The State of the HIV Epidemic

Following years of apparent stagnation in the U.S. fight against HIV, recent reports suggest that things are looking up. What's the full story?

January 5, 2016 By Benjamin Ryan

This summer will mark 35 years since the first reports of AIDS. Additionally, two decades have now passed since combination antiretroviral treatment began to transform a health crisis into a more manageable public health concern.

Anniversaries are time to take stock: to reflect on the lessons of the past, assess the status quo and make projections for the future. For many years now, the American HIV epidemic has appeared trapped in a protracted stagnation, paralyzed by the systemic flaws of the U.S. health care system, fueled by increases in sexual risk-taking among men who have sex with men (MSM) while new infections drop among other risk groups, and stymied by increased public apathy.

Recent reports, however, have given new reason for hope. In December, the Centers for Disease Control and Prevention (CDC) released data showing a 19 percent drop in HIV diagnoses over the past decade, as testing rates remained stable or rose among groups that saw a decline in diagnoses. The finer details of that report, as well as news of successes in the realms of prevention and treatment in major cities such as New York and San Francisco, suggest that the American HIV epidemic is finally charting a new course.

The state of the epidemic is improving. It is not really one epidemic, however, but a loose collection of smaller epidemics among various risk groups, including MSM and in particular black MSM, injection drug users (IDUs), and women of color. The epidemic also follows vastly different patterns in different metropolitan areas. So looking only at the big picture and not these finer details yields a particularly inadequate picture of HIV's present condition.

The promising news is that, between 2005 and 2014, HIV diagnoses fell 40 percent among women, including 42 percent among black women. The diagnosis rate also dropped 35 percent in heterosexuals and 63 percent among injection drug users (IDUs).

However, such progress has been uneven. While the rate of new diagnoses among MSM has finally leveled off, Latino MSM continue to see increases (although at a slower pace). And while the drumbeat about ending the epidemic grows ever louder from nonprofit and governmental agencies alike—San Francisco has its Getting to Zero initiative and New York State is gearing up to

implement a Blueprint to End AIDS—crisis reigns in the South.

With a disproportionately high HIV prevalence rate, Southern states lag in the percentage of people living with the virus who have been diagnosed, and also have higher HIV-related death rates compared with the rest of the country..

Demetre Daskalakis, MD, MPH, the new assistant health commissioner in the Bureau of HIV/AIDS Prevention and Control in New York City, enjoys a robustly supportive cross-section of political, nonprofit and activist support for his team's efforts to battle the local epidemic. Reflecting on traveling to conferences to meet his counterparts from around the country, he says, "Getting on a plane sometimes feels like getting into a time machine." Coming from a state that has enthusiastically embraced the Affordable Care Act, he says of the conferences themselves, "I'm sitting next to departments of health from a state who literally are cheering because finally their governor will think about Medicaid expansion."

The Southern problem

HIV is fueled by the indignities of poverty, chief among them lack of access to health care; the stubborn refusal of Southern governors to expand Medicaid fuels the fire. An interactive map of uninsurance rates by county in The New York Times bears troubling similarities to the map of HIV prevalence in the United States.

"If you were to look at the states where Medicaid has not been expanded," says Eugene McCray, MD, director of the division of HIV prevention at the CDC, "those are the states that have the worst outcomes in terms of diagnoses, in terms of treatment outcomes, as well as in terms of late diagnoses. The other challenge is just poverty and other social determinants of health that are more prominent in the South."

In Georgia, AIDS has been among the top five causes of death for blacks between the ages of 20 and 54 for the past five years. And a shocking 11 percent of young black MSM living in Atlanta are estimated to contract the virus each year, with those who become sexually active at 18 projected to face perhaps a 60 percent chance of becoming HIV positive by age 30.

"We don't have the mature, nimble prevention systems that you see in San Francisco or Seattle," says Eli Rosenberg, PhD, an assistant professor of public health at Emory University in Atlanta, who was a coinvestigator of the Atlanta study. "We don't have the coordinated response. And we have a large population of minority MSM that you don't see in other cities. So in a sense it's a confluence of a large population center of diverse men in a Southern poor-resource environment. It's disheartening."

The treatment cascade

Nothing illuminates the United States' overall failure to diagnose and treat HIV like the so-called treatment cascade. Coined in 2010, the cascade, also known as the care continuum, charts a

series of progressive milestones necessary before individuals living with the virus are on successful treatment. According to a 2011 estimate, out of 1.2 million HIV-positive Americans, 86 percent have been diagnosed, 40 percent are in regular medical care, 37 percent have been prescribed treatment, and just 30 percent have a fully suppressed viral load. The figures are considerably worse for HIV-positive 18-to-24-year-olds, among whom only an estimated 16 percent have an undetectable viral load.

From an HIV-prevention perspective, the end point of the treatment cascade is vital: Research increasingly suggests that transmitting the virus when an individual has an undetectable viral load is highly unlikely, and may be impossible. Earlier points in the continuum are important to prevention efforts as well, considering recent estimates that 23 percent of new HIV cases transmit from people who are undiagnosed and 69 percent do so from those who are not in regular medical care.

