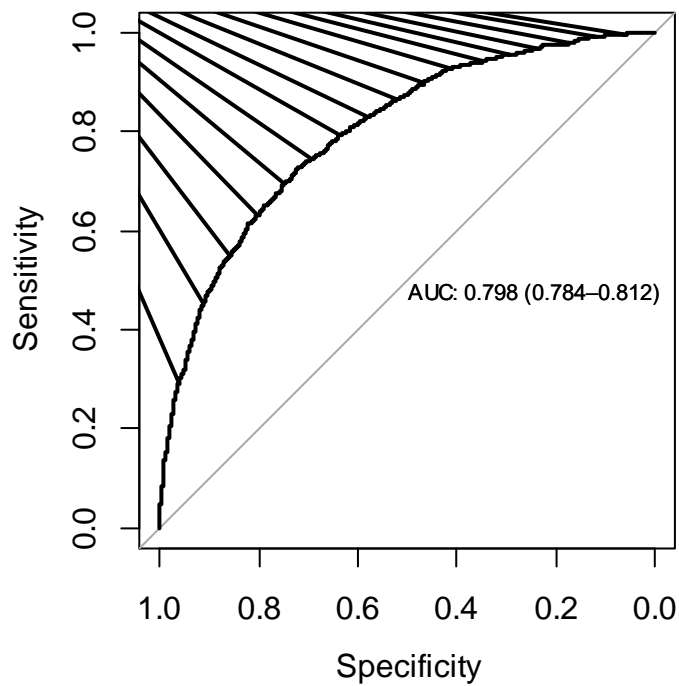
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation; C-rP – C-Reactive Protein.

Table 6.2: Base Model + Lab Parameters (all predictors). Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

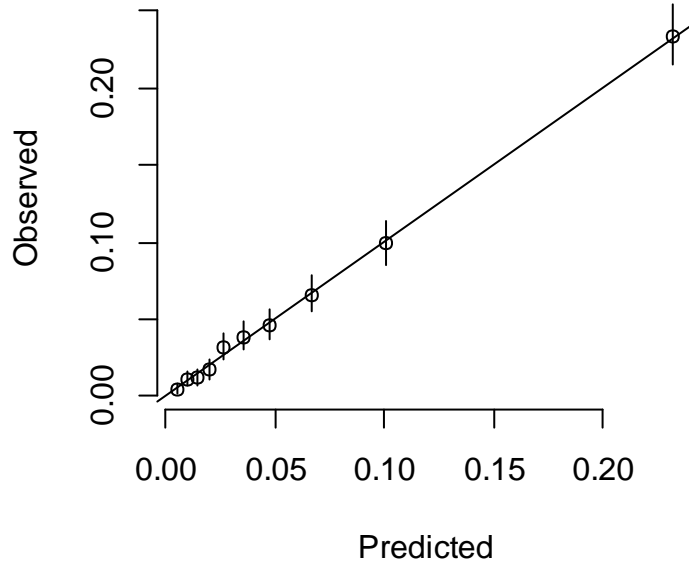
Table 7.1: Base Model + Lab Parameters (best predictors, according to AIC). Model chosen by backward selection. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.32	(0.24, 0.39)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.42	(0.27, 0.56)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.12	(-0.30, 0.07)	p=0.2111	p=0.4599
	Q3 vs. Q1	-0.06	(-0.28, 0.16)	p=0.5948	
	Q4 vs. Q1	-0.13	(-0.37, 0.12)	p=0.3213	
	Q5 vs. Q1	0.10	(-0.15, 0.35)	p=0.4268	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-10.66	(-24.40, 3.08)	p=0.1282	p<0.0001
	Quadratic	16.16	(4.49, 27.83)	p=0.0066	
	Cubic	-13.00	(-22.88, -3.11)	p=0.0100	
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-3.40	(-14.71, 7.91)	p=0.5553	p=0.0025
	Quadratic	5.75	(-4.73, 16.23)	p=0.2821	
	Cubic	-12.92	(-23.08, -2.75)	p=0.0128	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-22.82	(-32.71, -12.93)	p<0.0001	p<0.0001
	Quadratic	8.77	(2.39, 15.16)	p=0.0071	
	Cubic	6.70	(0.26, 13.15)	p=0.0415	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	25.62	(16.08, 35.15)	p<0.0001	p<0.0001
	Quadratic	7.44	(-0.28, 15.15)	p=0.0589	
Most recent Albumin measurement. Polynomial.					
	Linear	-67.26	(-81.61, -52.92)	p<0.0001	p<0.0001
	Quadratic	8.07	(-1.08, 17.22)	p=0.0840	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	37.74	(26.60, 48.87)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	20.50	(8.53, 32.47)	p=0.0008	p=0.0022
	Quadratic	-8.04	(-18.30, 2.21)	p=0.1242	
Most recent Sodium measurement. Polynomial.					
	Linear	7.19	(-2.91, 17.29)	p=0.1630	p<0.0001
	Quadratic	8.25	(-0.39, 16.89)	p=0.0613	
	Cubic	19.35	(6.63, 32.06)	p=0.0029	
Most recent Chloride measurement. Polynomial.					
	Linear	-28.52	(-38.89, -18.16)	p<0.0001	p<0.0001
	Quadratic	12.07	(4.52, 19.63)	p=0.0017	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	46.97	(34.70, 59.23)	p<0.0001	p<0.0001
	Quadratic	18.50	(11.27, 25.73)	p<0.0001	
	Cubic	-8.96	(-15.24, -2.67)	p=0.0052	

