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*Exploring the relationship between HIV awareness and personal preference towards sexual actions.*

Risk perception shapes individual behaviour, and is in turn shaped by the consequences of that behaviour. Here we explore this dynamic in the context of human immunodeficiency virus (HIV) spread. We construct a simplified agent-based model based on a partner selection game, where individuals are paired with others in the population, and through a decision tree, agree on unprotected sex, protected sex, or no sex. An individual's choice is conditioned on their HIV status, their perceived population-level HIV prevalence, and the preferences expressed by the individual with whom they are paired. HIV is transmitted during unprotected sex with a certain probability. As expected, in model simulations, the perceived population-level HIV prevalence climbs along with actual HIV prevalence. During this time, HIV- negative individuals increasingly switch from unprotected sex to protected sex, HIV+ individuals continue practicing unprotected sex whenever possible, and unprotected sex between HIV+ and HIV- individuals eventually becomes rare. We also find that the perceived population-level HIV prevalence diverges according to HIV status: HIV- individuals develop a higher perceived HIV prevalence than HIV+ individuals, although this result is sensitive to how much information is derived from global versus local sources. This research illustrates a potential mechanism by which distinct groups, as defined by their sexual behaviour, HIV status, and risk perceptions, can emerge through coevolution of HIV transmission and risk perception dynamics. Recent medical advances will also be discussed as well as their potential impact on the HIV epidemic.