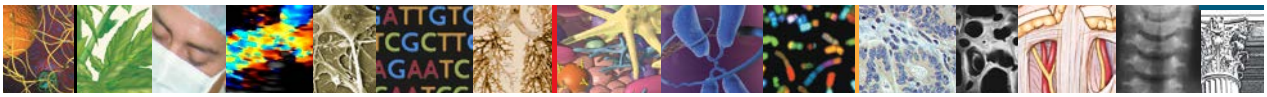

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

JULY 30, 2015

Threading the Needle — How to Stop the HIV Outbreak in Rural Indiana

Steffanie A. Strathdee, Ph.D., and Chris Beyrer, M.D., M.P.H.

Many observers were surprised when Indiana Governor Mike Pence issued an executive order on March 26, 2015, declaring a public health emergency after a rapidly escalating outbreak of human immunodeficiency virus (HIV) was identified in Scott County, a rural region on the Kentucky border.[1] Others, however, had seen it coming.

Over the years, a growing number of young people in Scott County — like those in surrounding counties and states — had begun abusing opiates such as oxymorphone, an opioid analgesic prescribed by local medical providers, until a more tamper-resistant formulation and policy reform began limiting its abuse. Facing the throes of opioid dependence, some users shifted to other potent injectable opioids or to heroin. Although needle-exchange programs can reduce both needle sharing and HIV incidence,[2] they are illegal in Indiana. When needles are in short supply, injection-drug users have little choice but to share. Given increases in injection-drug use in nonurban communities and the high efficiency of HIV transmission through injection, it was only a matter of time before an outbreak ensued. Southeast Indiana had previously recorded only about five cases of HIV infection annually, yet by June 10, 2015, a total of 169 people had been newly diagnosed with HIV in about half a year. More than 80% of them were coinfected with hepatitis C virus (HCV).

The Indiana outbreak provides a cautionary tale. First, the epidemiologic profile of Indiana's HIV outbreak differs markedly from that revealed by historical U.S. HIV–AIDS surveillance data. Since the beginning of the U.S. HIV epidemic, most HIV-positive injection-drug users have been black, older than 35 years of age, male, and urban. Most people diagnosed in the Indiana outbreak live in rural communities and are young (median age, 32 years; range, 18 to 57) and white, and almost half are women[1] — a demographic that mirrors the trend of the current U.S. heroin epidemic.[3]

There were other warning signs. In 2011, a cluster of HCV cases in southeast Indiana had been linked to prescription-opioid injection. Again, the people affected were rural, young, and white, with a roughly equal distribution between the sexes. The number of new HCV cases nationwide increased by 75% between 2010 and 2012; and there was a 364% increase between 2006 and 2012 in central Appalachia (Tennessee, West Virginia, Virginia, and Kentucky), which also has some of the country's highest rates of prescription opioid abuse and overdose.[4]

Second, although it was relatively easy for people in Scott County to obtain opiates, includ-

Actions That Can Help Prevent HIV Outbreaks among Injection-Drug Users.*

Physician Actions

1. Screening patients for substance-use disorders and mental health disorders.
2. Testing patients and their sexual and drug-injection partners for HIV, HCV, and sexually transmitted infections, with appropriate pre- and post-test counseling.
3. For patients testing positive for HIV and HCV, offering immediate treatment according to established guidelines.
4. Providing HBV vaccination; even one dose can be effective.
5. Providing naloxone to opioid users and their families and partners to prevent fatal overdoses.
6. Offering immediate referrals to substance-use treatment programs that provide opioid-agonist therapy.
7. Becoming licensed to provide opioid agonist therapy.
8. Supporting injection-drug users by providing them with sterile syringes or referring them to places where they can obtain them.
9. Supporting legislative reforms to expand Medicaid and to allow federal funds to support needle-exchange programs.
10. Using prescription-drug monitoring programs in clinical decision making involving opiate prescribing.