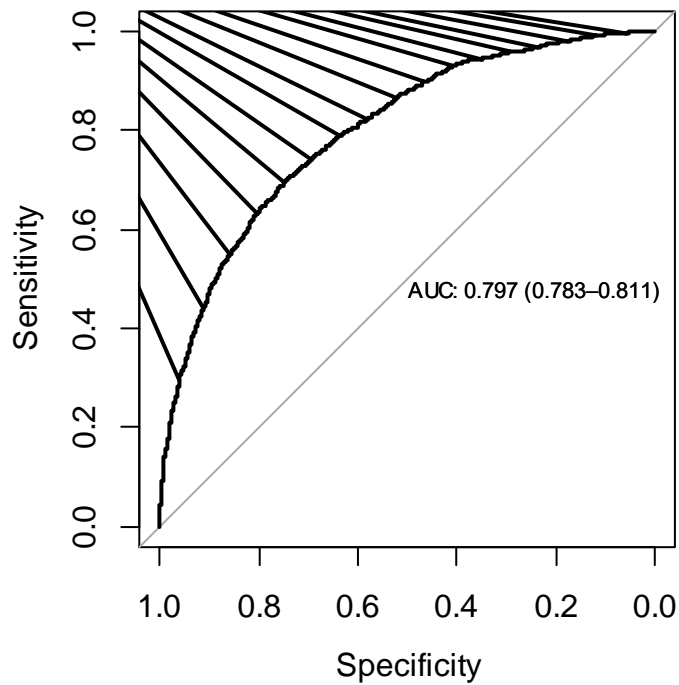
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation; C-rP – C-Reactive Protein.

Table 7.2: Lab Parameters (best predictors, according to AIC). Model chosen by backward selection. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 8.1: Base Model + all predictors from best fitting medical history, medications, and laboratory parameter models. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.30	(0.22, 0.38)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.36	(0.21, 0.51)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.09	(-0.28, 0.10)	p=0.3521	p=0.4033
	Q3 vs. Q1	-0.09	(-0.31, 0.13)	p=0.4157	
	Q4 vs. Q1	-0.17	(-0.42, 0.09)	p=0.1975	
	Q5 vs. Q1	0.11	(-0.14, 0.36)	p=0.3957	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-6.19	(-20.03, 7.65)	p=0.3804	p=0.0004
	Quadratic	14.43	(2.68, 26.19)	p=0.0161	
	Cubic	-12.19	(-22.20, -2.18)	p=0.0170	
Recent (within 90 days) Medical History.					
	Cancer	1.40	(1.18, 1.63)	p<0.0001	p<0.0001
	Dementia	0.76	(0.51, 1.01)	p<0.0001	
	Hypertension	-0.17	(-0.37, 0.03)	p=0.1015	
	Liver	0.33	(-0.19, 0.84)	p=0.2133	
	Fluid Disorders	0.08	(-0.22, 0.39)	p=0.5819	
	AF	0.17	(-0.05, 0.38)	p=0.1306	
	Angina	-0.10	(-0.44, 0.24)	p=0.5572	
	HF	0.06	(-0.21, 0.32)	p=0.6682	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.49	(0.98, 2.01)	p<0.0001	p<0.0001
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.22	(0.05, 0.40)	p=0.0135	p=0.0143
Any lipid lowering prescription in past 90 days.					
	Yes vs. No	-0.08	(-0.23, 0.07)	p=0.2937	p=0.2933
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.41	(0.10, 0.73)	p=0.0106	p=0.0130
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.20	(-0.37, -0.04)	p=0.0174	p=0.0167
Any potassium sparing diuretic prescription in past 90 days.					
	Yes vs. No	0.27	(-0.16, 0.70)	p=0.2161	p=0.2266
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-0.78	(-12.25, 10.69)	p=0.8937	p=0.0035
	Quadratic	6.26	(-4.27, 16.79)	p=0.2439	
	Cubic	-13.59	(-23.93, -3.25)	p=0.0100	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-20.96	(-31.03, -10.88)	p<0.0001	p=0.0002
	Quadratic	4.18	(-2.43, 10.79)	p=0.2153	
	Cubic	5.60	(-1.35, 12.54)	p=0.1142	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	29.62	(19.88, 39.37)	p<0.0001	p<0.0001
	Quadratic	5.03	(-2.90, 12.96)	p=0.2139	

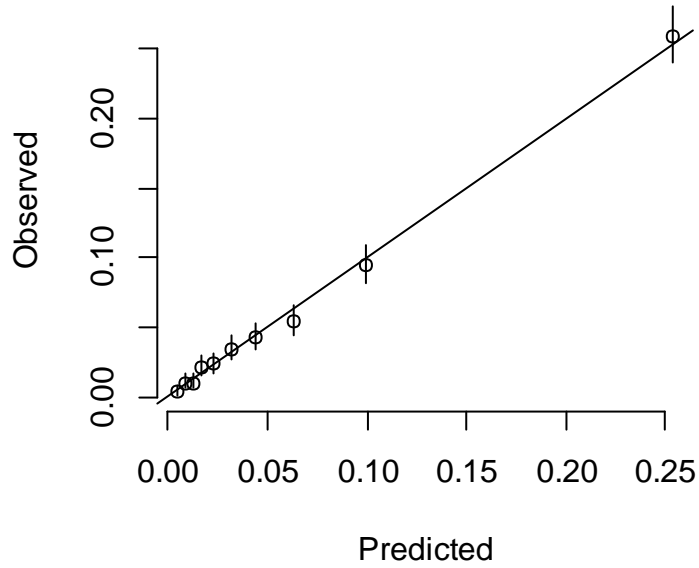
Table 8.1: Base Model + all predictors from best fitting medical history, medications, and laboratory parameter models. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Most recent Albumin measurement. Polynomial.					
	Linear	-64.89	(-79.34, -50.44)	p<0.0001	p<0.0001
	Quadratic	6.55	(-2.73, 15.83)	p=0.1665	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	36.46	(24.95, 47.98)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	17.58	(5.42, 29.73)	p=0.0046	p=0.0113
	Quadratic	-7.85	(-18.25, 2.56)	p=0.1394	
Most recent Sodium measurement. Polynomial.					
	Linear	3.47	(-7.09, 14.02)	p=0.5200	p=0.0002
	Quadratic	7.40	(-1.38, 16.18)	p=0.0988	
	Cubic	19.37	(6.45, 32.29)	p=0.0033	
Most recent Chloride measurement. Polynomial.					
	Linear	-24.79	(-35.56, -14.02)	p<0.0001	p<0.0001
	Quadratic	14.09	(6.44, 21.74)	p=0.0003	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	45.64	(33.14, 58.14)	p<0.0001	p<0.0001
	Quadratic	18.77	(11.37, 26.17)	p<0.0001	
	Cubic	-8.05	(-14.54, -1.55)	p=0.0152	

