

Supplemental materials for

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Breaking ICD Codes: Identifying Ambiguous Respiratory Infection Codes via Regional Diagnosis Heterogeneity

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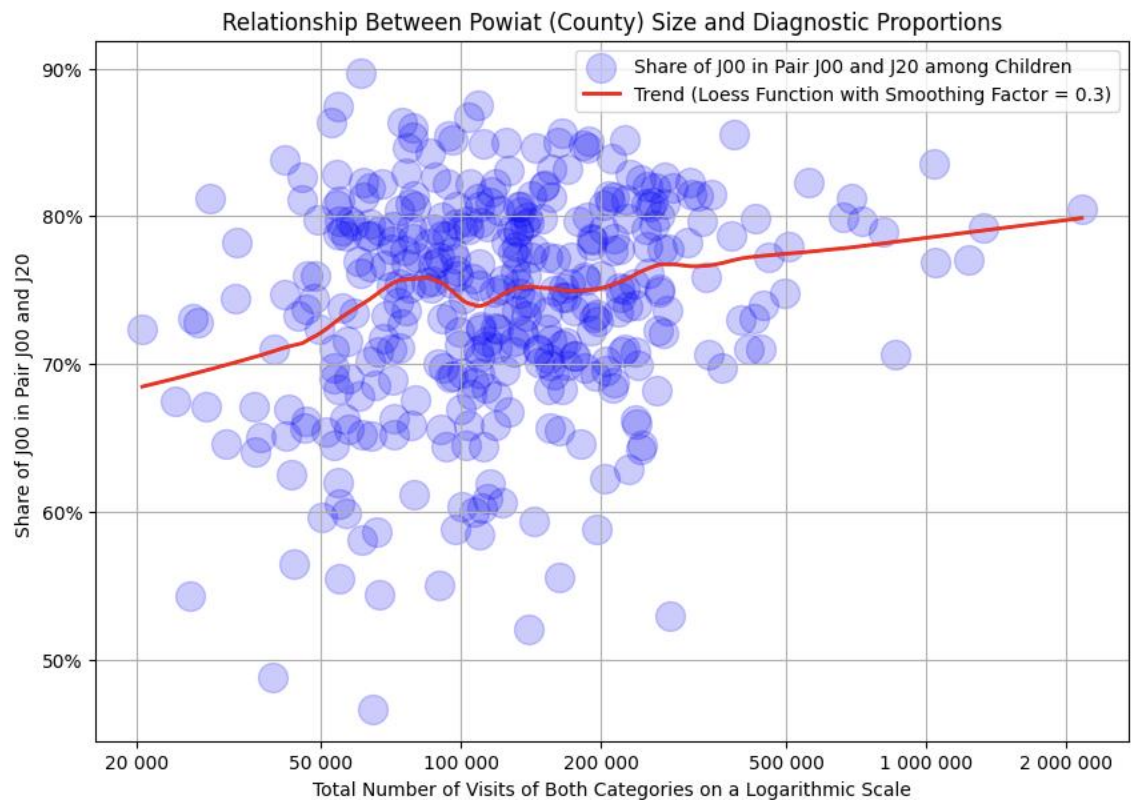
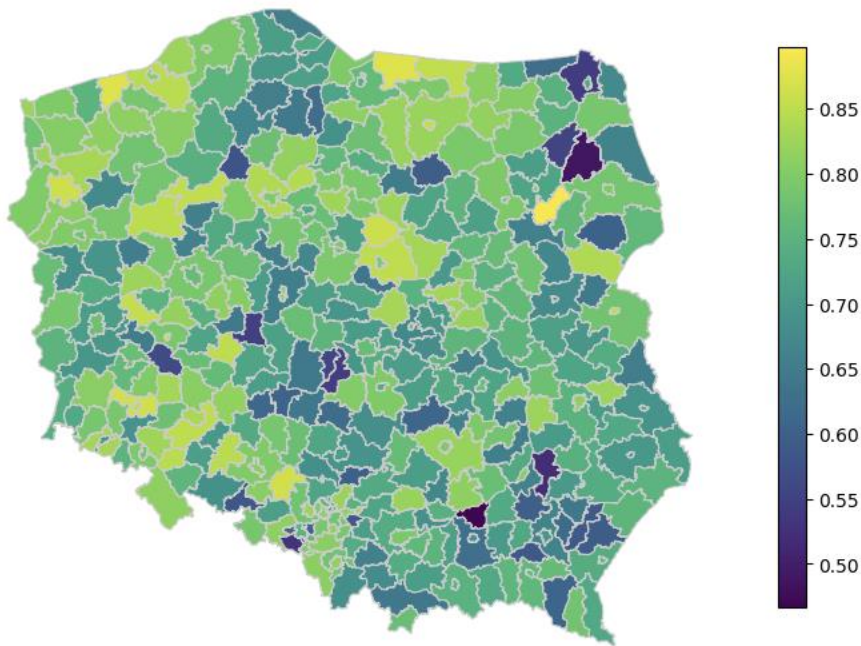
Supplemental Appendix and Supplemental Figures 1-5