The U.S. cascade statistics, like the country's health care system, is an embarrassment compared to those of other Western nations. The viral suppression rates in France, the Netherlands, the United Kingdom, Denmark and Australia are all over 50 percent.

But for all the handwringing over the dismal U.S. cascade figures, there is reason to believe that the country has made progress. These figures have not been updated for several years, so they fail to account for recent improvements. Additionally, health officials believe that the figures underestimated reality to begin with.

The cascade statistics were already steadily improving during the early part of the century. In 2003, there were an estimated 250,000 Americans living with undiagnosed HIV, representing 25 percent of the total HIV population. That figure dropped by almost 40 percent, to about 156,000, in 2012.

Additionally, the CDC has been pushing local health departments to deduce whether people who have moved away have been wrongly counted as not being in care.

New York City's viral suppression rate, looking just at those who are indeed in care for HIV, rose from 72 percent in 2011 to 85 percent in 2014. San Francisco recently started a program of getting people on antiretrovirals immediately after diagnosis that has shown considerable success. New York City's comparable program is slated to launch this year.

"Closing the gaps in prevention and care is essential if we're going to really improve the health of our nation and get to where we want to be in HIV prevention," says McCray. "We have what I believe are the major prevention and treatment advances to help us get to where we need to be. The challenge we have today is making sure that everybody is benefitting from those advances."

Good news for gays

The prevention advances to which McCray refers are grounded in the increasing scientific

understanding of the power of antiretrovirals to prevent transmission. First there is so-called treatment as prevention (TasP) among people living with HIV. In addition, Truvada (tenofovir/emtricitabine) as pre-exposure prophylaxis (PrEP) is available for HIV-negative people. Approved in 2012, PrEP is estimated to reduce the risk of acquiring the virus by more than 99 percent when taken daily.

The CDC recently estimated that 1.2 million Americans could benefit from PrEP, including 492,000 MSM, 115,000 injection drug users, and 624,000 heterosexuals.

A precise picture of how widespread PrEP use has become is hard to come by. But the combination of anecdotal evidence as well as data from Gilead Sciences, Truvada's manufacturer, suggests that the pill is becoming an increasingly popular form of HIV prevention. After prescriptions apparently tripled between 2014 and 2015, a very rough estimate of 22,000 Americans, primarily MSM, were on PrEP as of about a year ago.

Following several months of silence on the Truvada front, the dogged PrEP antagonist AIDS Healthcare Foundation recently ran an adin various gay newspapers titled "PrEP, the Revolution that Didn't Happen." Along with its president Michael Weinstein, AHF has been accused of "PrEP denialism.

" By categorizing the 22,000 figure as a failure, AHF fails to account for the direction toward which PrEP-use trends are pointing, considering the rapid rate of change. For example, New York State Medicaid prescriptions for PrEP increased four-fold between 2014 and 2015.

"PrEP is launched," says Demetre Daskalakis, "and it's launching faster. I don't see it slowing down." Speaking of efforts to promote Truvada in New York City, he continues, "Frankly, I think we're going to set the place on PrEP fire."

How PrEP may actually affect HIV rates remains to be seen. Research has suggested that if PrEP is used among MSM at very high risk of HIV, only 13 men would need to take it for one year to prevent one HIV infection among them. Thus far, there have been no new cases of HIV in two groups totaling more than 1,000 generally high-risk individuals taking PrEP in San Francisco.

All this said, CDC officials aren't ready to project whether Truvada has already contributed to the leveling off of the rate of diagnoses seen among MSM between 2009 and 2014. After all, PrEP's use was much more limited before 2015. What is clearer is that PrEP has come along at a point when HIV rates are finally improving among MSM.

Looking more broadly at the past decade provides a discouraging picture of the epidemic among MSM. Comprising two-thirds of all new diagnoses in 2014, MSM experienced a 6 percent increase in the annual rate of HIV diagnoses between 2005 and 2014. Rates increased by 24 and 22 percent among Latino and black MSM, respectively, while dropping by 18 percent among white MSM. The rates have been particularly alarming among 13-to-24-year-old MSM, with young Latino and black MSM both seeing an 87 percent increase during this period while their white

counterparts experienced a 56 percent increase.

Narrowing the focus to the diagnosis rates between 2010 and 2014 indicates that things may actually be looking up for MSM. During this period, diagnoses stabilized among the overall demographic, including among young white and black MSM. However, Latino MSM stand out with a 13 percent increase in diagnosis rates, with young Latino MSM experiencing a 16 percent increase.

Latinos—the forgotten demographic?

Much ink has spilled over HIV's disproportionate effects on African-Americans. Just 13 percent of the U.S. population, blacks made up 44 percent of new diagnoses in 2014. But Latinos are also more likely than the general population to contract HIV. Representing 17 percent of the population, they comprise 23 percent of new diagnoses. And while new diagnoses have fallen in blacks, Latinos and whites alike, such progress has stalled among Latinos in recent years.

