The National HIV Behavioral Surveillance system is one of the major data systems at the US Centers for Disease Control and Prevention for gathering and providing critical information about where HIV is occurring in the US, enabling HIV prevention providers to tailor their efforts to the people in the places that require them the most.

Can you begin by introducing your present research focus?

Surveillance is the foundation of the nation’s HIV prevention efforts – HIV surveillance data provide crucial information to help guide efforts at the national, state and local levels. The National HIV Behavioral Surveillance (NHBS) system is the US’ primary mechanism for understanding HIV risk and prevention behaviours of populations at high risk of HIV infection. Each year, we interview and provide HIV testing to 10,000 people across the 20 US cities most heavily affected by HIV. We rotate among three populations of interest on an annual basis: men who have sex with men (MSM), persons who inject drugs and heterosexuals at increased risk of HIV.

Recent years have seen the introduction of novel HIV treatment strategies. To what extent have preventive measures changed?

We are truly in a new era of HIV prevention, marked by major breakthroughs and an evolving prevention landscape. Clinical trials have demonstrated the dramatic benefits of treatment as prevention and we are gaining an increased understanding of how multiple strategies can work together to best prevent HIV transmission.

Anti-retroviral treatment (ART) for HIV has actually emerged as one of our highest priority prevention strategies, and has the potential to dramatically slow HIV transmission. When ART is taken as directed by those with HIV, it has been shown to reduce transmission to uninfected partners.

Pre-exposure prophylaxis (PrEP) is another new and powerful HIV prevention tool that has the potential to alter the course of the US epidemic – if targeted to the right populations, reaching the appropriate population coverage and used as directed. A series of clinical trials have shown that HIV-negative people who take PrEP as directed can reduce their risk of acquiring HIV through sexual transmission by 90 per cent. Having accurate knowledge about HIV risk and how to prevent it is a basic foundation for healthy sexual decision making. Gay and bisexual men should consider using...

HIV/AIDS: landmark landscape changes

Drs Cyprian Wejnert and Gabriela Paz-Bailey are senior epidemiologists working towards HIV/AIDS prevention. Here, they discuss the current situation in the US – particularly among gay and bisexual men – and why cases are more prevalent in certain demographics.
PrEP if they do not use condoms all the time, have had a recent sexually transmitted disease or are in a relationship with an HIV-positive partner. Employing the right combination of behavioural and biomedical prevention strategies for people living with HIV and HIV-negative persons at high risk could dramatically reduce the number of new infections in the US.

What measures can individuals take to remain HIV negative?

There are more tools now than ever before to protect oneself against HIV. As well as the newest strategies mentioned, there are also previously recognised methods that can substantially reduce risk, such as having fewer partners, using condoms consistently and correctly, and engaging in lower-risk sexual behaviours. Increasing HIV testing remains crucial to reducing HIV infections in the US, because when a person knows their HIV status they can make the best prevention choices for themselves and their partners.

HIV prevalence among young black MSM shows a steep trajectory. Can you outline the main factors responsible for this epidemiological phenomenon?

For young black MSM, having sex at an early age and partnering with older black men (among whom HIV prevalence is high), may lead to increased HIV risk. Socioeconomic factors like poverty and lack of access to high-quality healthcare also negatively affect health outcomes related to HIV. Many young black MSM are unaware of their status; people who do not know they have HIV do not seek medical care, may not adopt prevention behaviours and can unknowingly infect others. Even among MSM who know their HIV status, black MSM have been shown to be less likely to be on ART and, among those on treatment, less likely to be virally suppressed compared with white and Hispanic MSM. These issues, along with pervasive homophobia, stigma and discrimination, may be playing a key role in the severe and ongoing toll of HIV among young black MSM.

To what extent do you agree with the aphorism ‘prevention is better than cure’ in the context of HIV?

There is currently no cure for HIV. I think most people would agree that it is better to prevent HIV than have to take medications your whole life. Treatments have greatly improved over the years, but patients’ lives are still greatly affected. Patients need to adhere to treatment regimens and monitor their health every day and, long term, HIV infection or medications can complicate treatment for other health conditions.

There are also the psychological effects of living with HIV. Although HIV stigma has decreased in recent years, it is still present. Having said that, the treatment options we have now are quite good and people who get HIV are often able to live long, healthy lives – provided they seek treatment as quickly as possible after diagnosis. Prevention is better than treatment, but among persons with HIV, treatment provides the best outcomes for the patient, his or her loved ones and the community.