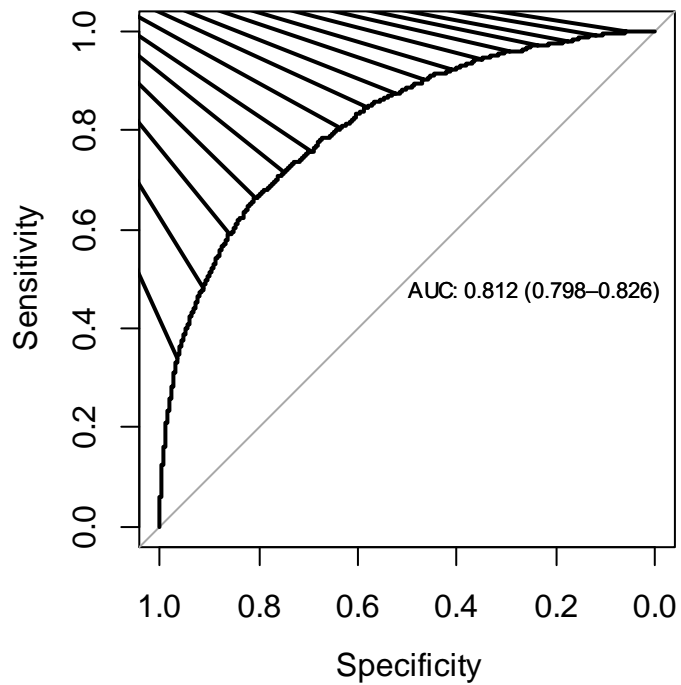
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation; C-rP – C-Reactive Protein.

Table 8.2: Base Model + all predictors from best fitting medical history, medications, and laboratory parameter models. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 9.1: Base Model + Recent Medical History + Medications + Lab Parameters (best predictors, according to AIC). Model chosen by backward selection. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.29	(0.21, 0.37)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.35	(0.21, 0.50)	p<0.0001	p<0.0001
SIMD Quintile (Q1=Most Deprived, Q5=Least Deprived).					
	Q2 vs. Q1	-0.09	(-0.27, 0.10)	p=0.3643	p=0.3961
	Q3 vs. Q1	-0.09	(-0.31, 0.13)	p=0.4362	
	Q4 vs. Q1	-0.16	(-0.41, 0.09)	p=0.2051	
	Q5 vs. Q1	0.12	(-0.13, 0.37)	p=0.3560	
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-6.55	(-20.36, 7.25)	p=0.3521	p=0.0003
	Quadratic	14.61	(2.88, 26.34)	p=0.0147	
	Cubic	-12.23	(-22.22, -2.23)	p=0.0165	
Recent (within 90 days) Medical History.					
	Cancer	1.41	(1.19, 1.64)	p<0.0001	p<0.0001
	Dementia	0.75	(0.50, 1.01)	p<0.0001	
	Hypertension	-0.17	(-0.38, 0.03)	p=0.0885	
	Liver	0.40	(-0.10, 0.91)	p=0.1192	
	AF	0.17	(-0.04, 0.38)	p=0.1189	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.49	(0.98, 2.01)	p<0.0001	p<0.0001
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.23	(0.06, 0.40)	p=0.0084	p=0.0090
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.42	(0.11, 0.74)	p=0.0083	p=0.0104
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.23	(-0.39, -0.07)	p=0.0042	p=0.0039
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-0.67	(-12.12, 10.77)	p=0.9080	p=0.0031
	Quadratic	6.59	(-3.94, 17.12)	p=0.2202	
	Cubic	-13.59	(-23.96, -3.23)	p=0.0102	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-21.51	(-31.56, -11.47)	p<0.0001	p=0.0001
	Quadratic	4.70	(-1.88, 11.27)	p=0.1614	
	Cubic	5.72	(-1.20, 12.64)	p=0.1050	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	30.35	(20.58, 40.12)	p<0.0001	p<0.0001
Most recent Albumin measurement. Polynomial.					
	Linear	-65.07	(-79.53, -50.62)	p<0.0001	p<0.0001
	Quadratic	6.71	(-2.57, 15.99)	p=0.1567	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	36.84	(25.37, 48.32)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					

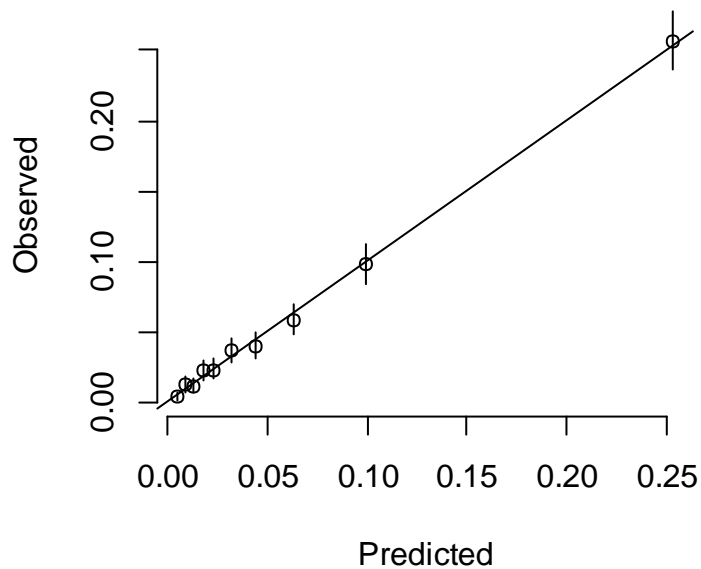
Table 9.1: Base Model + Recent Medical History + Medications + Lab Parameters (best predictors, according to AIC). Model chosen by backward selection. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
	Linear	17.80	(5.68, 29.92)	p=0.0040	p=0.0101
	Quadratic	-7.79	(-18.17, 2.59)	p=0.1414	
Most recent Sodium measurement. Polynomial.					
	Linear	2.81	(-7.64, 13.26)	p=0.5986	p=0.0002
	Quadratic	7.54	(-1.23, 16.31)	p=0.0918	
	Cubic	19.29	(6.37, 32.20)	p=0.0034	
Most recent Chloride measurement. Polynomial.					
	Linear	-25.15	(-35.83, -14.47)	p<0.0001	p<0.0001
	Quadratic	14.26	(6.62, 21.89)	p=0.0003	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	46.42	(33.97, 58.87)	p<0.0001	p<0.0001
	Quadratic	19.13	(11.73, 26.52)	p<0.0001	
	Cubic	-8.30	(-14.82, -1.78)	p=0.0126	