Part of the problem lies in the very nature of racial categorization, which is particularly awkward where Latinos are concerned. Whites and blacks are more homogenous relative to Latinos. The latter category encompasses an array of dialects, cultures and countries of origin that are often quite dissimilar and which as a result have considerably different HIV prevention and care needs.

According to Susan P. Buchbinder, MD, director of Bridge HIV, an HIV prevention unit at the San Francisco Department of Public Health, "We need to be sure what we're doing is culturally relevant for the populations we're trying to reach. And we have to be really careful when we're talking about Latinos that we are embracing the full range of Latino populations. Part of the challenge is that we call all of these groups 'Latino' and yet there may be very different identities within those various communities. If we do an initiative that's targeted for Mexican-Americans, it may or may not speak to Central Americans or South Americans or people from different countries in the Caribbean."

The CDC's Eugene McCray argues that, compared with the Latino community, African-Americans have been more mobilized around fighting HIV. The machismo culture and its influence on homophobia and HIV stigma also play key roles in the HIV-related racial disparities seeing in Latinos, he says.

Guillermo Chacón, president of the Latino Commission on AIDS, says that nonprofits need to develop proven track records of working with any particular subset of the Latino population. "I am always shocked when I review an organization that receives a lot of funding, but no history of working with these communities," he says.

Worries about rising injection drug use

After years of falling HIV incidence among the U.S. injection drug user (IDU) population, is the recent outbreak of HIV among individuals injecting prescription opiates in rural Indiana a harbinger of what's to come elsewhere across the country? With over 180 cases diagnosed in 12 months in a

community of just 4,300, Scott County, Indiana, has seen one of the highest HIV incidence rates ever documented in the United States.

The recent epidemic of prescription opiate addiction in the United States has led to a considerable rise in injection drug use, as addicts seek out cheaper or more readily available alternatives to pills. According to the CDC, heroin use among Americans ages 12 and older rose from 1.6 per 1,000 individuals in the beginning of the millennium to 2.6 per 1,000 in the early part of the current decade.

Currently, injection drug use fuels about 8 percent of new HIV infections per year in the United States. The CDC recently issued a warning to health departments to remain vigilant for overlapping epidemics of HIV and hepatitis C virus (HCV). (The latter virus is even more readily transmissible through the sharing of injection equipment than HIV.) The federal health agency recently identified a nearly four-fold increase in hep C incidence among IDUs in Appalachian states, a result of increasing rates of addiction to opioids and injection drug use. Massachusetts, Wisconsin and upstate New York have seen similar patterns.

Scott Country was particularly vulnerable to the outbreak because of the lack of local infrastructure already in place to respond to and contain the surge of new infections, most notably a syringe exchange program. Indiana Governor Mike Pence, a Republican, has granted a waiver to state law forbidding such programs, a move that has ultimately helped stem further transmissions of the virus.

The Indiana outbreak led to a surprising late-year move in Washington, DC, as senators all but ended the longstanding ban on federal funding for syringe exchange programs, according to Buzzfeed. The shift was tucked into an omnibus spending measure in December and will permit federal spending on program support for the progams, such as staff salaries, vans, gas and rent, but not for the syringes themselves.

The CDC is currently working with states to develop IDU-related HIV outbreak response programs and to assess their own vulnerability. Routine testing of IDUs in places such as jails and drug treatment centers is key to identifying problems early and mobilizing the response necessary to limit outbreaks, says McCray.

Diagnoses vs. estimated new infections

The CDC's diagnosis figures belie a longstanding, rarely questioned belief: that HIV incidence (the number of new annual infections) has for many years held stubbornly steady, at about 40,000 to 50,000. That claim relies on the CDC estimating the rate of new annual transmissions (there is no way to measure transmissions exactly). The last time the agency conducted such an estimate, a complex and expensive venture, was in 2010.

The new focus on diagnoses instead of estimated incidence represents a major shift in the way the CDC intends to identify trends in the epidemic.

“This doesn’t mean we won’t be putting out incidence data in the future,” says McCray. “But we will probably be using it very differently, and it will probably just be used to give us snapshots of what’s going on.”

Recent improvements in HIV surveillance systems, McCray says, have allowed the CDC to have greater faith that diagnosis data provides a strong reflection of recent transmission trends. Diagnosis reports can provide a richer understanding of different demographic and regional patterns. Incidence estimates, on the other hand, are based on data from a limited number of locations.

As for the mood of public health officials around the country as they face the HIV future HIV fight, San Francisco’s Susan Buchbinder says, “There’s a great deal of optimism. Part of that comes from having really highly effective prevention and treatment now. And this idea that if we can synergize those two then we can really bring down new infections and keep people healthy in a way that we haven’t been able to before.”

Editor’s note: A previous version of this article stated that the federal ban on syringe exchange program funding was still in place, failing to take into account the recent shift in federal policy.

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