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In Supplemental Figures 1 to 5, we plotted the remaining relationships from Figure 2 in the same manner as applied in Figure 3. The general pattern of decreasing variability with increasing county size remained; however, there were some subtle deviations from that trend.

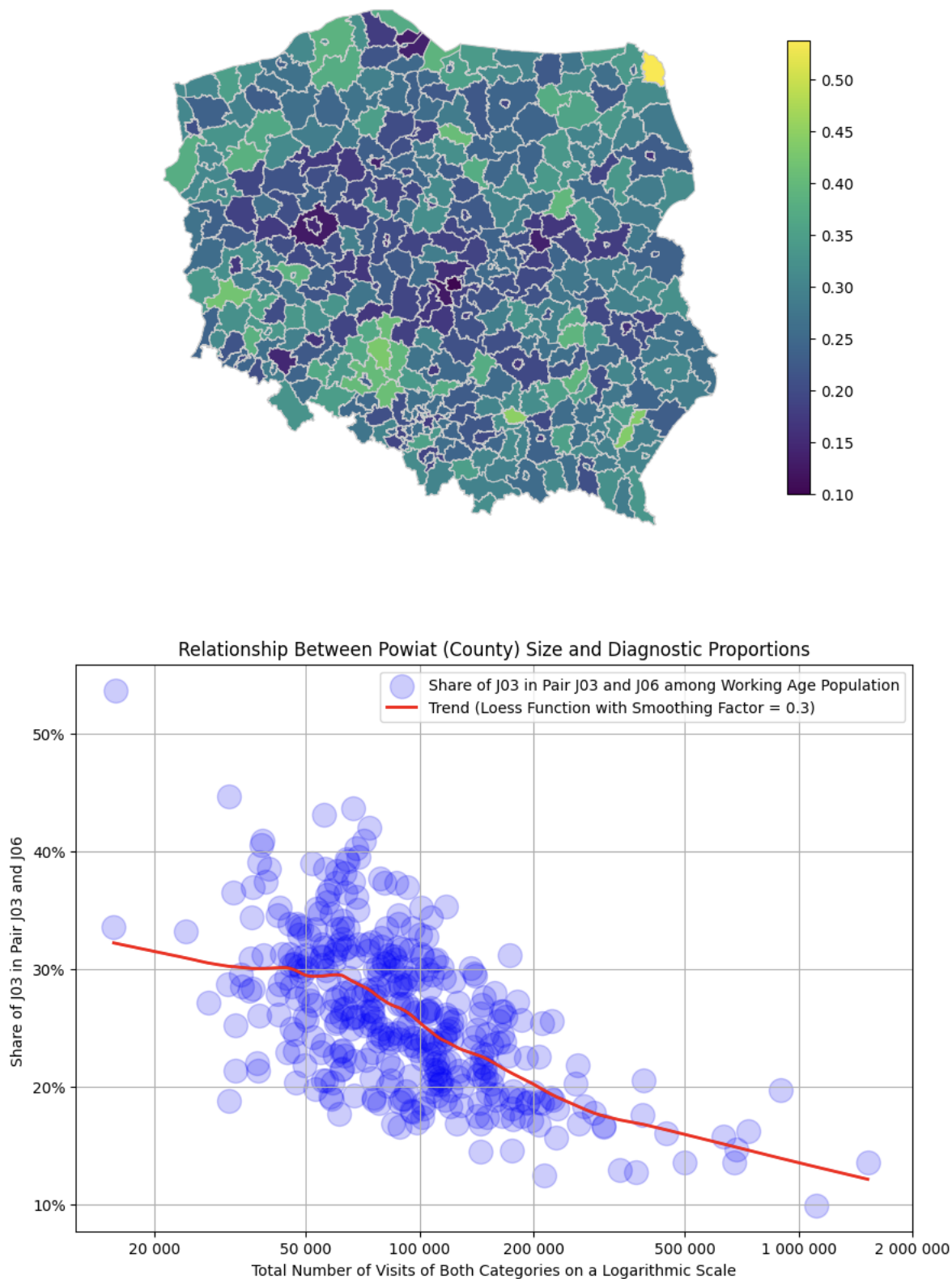
Supplemental Figure 1.

