Family Size, Compliance Costs, and Childhood Vaccination: Evidence from Senegal

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Abstract

Childhood vaccination is a high-return early-life human capital investment whose monetary price is close to zero in many developing countries. Yet many households fail to complete the vaccination schedule. We argue that family size raises the shadow cost of completion and develop a framework in which additional children make schedule compliance more difficult. Using household data from Senegal and twinning among older siblings as a source of plausibly exogenous variation in family size, we estimate that one additional surviving older sibling reduces the probability of full vaccination by about 10.5 percentage points. The effect is zero for vaccines administered at birth, but negative for vaccines requiring repeated visits or later returns, consistent with a compliance-cost mechanism. Effects are larger where completion costs are more likely to bind, including among children of mothers with no formal education and those living in rural areas. Our findings show that family size can constrain early-life human capital accumulation even when the investment is financially accessible. Policies aimed at improving vaccination coverage should therefore not only expand access to vaccines, but also reduce the compliance costs that make completing the vaccination schedule more difficult for large families.

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