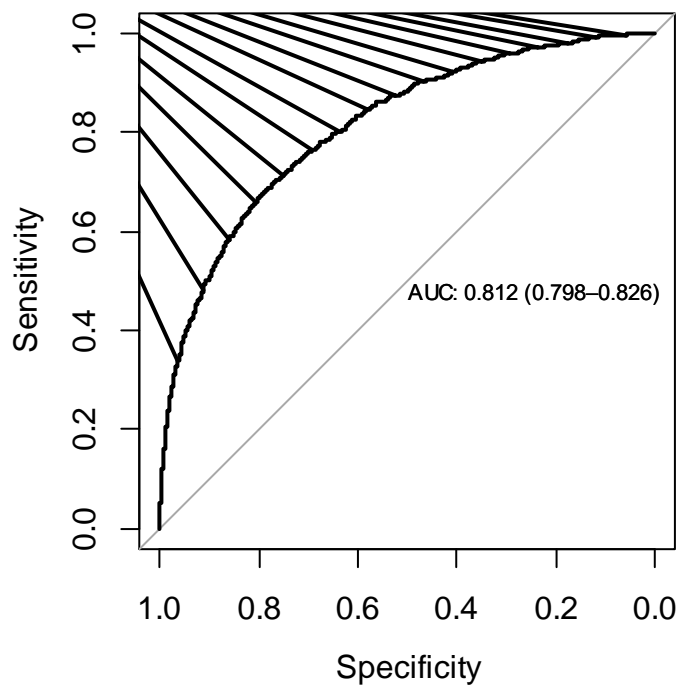
Abbreviations used: SIMD - Scottish Index of Multiple Deprivation; C-rP – C-Reactive Protein.

Table 9.2: Base Model + Recent Medical History + Medications + Lab Parameters (best predictors, according to AIC). Model chosen by backward selection. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 10.1.1: Final Model - Step 1 - dropping SIMD. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.29	(0.21, 0.37)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.35	(0.20, 0.50)	p<0.0001	p<0.0001
Length of hospital stay (days). Polynomial in 1/x.					
	Linear	-6.63	(-20.43, 7.17)	p=0.3463	p=0.0003
	Quadratic	14.68	(2.95, 26.41)	p=0.0142	
	Cubic	-11.94	(-21.93, -1.95)	p=0.0191	
Recent (within 90 days) Medical History.					
	Cancer	1.41	(1.19, 1.64)	p<0.0001	p<0.0001
	Dementia	0.74	(0.49, 0.99)	p<0.0001	
	Hypertension	-0.17	(-0.37, 0.03)	p=0.0943	
	Liver	0.40	(-0.11, 0.90)	p=0.1267	
	AF	0.17	(-0.04, 0.39)	p=0.1098	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.49	(0.97, 2.00)	p<0.0001	p<0.0001
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.23	(0.06, 0.40)	p=0.0093	p=0.0100
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.42	(0.10, 0.73)	p=0.0092	p=0.0114
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.23	(-0.39, -0.07)	p=0.0043	p=0.0039
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-0.77	(-12.21, 10.67)	p=0.8951	p=0.0035
	Quadratic	6.42	(-4.09, 16.93)	p=0.2313	
	Cubic	-13.43	(-23.75, -3.10)	p=0.0108	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-21.58	(-31.61, -11.55)	p<0.0001	p=0.0001
	Quadratic	4.77	(-1.78, 11.33)	p=0.1535	
	Cubic	5.72	(-1.18, 12.63)	p=0.1042	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	30.27	(20.50, 40.03)	p<0.0001	p<0.0001
Most recent Albumin measurement. Polynomial.					
	Linear	-64.94	(-79.38, -50.51)	p<0.0001	p<0.0001
	Quadratic	6.66	(-2.62, 15.93)	p=0.1594	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	37.01	(25.54, 48.48)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	17.83	(5.71, 29.95)	p=0.0039	p=0.0100
	Quadratic	-7.78	(-18.16, 2.59)	p=0.1414	
Most recent Sodium measurement. Polynomial.					
	Linear	2.71	(-7.73, 13.15)	p=0.6107	p=0.0002
	Quadratic	7.73	(-1.03, 16.49)	p=0.0838	
	Cubic	19.26	(6.34, 32.18)	p=0.0035	
Most recent Chloride measurement. Polynomial.					

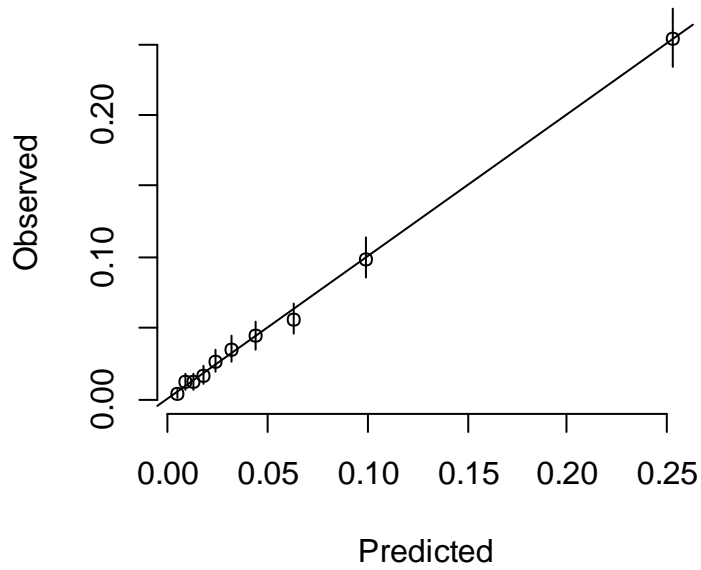
Table 10.1.1: Final Model - Step 1 - dropping SIMD. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
	Linear	-25.03	(-35.71, -14.35)	p<0.0001	p<0.0001
	Quadratic	14.09	(6.45, 21.72)	p=0.0003	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	46.45	(34.01, 58.90)	p<0.0001	p<0.0001
	Quadratic	19.13	(11.74, 26.52)	p<0.0001	
	Cubic	-8.27	(-14.79, -1.75)	p=0.0129	

