

Supplementary Figure 1. (A) ROC plot for the prediction of low vitamin B12 values (<156 pmol/L) in the validation population of the Jeroen Bosch Hospital (Siemens), with an area under the curve of 0.52. (B) ROC plot for the prediction of low folic acid values (<6.0 nmol/L) in the validation population of the Jeroen Bosch Hospital (Siemens), with an area under the curve of 0.57. (C) Precision-recall curve for the validation population of the JBH-S algorithm. (D) Precision-recall curve for the validation population of the Medlon-R algorithm.

Supplementary Table 1. The sensitivity and specificity for each cut-off value of the algorithm, as an arbitrary machine learning value from 0 to 1.

|  |
| --- |
| **Siemens ML algorithm** |
| **Cut-off value (arbitrary unit)** | **Sensitivity** | **Specificity** |
| ≤0.0≤0.1 \*≤0.2 | 100%94%88% | 10%67%82% |
| ≥0.30≥0.40≥0.50 \*≥0.60≥0.70≥0.80≥0.90 | 81%77%69%63%53%38%23% | 88%92%95%97%98%99%100% |
| **Roche ML algorithm** |
| **Cut-off value (arbitrary unit)** | **Sensitivity** | **Specificity** |
| ≤0.0≤0.05 \*≤0.1 | 99%93%87% | 30%64%76% |
| ≥0.30≥0.40 \*≥0.50≥0.60≥0.70≥0.80≥0.90 | 70%59%49%39%28%18%7% | 91%95%97%98%99%99%100% |

\* The cut-off values as chosen in this study.