Share of J00 in Pair J00 and J20 Among Children by Powiat (County) in Years 2010-2019



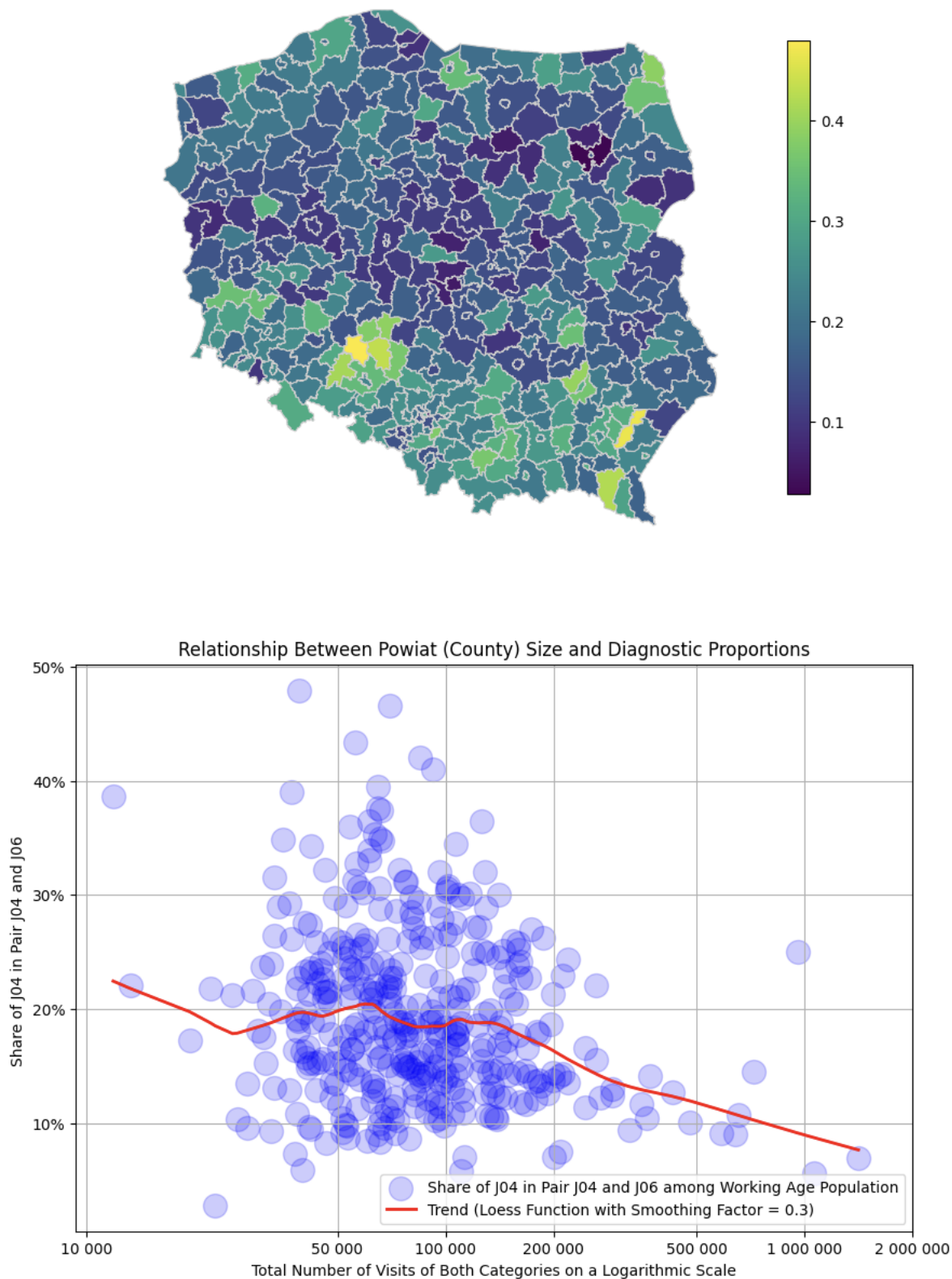
Supplemental Figure 2.

