**Appendix 2. Equations for calculating the predicted probability of hidradenitis suppurativa using the full and simplified diagnosis prediction models**

**Full Model\*:**

$$\hat{p}\_{full}=\frac{exp\left(LP\_{full}\right)}{1+exp\left(LP\_{full}\right)}$$

where

$$LP\_{full}=-3.18+0.75\*Female+0.27\*Afr. Amer. -0.04\*Other race+0.07\*Age-0.001\*\left(Age^{2}\right)+0.05\*BMI+0.72\*PCOS-0.43\*T2DM+1.21\*Acne+0.12\*Depression -0.61\*SUD+0.25\*OSA-0.38\*MI+0.52\*UC+1.66\*DS+0.44\*Spondyloarthritis-0.25\*Liver-0.25\*Smoker-0.26\* Opioid1to6-0.001\*Opioid7orMore$$

and covariates other than age and BMI take the value 1 when present and 0 when absent.

\*For unrounded model intercept and coefficients, see Supplementary Table 2 on page 4.

**Simplified Model\*:**

$$\hat{p}\_{simplified}=\frac{exp\left(LP\_{simplified}\right)}{1+exp\left(LP\_{simplified}\right)}$$

where

$$LP\_{simplified}=-3.26+0.77\*Female+0.25\*Afr. Amer. -0.04\*Other race+0.07\*Age-0.001\*\left(Age^{2}\right)+0.05\*BMI-0.42\*T2DM+1.24\*Acne-0.59\*SUD+1.68\*DS-0.25\*Smoker-0.24\*Opioid1to6+0.05\*Opioid7orMore$$

and covariates other than age and BMI take the value 1 when present and 0 when absent.

\*For unrounded model intercept and coefficients, see Supplementary Table 2 on page 4.