APPENDIX

Estimation of Sensitivity

As a secondary approach, we attempted to calculate a crude estimate of sensitivity using study data using the following formula: TP/TP+FN, where TP = true positives and FN = false-negatives. We made this calculation assuming that the 3,975 new antihistamine users who did not meet the computer definition of antidepressant new user was adequately representative of the broader population of antidepressant non-users, and that the false-negative rate for the algorithm requiring no antidepressant use in the 6 months preceding the index date (0.015) in the random sample of 200 antihistamine users applied equally to the 3,975 from which this random sample was drawn.

Using the estimated positive predictive value (PPV) of 0.813, we estimated the number of true positives (TP) as the number of cases in the catchment meeting the computer case definition (n = 9,773) multiplied by its PPV (.813) rounded to the nearest whole number, or 7,946. We estimated the number of false-negatives (FN) as the total number cases in the population from which our antihistamine user sample was drawn at random and who, by definition, did not meet the computer case definition for new antidepressant user (n = 3,975), multiplied by the estimated false-negative rate (0.015), rounded to the nearest whole number, or 61. Sensitivity was estimated by dividing TP by the sum of TP and FN (Sensitivity = TP / [TP + FN]), or 99.2%.