Intra-household Transmission of Infectious Disease and Gender Inequality

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Abstract: Under the condition of a family member's earlier infection of infectious disease, are female members more likely to be infected than males? This study explores the "household penalty" - the higher infection probability due to other member's early infection - and how it is different by gender. I develop conceptual frameworks of gender health difference within households under the assumptions of gender income gap, intra-household labor division and infectious disease. Then I construct a sample of 0.1 million insured individuals with detailed data on insurance claims and household characteristics. Under a difference-in-difference design, I find the likelihood of getting infected is higher for males and females by 1.2 and 2.2 percentage points with a patient in the household. Potential mechanisms include the gender income difference and the unequal burden of caregiving. My results show the important role of intra-household transmission in disease spread and extend our understanding of gender inequality.