

Supplementary Tables

		True Status		Total
		Non-cirrhotic	Cirrhotic	
Cirrhosis Algorithm	Negative for Cirrhosis	96	26	122
	Positive for Cirrhosis	2	165	167
	Total	98	191	289

Supplementary Table 1. 2 x2 Contingency table for cirrhosis identification by optimised algorithm version 4 with three years of follow-up.

Time after HCC Diagnosis / days	Algorithm A Variceal bleeding codes				Algorithm B Variceal bleeding codes or treatment codes				Algorithm C Variceal bleeding codes or treatment codes + UGIB			
	Sens	95% CI	Spec	95% CI	Sens	95% CI	Spec	95% CI	Sens	95% CI	Spec	95% CI
0	0.74	0.69-0.79	0.98	0.97-1.00	0.78	0.73-0.83	0.96	0.94-0.98	0.76	0.71-0.81	0.98	0.96-1.00
30	0.76	0.71-0.81	0.99	0.97-1.00	0.80	0.75-0.85	0.82	0.78-0.86	0.78	0.73-0.83	0.98	0.96-1.00
60	0.78	0.73-0.83	0.99	0.97-1.00	0.82	0.76-0.86	0.96	0.94-0.98	0.80	0.75-0.85	0.98	0.96-1.00
90	0.78	0.73-0.83	0.98	0.96-1.00	0.82	0.76-0.86	0.95	0.93-0.98	0.80	0.75-0.85	0.97	0.95-0.99
120	0.78	0.73-0.83	0.98	0.96-1.00	0.82	0.76-0.86	0.95	0.93-0.98	0.80	0.75-0.85	0.97	0.95-0.99

Supplementary Table 2. Performance of different versions of the Baveno stage algorithm for predicting decompensation. Sens = sensitivity, spec = specificity, UGIB = Upper gastrointestinal bleeding.

Clinical Condition	Algorithm A Variceal bleeding codes					Algorithm B Variceal bleeding codes or treatment codes					Algorithm C Variceal bleeding codes or treatment codes + UGIB				
	Sens	95% CI	Spec	95% CI	PPV	Sens	95% CI	Spec	95% CI	PPV (%)	Sens	95% CI	Spec	95% CI	PPV
Varices	0.76	0.71- 0.81	1.00	0.99- 1.00	92	0.62	0.56- 0.67	1.00	0.99- 1.00	90	0.76	0.71- 0.81	1.00	0.99- 1.00	96
Bleeding Varices	0.31	0.25- 0.36	1.00	1.00- 1.00	80	0.92	0.89- 0.95	0.96	0.94- 0.99	54	0.62	0.56- 0.67	0.99	0.97- 1.00	67

Supplementary Table 3. Performance of different versions of the Baveno stage algorithm at 60 days post-HCC diagnosis for detecting varices and bleeding varices. Sens = sensitivity, spec = specificity, CI = confidence interval, PPV = positive predictive value.

Clinical Condition	Ascites detection using Algorithm C (ICD10 codes and OPCS4 codes)					Ascites detection using ICD10 code R18.X only				
	Sens	95% CI	Spec	95% CI	PPV (%)	Sens	95% CI	Spec	95% CI	PPV (%)
Ascites	0.73	0.68- 0.78	0.98	0.96- 0.99	73	0.57	0.51- 0.62	0.98	0.97- 1.00	84

Supplementary Table 4. Performance of ICD10 code R18.X for detection of ascites compared with the optimised algorithm C which includes additional OPCS4 codes for paracentesis (T46.1 and T46.2). Sens = sensitivity, spec = specificity, CI = confidence interval, PPV = positive predictive value.