Share of J03 in Pair J03 and J06 Among Working Age Population by Powiat (County) in Years 2010-2019



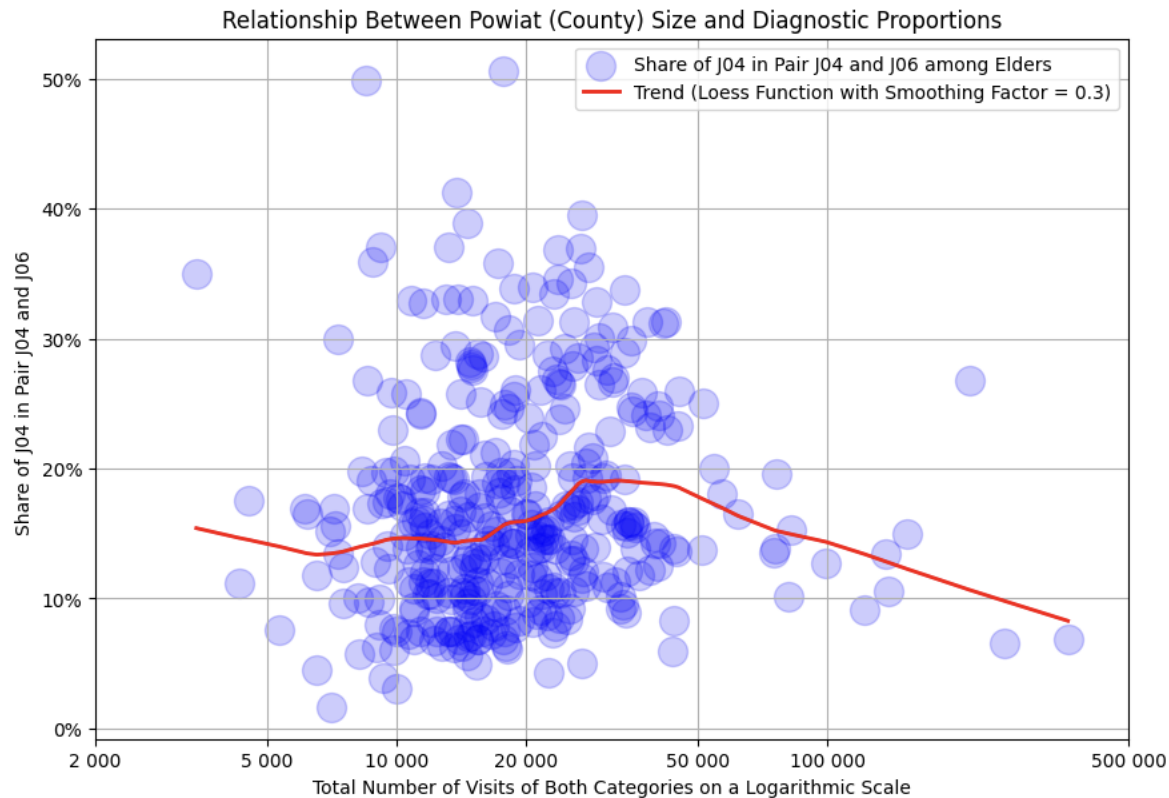
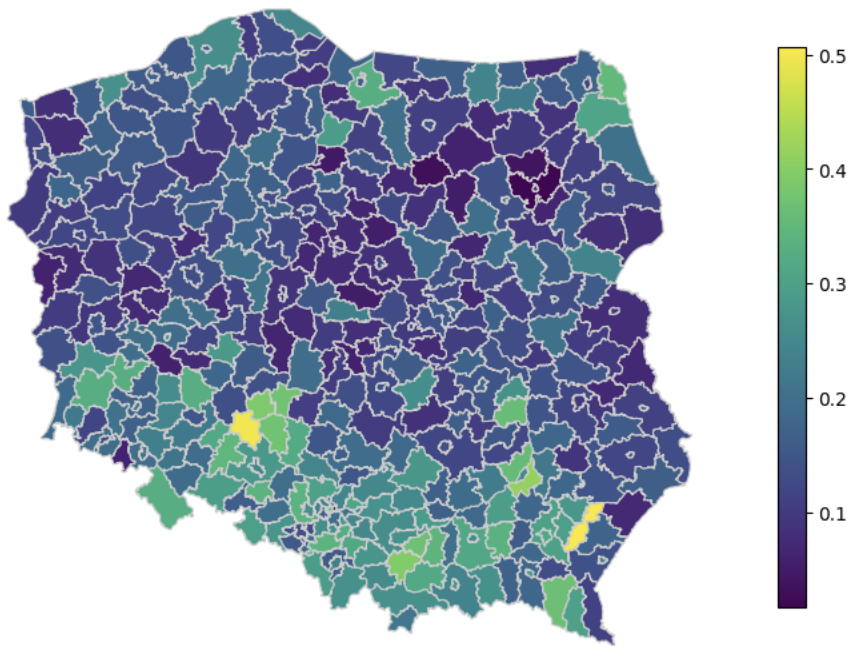
Supplemental Figure 3

