Researchers identify patterns of HIV risk among people who inject drugs in Vietnam

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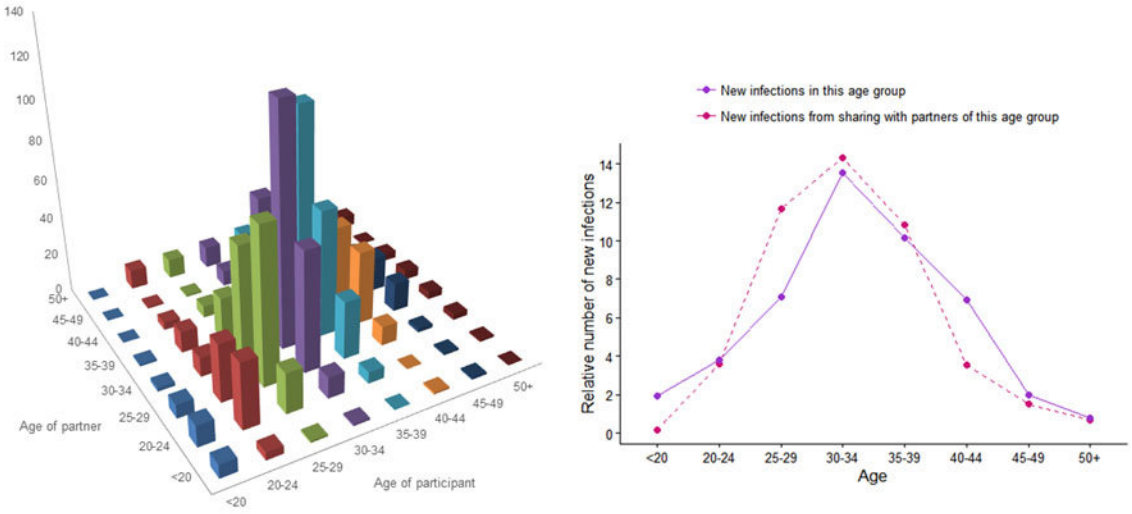

LEFT: A depiction of the contact patterns by age group in the Thai Nguyen cohort of people who inject drugs. RIGHT: The corresponding estimates of the numbers of new HIV infections expected to be acquired (solid line) or transmitted by (dotted line) each age group, based on observed mixing and HIV prevalence patterns. Credit: Kumi Smith

People who inject drugs (PWID) in Vietnam are disproportionately affected by HIV. While HIV prevalence among the general population aged 15-49 is 0.4 percent, the prevalence of HIV among people who inject drugs is a staggering 11 percent, according to UNAIDS.

In an effort to combat new infections among PWID, researchers at the University of North Carolina at Chapel Hill conducted the first study to explore how this population mixes together. Their results were published in the *Journal of Acquired Immune Deficiency Syndromes*.

"There is a severe epidemic in Vietnam of HIV among people who inject drugs," said Kumi Smith, PhD, the study's lead author and a postdoctoral fellow at UNC's Institute for Global Health & Infectious Diseases. "Risk of HIV infection is not uniform throughout a population, and depends greatly on the patterns of social contact within a population. We looked at these patterns to see if we could figure out who we should prioritize for prevention services, given that resources are limited."

Smith and her colleagues studied men who inject drugs at UNC Project-Vietnam's site in Thai Nguyen, about 40 miles north of the capital of Hanoi. They found that mixing was assortative in terms of age; that is, these men tend to share needles to inject drugs with other men of the same age. By pairing this information with what they knew about HIV infection rates in each age group, the research team was able to dig deeper to identify which combination of age groups led to the most new infections.

"We are really good at saying who is at risk for acquiring HIV, but we are not good at pinpointing who is transmitting HIV," Smith said. "By looking at how these age groups shared needles, we discovered which groups were most at risk for becoming infected and which were most at risk for transmitting HIV."

The findings from this study can be used to help clinicians identify people who inject drugs who would benefit from pre-exposure prophylaxis, or PrEP, which is a once daily pill to prevent HIV. The results can also inform those living with HIV who should be linked to care and could be prescribed treatment. Treatment not only improves the health of the person living with HIV, but it makes them less contagious to partners with whom they share needles.

"We hope that this information assists health authorities in resource-constrained settings, like where our research took place, make difficult decisions about optimal allocation of limited resources for treatment and prevention of HIV," Smith said.

More information: M Kumi Smith et al, Using Contact Patterns to Inform HIV Interventions in Persons Who Inject Drugs in Northern Vietnam, *JAIDS Journal of Acquired Immune Deficiency Syndromes* (2018). DOI: 10.1097/QAI.0000000000001632

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