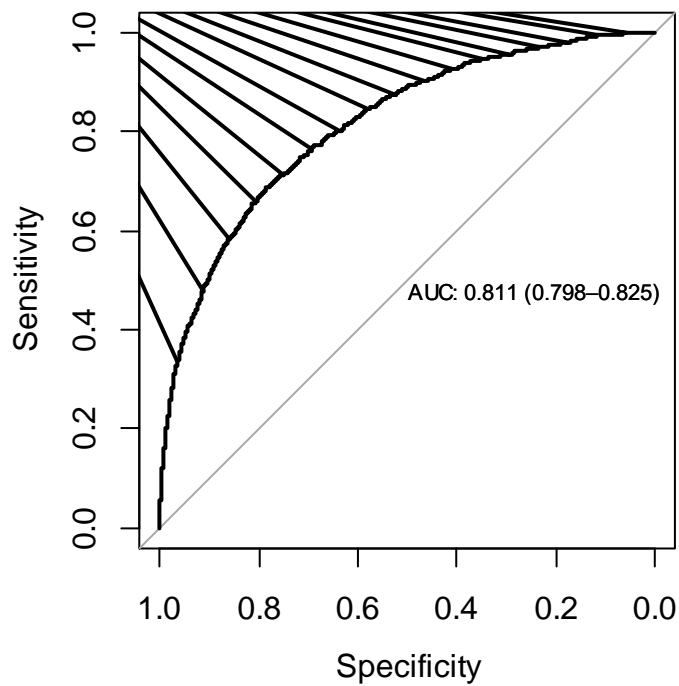
Abbreviations used: AF – Atrial Fibrillation; C-rP – C-Reactive Protein.

Table 10.1.2: Final Model - Step 1 - dropping SIMD. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 10.2.1: Final Model - Step 2 - change to log(los). Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.29	(0.21, 0.37)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.35	(0.20, 0.50)	p<0.0001	p<0.0001
Length of hospital stay (days).					
	Linear in log(x)	0.16	(0.08, 0.23)	p=0.0001	p=0.0001
Recent (within 90 days) Medical History.					
	Cancer	1.41	(1.19, 1.64)	p<0.0001	p<0.0001
	Dementia	0.74	(0.48, 0.99)	p<0.0001	
	Hypertension	-0.17	(-0.38, 0.03)	p=0.0874	
	Liver	0.39	(-0.12, 0.90)	p=0.1323	
	AF	0.17	(-0.04, 0.38)	p=0.1144	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.48	(0.96, 1.99)	p<0.0001	p<0.0001
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.23	(0.05, 0.40)	p=0.0097	p=0.0104
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.41	(0.10, 0.72)	p=0.0101	p=0.0124
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.23	(-0.39, -0.07)	p=0.0040	p=0.0036
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-0.79	(-12.21, 10.64)	p=0.8928	p=0.0024
	Quadratic	6.68	(-3.80, 17.16)	p=0.2113	
	Cubic	-13.77	(-24.06, -3.48)	p=0.0087	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-21.83	(-31.86, -11.80)	p<0.0001	p=0.0001
	Quadratic	4.69	(-1.86, 11.24)	p=0.1607	
	Cubic	5.85	(-1.04, 12.73)	p=0.0959	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	30.14	(20.39, 39.89)	p<0.0001	p<0.0001
Most recent Albumin measurement. Polynomial.					
	Linear	-62.47	(-76.56, -48.39)	p<0.0001	p<0.0001
	Quadratic	7.93	(-1.26, 17.12)	p=0.0909	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	36.55	(25.06, 48.03)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	17.62	(5.54, 29.70)	p=0.0042	p=0.0110
	Quadratic	-7.62	(-17.95, 2.71)	p=0.1480	
Most recent Sodium measurement. Polynomial.					
	Linear	2.29	(-8.15, 12.72)	p=0.6672	p=0.0002
	Quadratic	7.67	(-1.10, 16.44)	p=0.0867	
	Cubic	19.34	(6.38, 32.30)	p=0.0034	
Most recent Chloride measurement. Polynomial.					

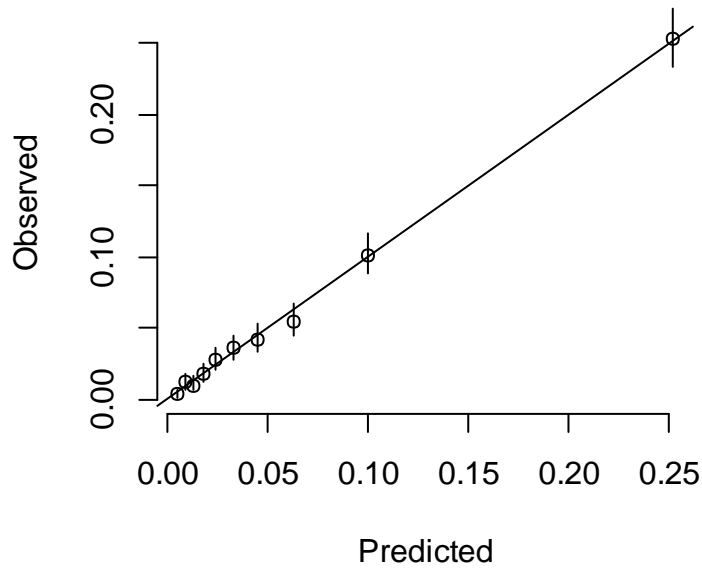
Table 10.2.1: Final Model - Step 2 - change to log(los). Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
	Linear	-25.12	(-35.77, -14.46)	p<0.0001	p<0.0001
	Quadratic	14.08	(6.45, 21.71)	p=0.0003	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	46.01	(33.57, 58.46)	p<0.0001	p<0.0001
	Quadratic	19.21	(11.81, 26.60)	p<0.0001	
	Cubic	-8.19	(-14.71, -1.66)	p=0.0139	

