Web table 2 Performance of each algorithm in the validation cohort in men and women with complete data

	statistic	**Women**	**Men**
blood cancer	D statistic	1.54 (1.47 to 1.61)	1.63 (1.56 to 1.69)
	R^2 (%)	36.198 (34.089 to 38.308)	38.671 (36.872 to 40.469)
	ROC	0.798 (0.789 to 0.808)	0.79 (0.782 to 0.799)
breast cancer	D statistic	1.03 (0.99 to 1.06)	n/a
	R^2 (%)	20.123 (18.982 to 21.264)	n/a
	ROC	0.747 (0.742 to 0.752)	n/a
Bowel cancer	D statistic	1.90 (1.84 to 1.96)	2.01 (1.95 to 2.07)
	R^2 (%)	46.331 (44.79 to 47.872)	49.091 (47.695 to 50.487)
	ROC	0.841 (0.835 to 0.847)	0.851 (0.845 to 0.856)
gastro-oesophageal cancer	D statistic	2.16 (2.05 to 2.28)	2.12 (2.04 to 2.2)
	R^2 (%)	52.802 (50.138 to 55.466)	51.711 (49.857 to 53.564)
	ROC	0.863 (0.851 to 0.874)	0.856 (0.849 to 0.864)
lung cancer	D statistic	2.65 (2.59 to 2.71)	2.67 (2.62 to 2.73)
	R^2 (%)	62.643 (61.544 to 63.741)	63.044 (62.098 to 63.991)
	ROC	0.9 (0.894 to 0.906)	0.901 (0.897 to 0.905)
oral cancer	D statistic	1.8 (1.64 to 1.97)	1.66 (1.52 to 1.79)
	R^2 (%)	43.737 (39.349 to 48.124)	39.602 (35.734 to 43.471)
	ROC	0.794 (0.772 to 0.815)	0.783 (0.763 to 0.802)
ovarian cancer	D statistic	1.27 (1.18 to 1.35)	n/a
	R^2 (%)	27.649 (24.948 to 30.35)	n/a
	ROC	0.764 (0.753 to 0.776)	n/a
pancreas cancer	D statistic	2.2 (2.1 to 2.3)	2.14 (2.02 to 2.26)
	R^2 (%)	53.275 (50.441 to 56.11)	52.182 (49.404 to 54.96)
	ROC	0.865 (0.854 to 0.876)	0.851 (0.839 to 0.863)
prostate cancer	D statistic	n/a	2.12 (2.08 to 2.15)
	R^2 (%)	n/a	51.664 (50.768 to 52.561)
	ROC	n/a	0.794 (0.772 to 0.815)
renal cancer	D statistic	1.93 (1.83 to 2.02)	2.12 (2.06 to 2.18)
	R^2 (%)	46.955 (44.602 to 49.308)	51.722 (50.316 to 53.127)
	ROC	0.849 (0.84 to 0.858)	0.856 (0.85 to 0.861)
uterine cancer	D statistic	1.67 (1.59 to 1.76)	n/a
	R^2 (%)	40.106 (37.553 to 42.658)	n/a
	ROC	0.818 (0.808 to 0.828)	n/a

Notes on understanding validation statistics:

Discrimination is the ability of the risk prediction model to differentiate between patients who experience a admission event during the study and those who do not. This measure is quantified by calculating the area under the receiver operating characteristic curve (ROC) statistic; where a value of 1 represents perfect discrimination. The D statistic is also a measure of discrimination which is specific to censored survival data. As with the ROC, higher values indicate better discrimination.

R^2 measures explained variation and higher values indicate more variation is explained.