Drug Diffusion Through Peer Networks:  
The Influence of Industry Payments

Abstract: Pharmaceutical companies' marketing efforts primarily target physicians, often through individual detailing that entails monetary or in-kind transfers. We study how peer influence broadens these payments' reach beyond the directly paid physicians. Combining Medicare prescriptions and Open Payments data for anticoagulant drugs, we document that pharmaceutical payments target highly connected physicians. We exploit within-physician variation in payment exposure over time to estimate the payments' influence. Unlike the paid doctor, peer physicians are not directly selected by the pharmaceutical company on the basis of their expertise or enthusiasm for the target drug. Yet, following a large payment, prescriptions for the target drug increase both by the paid physician and the paid physician's peers. These peer effects influence doctors who share patients with the paid physician, even when the two doctors are not affiliated with the same group practice. We find no evidence that payments reduce prescriptions among high-risk patients. Over the period 2014--2016, physician payments associated with anticoagulant marketing increased the drugs' prescription volume by 23 percent, with peer spillovers contributing a quarter of the increase.