Share of J04 in Pair J04 and J06 Among Working Age Population by Powiat (County) in Years 2010-2019



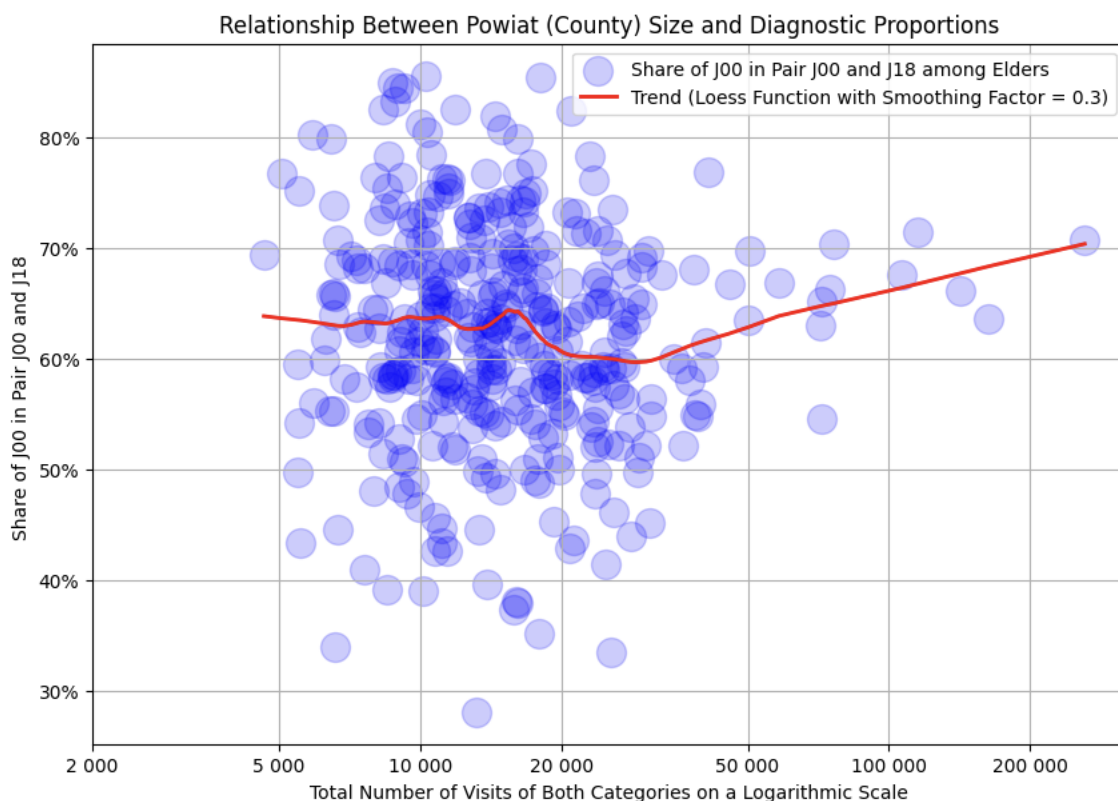
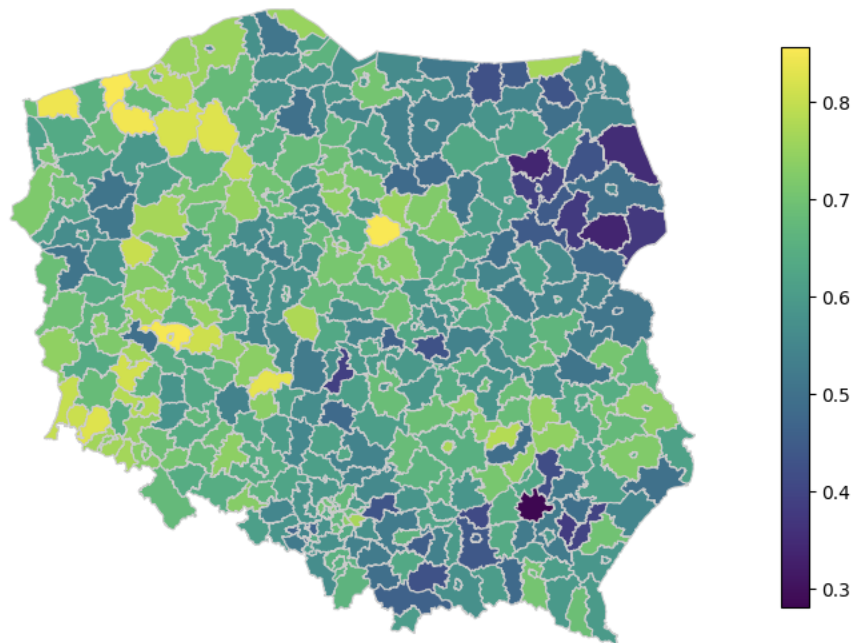
Supplemental Figure 4

Share of J04 in Pair J04 and J06 Among Elders by Powiat (County) in Years 2010-2019



Supplemental Figure 5

Share of J00 in Pair J00 and J18 Among Elders by Powiat (County) in Years 2010-2019



Note: Presented in Supplemental Figure 5, areas with a very high relative share of pneumonia among pneumonia and common cold diagnoses do appear to reflect some genuine underlying differences and not just coding artifacts. This roughly matches regions that experienced the highest excess deaths during the COVID-19 pandemic, although they also had the lowest vaccination rates despite subsequent campaigns. This suggests that the issue may not solely be a failure of government-provided health services but rather a reflection of behavior patterns within local, isolated populations.

Moreover, this relationship is not maintained on the opposite side of the spectrum, and even there, random factors appear to dominate.