**Supplementary table 4.** Summary of Google Trends searches and Olmsted County healthcare utilization following publication of *“Association of proton pump inhibitors with risk of dementia: A pharmacoepidemiological claims data analysis”* by Gomm W et al. using three different models.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Model #1** **(models change in both a vertical shift and slope at publication)** | **Model #2** **(models change in slope only at publication)** | **Model #3****(models change in vertical shift only at publication)** |
| **Google****PPIa****Searches (RSVb)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept†****Chg Slope‡o** **F-testβ** | **74.84(1.50)****-0.08(0.05)** **2.15(2.09)****-0.10(0.07)**  | **0.09****0.30****0.15****0.20** | **Intercept****Slope Pre-Pub****Chgc Slope** | **74.26(1.40)****-0.05(0.04)****-0.10(0.07)** | **0.18****0.14** | **Intercept****Slope Pre-Pub****Chg Intercept** | **76.21(1.18)****-0.14(0.03)** **2.25(2.10)** | **0.0002****0.28** |
| **PPI****Prescriptions (Olmsted County)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test** | **353.49(9.72)** **-0.09(0.32)****17.79(13.49)** **-0.41(0.44)** | **0.78****0.19****0.36****0.27** | **Intercept****Slope Pre-Pub****Chg Slope** | **348.74(9.06)** **0.17(0.25)** **-0.43(0.45)** | **0.48****0.34** | **Intercept****Slope Pre-Pub****Chg Intercept** | **359.07(7.59)** **-0.30(0.22)****18.20(13.47)** | **0.18****0.18** |
| **Google****H2Blockerd****Searches (RSV)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test β**  | **82.54(1.60)****-0.09(0.05)** **5.10(2.21)** **0.03(0.07)** |  **0.09** **0.02** **0.68** **0.07** | **Intercept****Slope Pre-Pub****Chg Slope** | **81.18(1.52)****-0.01(0.04)** **0.02(0.07)** | **0.73****0.74** | **Intercept****Slope Pre-Pub****Chg Intercept** | **82.12(1.24)****-0.07(0.04)** **5.07(2.21)** |  **0.04** **0.02** |
| **H2Blocker****Prescriptions (Olmsted County)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test** | **65.65(2.97)****-0.03(0.10)****15.41(4.13)****-0.26(0.14)** | **0.73****0.0003****0.06****0.0003** | **Intercept****Slope Pre-Pub****Chg Slope** | **61.54(2.93)** **0.19(0.08)****-0.28(0.14)** | **0.02****0.06** | **Intercept****Slope Pre-Pub****Chg Intercept** | **69.14(2.35)****-0.16(0.07)****15.67(4.18)** | **0.02****0.0003** |
| **Google****GERDe****Searches (RSV)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test** | **77.87(1.49)** **0.13(0.05)** **1.99(2.06)****-0.16(0.07)** | **0.01****0.34****0.02****0.04** | **Intercept****Slope Pre-Pub****Chg Slope** | **77.34(1.38)** **0.16(0.04)****-0.16(0.07)** | **<0.0001** **0.02** | **Intercept****Slope Pre-Pub****Chg Intercept** | **80.05(1.19)** **0.04(0.03)** **2.15(2.11)** | **0.20****0.31** |
| **Reflux****Visits (Olmsted County)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test** | **234.27(6.91)** **-0.48(0.23)** **29.14(9.59)** **0.43(0.32)** | **0.04****0.003****0.18****0.006** | **Intercept****Slope Pre-Pub****Chg Slope** | **226.49(6.67)** **-0.05(0.18)** **0.40(0.33)** | **0.79****0.23** | **Intercept****Slope Pre-Pub****Chg Intercept** | **228.44(5.42)** **-0.26(0.16)** **28.71(9.62)** | **0.10****0.004** |
| **Google** **Dementia****Searches (RSV)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test**  | **22.24(2.25)** **0.10(0.07)** **0.71(3.13)****-0.15(0.10)** |  **0.16** **0.82** **0.15** **0.35**  | **Intercept****Slope Pre-Pub****Chg Slope‡** | **22.05(2.08)** **0.11(0.06)****-0.15(0.10)** | **0.05****0.15** | **Intercept****Slope Pre-Pub****Chg Intercept†** | **24.26(1.77)****0.03(0.05)****0.86(3.14)** | **0.6010****0.79** |
| **Dementia Visits (Olmsted County)** | **Intercept Pre****Slope Pre-Pub****Chg Intercept****Chg Slope** **F-test** | **199.14(6.55)** **-1.57(0.22)** **8.05(9.09)** **1.67(0.30)** | **<0.0001****0.38****<0.0001****<0.0001** | **Intercept****Slope Pre-Pub****Chg Slope** | **197.00(6.08)** **-1.46(0.17)** **1.66(0.30)** | **<0.0001****<0.0001** | **Intercept****Slope Pre-Pub****Chg Intercept** | **176.35(5.82)** **-0.71(0.17)** **6.38(10.34)** | **<0.0001****0.54** |

 aPPI=Proton pump inhibitor; bRSV=Relative search volume; cChg=Change; dH2 blocker=hydrogen 2 blocker; eGERD=Gastroesophageal reflux disease

 †change in intercept from pre-publication to post-publication

 ‡change in slope from pre-publication to post-publication

 βp-value for the 2 degree of freedom F test, for a simultaneous vertical shift and change in slope at publication.