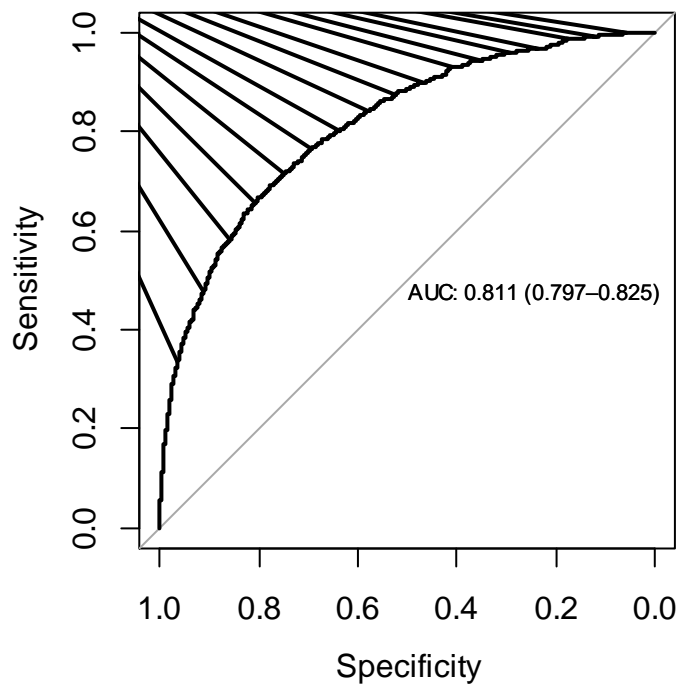
Abbreviations used: AF – Atrial Fibrillation; C-rP – C-Reactive Protein.

Table 10.2.2: Final Model - Step 2 - change to log(los). Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 10.3.1: Final Model - Step 3 - remove least predictive recent medical history. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.28	(0.20, 0.36)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.36	(0.21, 0.51)	p<0.0001	p<0.0001
Length of hospital stay (days).					
	Linear in log(x)	0.16	(0.08, 0.24)	p<0.0001	p=0.0001
Recent (within 90 days) Medical History.					
	Cancer	1.41	(1.18, 1.63)	p<0.0001	p<0.0001
	Dementia	0.72	(0.47, 0.97)	p<0.0001	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.47	(0.95, 1.98)	p<0.0001	p<0.0001
Any loop diuretic prescription in past 90 days.					
	Yes vs. No	0.24	(0.07, 0.41)	p=0.0066	p=0.0072
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.49	(0.19, 0.79)	p=0.0013	p=0.0019
Any hypertension and heart failure prescription in past 90 days.					
	Yes vs. No	-0.25	(-0.41, -0.10)	p=0.0016	p=0.0014
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-0.46	(-11.88, 10.96)	p=0.9370	p=0.0026
	Quadratic	6.32	(-4.20, 16.83)	p=0.2390	
	Cubic	-13.89	(-24.22, -3.56)	p=0.0084	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-22.32	(-32.34, -12.29)	p<0.0001	p<0.0001
	Quadratic	4.80	(-1.76, 11.35)	p=0.1515	
	Cubic	5.77	(-1.11, 12.65)	p=0.1001	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	29.64	(19.90, 39.38)	p<0.0001	p<0.0001
Most recent Albumin measurement. Polynomial.					
	Linear	-63.40	(-77.45, -49.35)	p<0.0001	p<0.0001
	Quadratic	8.21	(-0.98, 17.39)	p=0.0801	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	36.22	(24.76, 47.68)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	17.12	(5.06, 29.19)	p=0.0054	p=0.0127
	Quadratic	-8.06	(-18.39, 2.27)	p=0.1261	
Most recent Sodium measurement. Polynomial.					
	Linear	2.07	(-8.32, 12.46)	p=0.6967	p=0.0002
	Quadratic	7.61	(-1.15, 16.38)	p=0.0887	
	Cubic	18.98	(6.06, 31.91)	p=0.0040	
Most recent Chloride measurement. Polynomial.					
	Linear	-25.05	(-35.67, -14.43)	p<0.0001	p<0.0001
	Quadratic	14.07	(6.43, 21.71)	p=0.0003	
Most recent Urea measurement. Polynomial in log(x).					

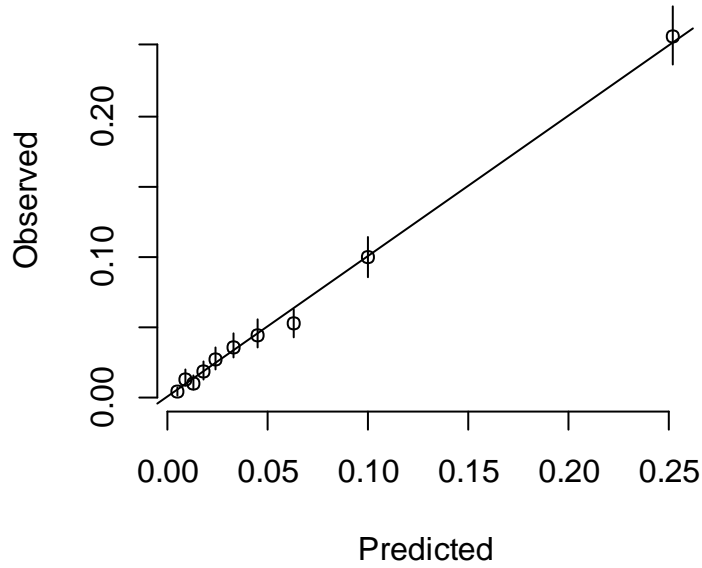
Table 10.3.1: Final Model - Step 3 - remove least predictive recent medical history. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
	Linear	45.70	(33.26, 58.15)	p<0.0001	
	Quadratic	19.41	(12.02, 26.80)	p<0.0001	p<0.0001
	Cubic	-8.44	(-14.94, -1.94)	p=0.0109	

