

**Supplementary Table 1.** Sensitivities and specificities of the profile using different cut-offs of profile scores to predict OUD.

profile score $\geq$	Sensitivity	Specificity	profile score $\geq$	Sensitivity	Specificity
4	100.00%	0.08%	24	65.49%	88.44%
5	100.00%	0.40%	25	63.72%	91.59%
6	100.00%	0.49%	26	56.42%	94.18%
7	99.56%	0.89%	27	48.89%	95.55%
8	99.12%	2.75%	28	44.47%	96.36%
9	98.45%	6.87%	29	40.04%	96.77%
10	96.02%	12.29%	30	35.18%	97.25%
11	93.58%	20.13%	31	29.65%	97.74%
12	91.81%	26.68%	32	25.22%	97.90%
13	91.15%	35.49%	33	22.12%	98.30%
14	89.82%	42.93%	34	19.47%	98.71%
15	88.27%	51.17%	35	15.27%	98.87%
16	87.17%	57.80%	36	11.50%	99.11%
17	85.84%	63.95%	37	8.85%	99.35%
18	83.19%	68.63%	38	6.64%	99.68%
19	80.31%	73.40%	39	5.09%	99.68%
20	77.21%	77.77%	40	3.10%	99.84%
21	73.67%	80.36%	41	1.55%	99.92%
22	71.46%	82.30%	42	0.88%	99.92%
23	67.92%	85.37%			