Missed Opportunities in HIV Testing: Innovations to Support Pediatricians

Adolescent Health & Well-Being

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The U.S. has over 1 million cases of HIV and around 40,000 new diagnoses per year, 20% of which are among adolescents. While there are effective prevention methods, such as HIV pre-exposure prophylaxis (PrEP), uptake is low and new cases are still on the rise. In 2019, the U.S. government launched "End the HIV Epidemic: A Plan for America," with the aim of decreasing new HIV infections in the U.S. by 75% in five years and 90% by 2030. The plan laid out four pillars to reduce infection, the first of which is to improve early HIV diagnosis by increasing testing rates among the most vulnerable.

Adolescents with sexually transmitted infections (STIs) are at high risk for HIV due to both unprotected sex and local changes in the genital tract that make the tissue more susceptible to HIV. Philadelphia's teens are among those at highest risk for HIV due to the city's high rates of STIs. For example, the national rate of chlamydia is 3.3% for female teens 15-19 years old, while in Philadelphia, the rate is 6.9%. In addition, our adolescent primary care patients at Children's Hospital of Philadelphia have high test positivity rates of chlamydia, gonorrhea, trichomoniasis and syphilis. With our sights set on reducing new HIV diagnoses, how and where can we improve testing rates and establish more consistent comprehensive prevention for these youth in our community?

Through our research, published this month in *Pediatrics*, we identified missed opportunities for HIV testing when teens presented with a new STI in primary care and family planning clinics. With every STI, a patient becomes more at risk for contracting HIV and should, therefore, be tested for HIV after each new STI diagnosis. In our study, we found that ***only about half of youth received HIV testing within three months of a STI infection***, a time when they are most vulnerable to an HIV infection.

Surprisingly, ***teens that were primary care patients at these clinics were around 50% more likely to be tested for HIV when they had an STI***, compared to those who were solely receiving sexual health care at the clinics. It could be that teens who have developed a relationship with providers or feel more comfortable in a clinic setting receive better sexual health care than those who are walk-in patients. These findings highlight the importance of doctor-patient relationships within primary care and illuminate the benefits of connecting adolescents seeking sexual health care to primary care. If we encourage clinicians to build relationships and trust in the health care system with HIV-vulnerable teens, we can expand the capacity for comprehensive health promotion.

However, expecting primary care providers to deliver comprehensive sexual health care to patients could place strain on providers' time. Clinicians may have limited capacity for getting to know a patient's sexual health needs and STI history in addition to providing general wellness care.

So, how can we provide better support for pediatricians to address sexual health in primary care settings and in turn reduce new HIV diagnoses among this vulnerable patient population?

To address this question, we should utilize the power of the electronic health record (EHR) to make it easier for pediatricians to recognize HIV risk in their patients and act upon it. EHR-based clinical decision support tools for providers can remind them when to test for HIV and create an easy-to-use interface for ordering HIV tests.

Through our grant with Penn PROMOTES Center for Research in Gender and Health Equity, we are working with providers to understand their clinical needs within the busy primary care workflow and identifying innovative EHR solutions. We have completed interviews and surveys with providers to better understand their knowledge of HIV prevention practices, identified barriers and facilitators to HIV testing and providing PrEP in primary care, and learned about preferences for EHR tools.

We are also now completing a cognitive task analysis, through which we are developing an adolescent visit timeline and mapping interview topics to a decision point on the timeline. This analysis will help to determine where in the visit we can intervene to best help providers complete HIV testing and potentially link vulnerable youth to PrEP.

Studies have shown that it can be hard to keep adolescents connected to sexual health and primary care due to a number of competing priorities, such as schooling, jobs and relationships. The responsibility should be up to our health systems, not adolescents, to adapt to teens' needs to provide them with the best care possible. While incorporating HIV prevention within primary care will be a challenge for busy pediatric primary care providers, it could be the best and only chance to prevent the spread of HIV among vulnerable teens.

It is my hope that by creating optimal EHR clinical decision support tools for providers, we can connect our most vulnerable adolescents to HIV testing and PrEP, to create a healthier teen population in Philadelphia and beyond.