**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.