**Supplemental Table 1.**

Sensitivities and specificities of the different algorithms tested against known and novel patient cohorts. The “original cohort” refers to the published cohort for the years 1999-2007 at PCMC (Bonkowsky et al., 2010); the “PHIS validation cohort” refers to the years 2008-2010 extracted using the PHIS database and manually confirmed at PCMC; “Stanford” refers to the patient cohort at Stanford University. NPV, negative predictive value; PPV, positive predictive value. \*NPV and PPV could not be determined.

**Algorithm Cohort Sensitivity Specificity NPV PPV**

3-code Original 84 83 61 94

 PHIS 36 99 \* \*

6-code Original 90 85 66 96

 PHIS 63 99 \* \*

7-code Original 90 92 84 95

 PHIS 71 99 \* \*

 Stanford 61 53 13 92