State Actions

1. Supporting needle-exchange programs and legal access to over-the-counter syringe purchase without a prescription.
2. Supporting screening and referral to free or affordable treatment for substance-use disorders.
3. Supporting reimbursement for medication-assisted therapies (e.g., methadone, buprenorphine, and vivitrol) without roadblocks.
4. Providing free HIV testing and initiation of HAART for substance users who are HIV-positive, along with the services they need to sustain adherence.
5. Monitoring state HIV and HCV epidemiologic testing data to identify and respond to outbreaks early.
6. Adapting prescription-drug monitoring programs to make them public health tools that are secure and searchable in real time.

* HAART denotes highly active antiretroviral therapy, HBV hepatitis B virus, HCV hepatitis C virus, and HIV human immunodeficiency virus.

ing cheap heroin, needles were in short supply. Indiana is one of 25 states where it's illegal to purchase syringes without a prescription and where state law does not explicitly authorize needle-exchange programs. Until Governor Pence declared a state of emergency, which enabled him to temporarily suspend the law in Scott County and subsequently other counties, using needles for nonmedical purposes was a felony punishable by up to 3 years in prison.

Legislation allowing Scott County to operate needle-exchange programs is a step in the right direction. However, the current provision extends for only 1 year, a limit that ignores the reality that three interrelated chronic diseases — addiction, HIV, and HCV — will continue to challenge this community and others like it for decades unless a very aggressive, multipronged public health prevention strategy is implemented that includes continuous access to needle-exchange programs, expanded access to medication-assisted therapies for opioid use disorders, and "seek, test, treat, and retain" interventions for HIV and HCV in substance users. Regrettably, other Indiana counties contemplating authorizing needle-exchange programs must first demonstrate the existence of a public health emergency — a requirement that ensures that they can only respond to, rather than prevent, outbreaks.

Moreover, barriers to access to sterile syringes persist. Scott County's needle-exchange program requires that injection-drug users register with their initials and date of birth, which deters many people from participating and prevents clients from obtaining needles for others. The program is not open past 6 p.m. most evenings, and unregistered injection-drug users are subject to prosecution for carrying syringes.

Third, substance-use treatment in rural Indiana remains woefully inadequate, reflecting a failure to provide adequate access that applies statewide, nationally, and globally. The opioid-agonist therapies methadone and buprenorphine are considered essential medicines by the World Health Organization, but only a small percentage of opiate users have access to them.[2] Beyond their proven effectiveness and cost-effectiveness in addiction treatment, opioid-agonist therapies are also effective as HIV prevention. They promote earlier initiation of and adherence to highly active antiretroviral therapy (HAART), which in turn promotes viral suppression, markedly reducing onward transmission of HIV. Nationally, 42% of persons 12 years of age or older who needed but did not receive treatment for substance-use disorders reported the main reason was lack of health coverage and prohibitive costs, according to the Substance Abuse and Mental Health Services Administration. Although the Affordable Care Act requires insurance companies to provide treatment for substance-use disorders, Indiana's delayed expansion of Medicaid impedes access to drug treatment, hitting the poorest communities the hardest.

Fourth, Indiana's suboptimal coverage of HIV and HCV testing delayed uptake of treatment, which compromised the health of infected people and probably propagated onward transmission of both viruses. Known barriers to testing include lack of health insurance coverage, stigma, and funding cutbacks that led to the closure of five Indiana clinics offering free HIV testing (including one in Scott County in 2013).

Finally, the Indiana outbreak also resulted from inappropriate prescribing of opioid medications, a problem many states are grappling with. Such practices have contributed to dramatic escalations in opioid dependence, overdose deaths, transitions to heroin injection, and HIV and HCV trans-

mission. In addition to increasing training for health care providers in appropriate opioid prescribing practices and screening and treatment of opioid use disorders, existing prescription-drug monitoring programs could be improved to avert misprescribing and doctor shopping. Implementation of policies for providing opioid-dependent persons and their families with naloxone to prevent fatal overdoses and Good Samaritan laws preventing prosecution of people who report overdoses would also save lives.