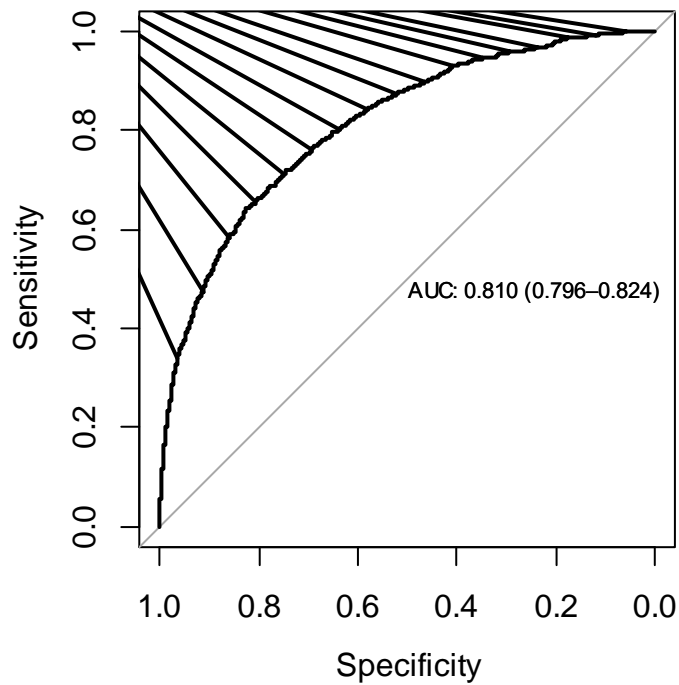
Abbreviations used: C-rP – C-Reactive Protein.

Table 10.3.2: Final Model - Step 3 - remove least predictive recent medical history. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

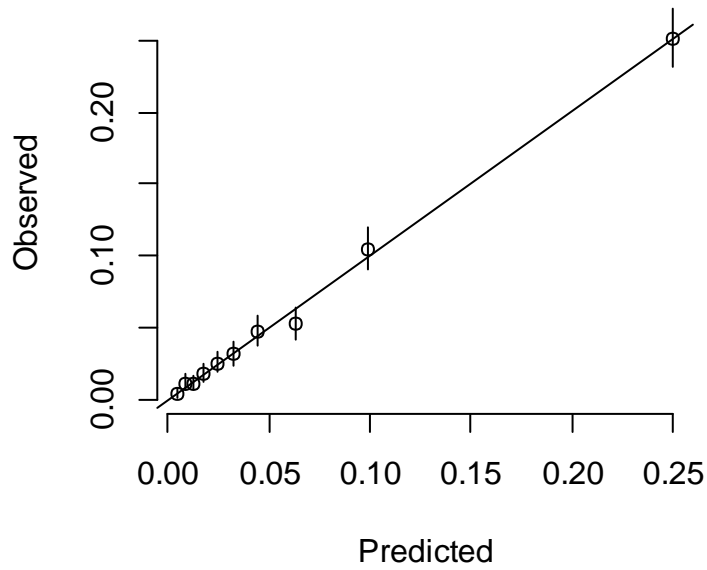
Table 10.4.1: Final Model - Step 4 - remove least predictive medications. Estimated coefficients.

Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.28	(0.21, 0.36)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.34	(0.20, 0.49)	p<0.0001	p<0.0001
Length of hospital stay (days).					
	Linear in log(x)	0.16	(0.09, 0.24)	p<0.0001	p<0.0001
Recent (within 90 days) Medical History.					
	Cancer	1.42	(1.19, 1.64)	p<0.0001	p<0.0001
	Dementia	0.75	(0.50, 0.99)	p<0.0001	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.51	(1.00, 2.02)	p<0.0001	p<0.0001
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.55	(0.25, 0.84)	p=0.0003	p=0.0005
Most recent Haemoglobin measurement. Polynomial.					
	Linear	-0.34	(-11.74, 11.05)	p=0.9532	p=0.0027
	Quadratic	6.52	(-3.93, 16.96)	p=0.2213	
	Cubic	-13.71	(-23.94, -3.47)	p=0.0087	
Most recent Lymphocyte measurement. Polynomial in log(x).					
	Linear	-22.39	(-32.42, -12.36)	p<0.0001	p<0.0001
	Quadratic	4.51	(-2.06, 11.08)	p=0.1783	
	Cubic	6.10	(-0.78, 12.97)	p=0.0823	
Most recent Neutrophil measurement. Polynomial in log(x).					
	Linear	28.82	(19.08, 38.56)	p<0.0001	p<0.0001
Most recent Albumin measurement. Polynomial.					
	Linear	-63.94	(-78.00, -49.89)	p<0.0001	p<0.0001
	Quadratic	8.25	(-0.93, 17.43)	p=0.0783	
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	36.34	(24.98, 47.70)	p<0.0001	p<0.0001
Most recent C-rP measurement. Polynomial in log(x).					
	Linear	17.84	(5.78, 29.90)	p=0.0037	p=0.0081
	Quadratic	-8.70	(-19.01, 1.61)	p=0.0981	
Most recent Sodium measurement. Polynomial.					
	Linear	4.88	(-5.40, 15.15)	p=0.3521	p=0.0002
	Quadratic	7.35	(-1.40, 16.10)	p=0.0998	
	Cubic	18.78	(5.86, 31.69)	p=0.0044	
Most recent Chloride measurement. Polynomial.					
	Linear	-27.63	(-38.12, -17.14)	p<0.0001	p<0.0001
	Quadratic	14.32	(6.69, 21.95)	p=0.0002	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	45.34	(32.93, 57.74)	p<0.0001	p<0.0001
	Quadratic	19.67	(12.26, 27.08)	p<0.0001	
	Cubic	-8.05	(-14.59, -1.52)	p=0.0157	

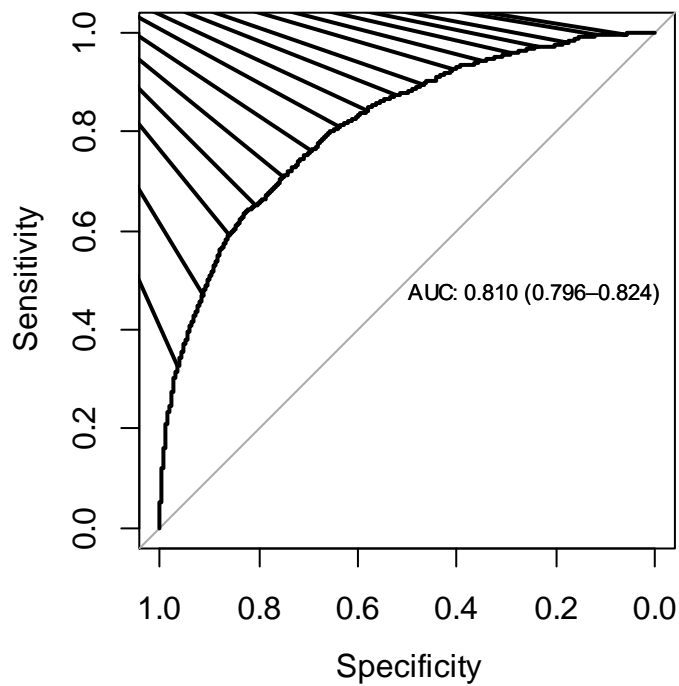
Abbreviations used: C-rP – C-Reactive Protein.

Table 10.4.2: Final Model - Step 4 - remove least predictive medications. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



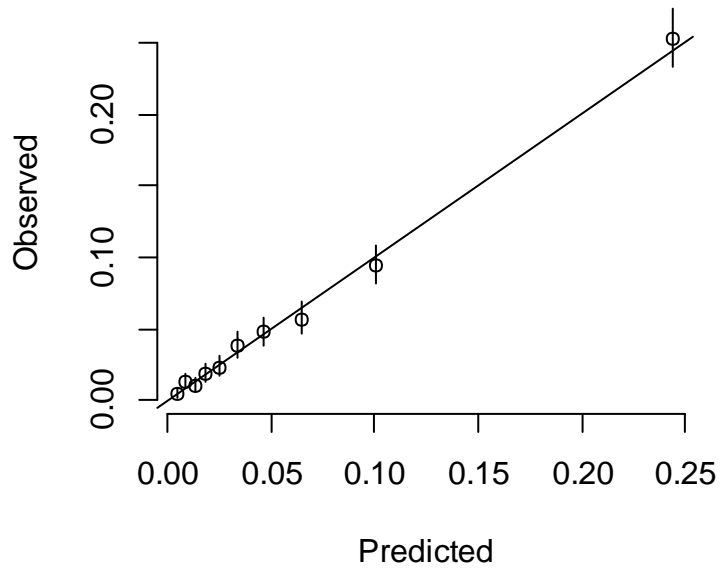
Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.

Table 10.5.1: Final Model - Step 5 - remove least predictive lab results. Estimated coefficients.

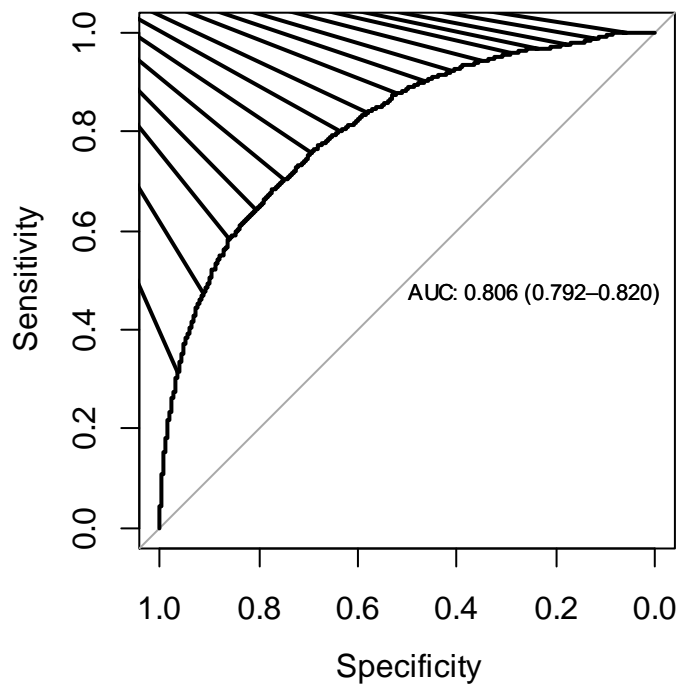
Predictor	Term	Estimate	95% CI	p-value	LR Test p-value
Age (years). Polynomial.					
	per 10 years	0.27	(0.19, 0.34)	p<0.0001	p<0.0001
Sex.					
	Male vs. Female	0.36	(0.22, 0.51)	p<0.0001	p<0.0001
Length of hospital stay (days).					
	Linear in log(x)	0.15	(0.08, 0.22)	p=0.0001	p=0.0001
Recent (within 90 days) Medical History.					
	Cancer	1.45	(1.23, 1.66)	p<0.0001	p<0.0001
	Dementia	0.76	(0.52, 1.01)	p<0.0001	
Any oxygen prescription in past 90 days.					
	Yes vs. No	1.57	(1.06, 2.08)	p<0.0001	p<0.0001
Any positive inotropic prescription in past 90 days.					
	Yes vs. No	0.54	(0.25, 0.84)	p=0.0003	p=0.0005
Most recent log Neutrophil/Lymphocyte ratio.					
	per unit	0.38	(0.28, 0.48)	p<0.0001	p<0.0001
Most recent Albumin measurement.					
	per g/l	-0.12	(-0.13, -0.10)	p<0.0001	p<0.0001
Most recent Creatinine measurement. Polynomial in 1/x.					
	Linear	34.56	(23.45, 45.67)	p<0.0001	p<0.0001
Most recent Chloride measurement. Polynomial.					
	Linear	-24.14	(-32.27, -16.00)	p<0.0001	p<0.0001
	Quadratic	17.00	(10.75, 23.24)	p<0.0001	
Most recent Urea measurement. Polynomial in log(x).					
	Linear	43.55	(31.77, 55.33)	p<0.0001	p<0.0001
	Quadratic	18.62	(11.32, 25.91)	p<0.0001	

Table 10.5.2: Final Model - Step 5 - remove least predictive lab results. Calibration and discrimination.

Calibration. Observed events by decile of predicted risk.



Discrimination. ROC curve.



Abbreviations used: ROC - receiver operating characteristic – ROC; AUC – Area Under the Curve.