HIV outbreaks among injection-drug users can escalate quickly. The literature is rife with examples from North America, Southeast and Central Asia, and Eastern Europe, where HIV prevalence among injection-drug users had been below 5% for decades but leapt to 80% or higher within a year owing to continuing high-risk behaviors in the absence of adequate HIV prevention and access to treatment. Such outbreaks can, however, be prevented and even reversed. An explosive HIV outbreak among injection-drug users in Vancouver, British Columbia, which resulted in an HIV incidence of 18.6 per 100 person-years in 1996, was controlled by expansion of needle-exchange programs and provision of opioid-agonist therapy and HAART free of charge through Canada's universal health care system.[5] More recently, providing HIV treatment as prevention reversed the HIV epidemic throughout British Columbia.

An audio interview with Dr. Strathdee is available at NEJM.org

We believe that threading the needle to prevent further HIV outbreaks among substance users requires aggressive implementation of evidence-based practices for HIV prevention (see box).[2] These practices cannot be implemented without resources for expanding HIV screening among substance users and offering HAART to those who test positive, while providing opioid-agonist therapy to those with opioid dependence. Primary care models that integrate screening for substance use and mental health disorders and testing and treatment for HIV, HCV, and sexually transmitted infections with concomitant provision of opioid-agonist therapy are therefore an urgent priority.

Permanently lifting the ban on using federal funds to support needle-exchange programs will be a critical component of HIV prevention, since these programs reduce HIV incidence and frontline exchange workers are often the first people injection-drug users reach out to for help.[2] There are currently 228 known needle-exchange programs in 35 U.S. states, the District of Columbia, the Commonwealth of Puerto Rico, and Indian Nations. However, the federal funding ban limits their scalability and quality of services, including their ability to provide critical ancillary services (e.g., on-site HIV and HCV testing and referrals for drug treatment). States can adapt prescription-drug monitoring programs so they are secure, enable searches in real time, and are used as clinical and public health tools rather than law-enforcement weapons. But such supply-reduction measures will work best when complemented by the harm reduction achievable with opioid-agonist therapy and needle-exchange programs.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the Department of Medicine, University of California, San Diego, La Jolla (S.A.S.); the Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore (C.B.); and the International AIDS Society, Geneva (C.B.).

This article was published on June 24, 2015, at NEJM.org.

1. Community outbreak of HIV infection linked to injection drug use of oxymorphone — Indiana, 2015. MMWR Morb Mortal Wkly Rep 2015;64:443-4.
2. Vlahov D, Robertson AM, Strathdee SA. Prevention of HIV infection among injection drug users in resource-limited settings. Clin Infect Dis 2010;50:Suppl 3:S114-S121.
3. Cicero TJ, Ellis MS, Surratt HL, Kurtz SP. The changing face of heroin use in the United States: a retrospective analysis of the past 50 years. JAMA Psychiatry 2014;71:821-6.
4. Increases in hepatitis C virus infection related to injection drug use among persons aged ≤30 years — Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012. MMWR Morb Mortal Wkly Rep 2015;64:453-8.
5. O'Shaughnessy MV, Hogg RS, Strathdee SA, Montaner JS. Deadly public policy: what the future could hold for the HIV epidemic among injection drug users in Vancouver. Curr HIV/AIDS Rep 2012;9:394-400.

DOI: 10.1056/NEJMp1507252

The Older Americans Act at 50 — Community-Based Care in a Value-Driven Era

Ravi B. Parikh, M.D., M.P.P., Anne Montgomery, M.S., and Joanne Lynn, M.D.

The Older Americans Act clearly affirms our Nation's sense of responsibility toward the well-being of all of our older citizens. . . . Every State and every community can now move toward a coordinated program of services and opportunities for our older citizens. We revere them; we extend them our affection; we respect them.

— Lyndon B. Johnson, 1965