The estimated peak of the ‘HIV epidemic’ occurred in the mid-1990s and, since then, there has been a reported global decline in new cases by around 38 per cent since 2001. Treatment advances since the late 1990s have led to medications that can slow the progression of HIV and prolong the lives of those with the disease. As a result, there has been a dramatic increase in the number of people living with HIV, which is demonstrative of treatment efficacy, as opposed to what might appear as an increase in infected individuals.

However, there are still certain groups at a high (or higher) risk of HIV infection than others, and it is important to determine the reasons for this so that the problem can be addressed. It was with this in mind that the US Centers for Disease Control and Prevention (CDC) established the National HIV Behavioral Surveillance (NHBS) system in 2003.

SURVEILLANCE SYSTEMS

NHBS conducts surveillance to gather data regarding HIV infection – information that enables preventive measures to be developed, tailored and implemented in the areas that require them the most. The surveillance is conducted in rotating annual cycles in three different populations identified as being at a high risk of contracting HIV: men who have sex with men (MSM), persons who inject drugs and heterosexuals at increased risk.

HIV surveillance systems are designed to keep citizens safe and are an important means of providing critical information regarding where HIV occurs, what specific behaviours contribute to an increased risk of HIV infection and – importantly – whether the preventive measures put in place by governmental organisations are having an impact. Dr Cyprian Wejnert is a senior epidemiologist in HIV/AIDS prevention at CDC and, as such, has been heavily involved with NHBS. A key aspect of CDC is the ‘High-
Impact Prevention’ approach they take: “We use combinations of scientifically proven, cost-effective and scalable interventions targeted to the right populations in the right geographic areas,” explains Wejnert. “We work to maximise the impact of prevention efforts for all Americans at risk of HIV infection, including gay and bisexual men, African American communities, women, people who inject drugs, transgender women and men, and youth.”

THE PROBLEMS OF PREVALENCE

NHBS includes a team of 25 scientists who work closely with local health departments in 20 US jurisdictions to conduct HIV testing and interviews about HIV-related risk and prevention behaviours. These efforts have shown that a high percentage of gay and bisexual men are infected with HIV. Of the MSM tested as part of NHBS in 2014, one in five had HIV. Further, many gay and bisexual men with HIV are unaware they have the virus and, as a result, do not know to protect their partners or seek the medicines they need to remain healthy.

The disproportionate prevalence of HIV among MSM is a result of many factors. Sexual risk behaviours account for the majority of HIV infections in this demographic, with most acquiring it through anal sex – the riskiest type of sex for contracting or transmitting HIV. Data show that gay men are at increased risk for sexually transmitted diseases (STDs), like syphilis, gonorrhea and chlamydia. CDC recommends that all sexually active gay and bisexual men be tested at least annually for these infections and obtain treatment, if necessary. Having more sex partners compared to other men means MSM have more opportunities to have sex with someone who can transmit HIV or another STD. Similarly, among gay men, those who have more partners are more likely to acquire HIV.

ADDRESSING THE ISSUES

MSM are at greater risk for acquiring HIV for a variety of reasons, including greater risk due to anal sex. However, at the most basic level, MSM are at greatest risk of HIV because there is already a lot of HIV in their community. As a result, greater effort is needed to prevent HIV from spreading among MSM. CDC funds a variety of programmes designed to improve the health and wellbeing of gay and bisexual men, including communication initiatives through its Act Against AIDS campaign, behavioural interventions and targeted HIV testing programmes.

Surveillance systems, such as NHBS, are a useful means of identifying the state of the situation and, subsequently, implementing methods of remedying it. Since the inception of NHBS in 2003, great progress has been made, both in terms of increasing HIV testing, awareness of HIV infection and treatment. Obvious – but no less key – aspects of successfully addressing HIV are to: make those infected aware; link those who are diagnosed to treatment, provide those who are in treatment with medicines; and ensure those on medication achieve viral suppression. As a result of the broad and substantial information gathered by HIV surveillance systems like NHBS, CDC has been able to make positive and significant strides in providing help and support, and ensuring those in need of treatment have access to it.

REMAINING RESOLVED

It is clear that the landscape of HIV prevention among MSM in the US is changing, but public health officials are equally aware that their work is far from complete: “Each new generation needs to be reminded of the still-serious nature of HIV and the importance of prevention. Three decades after CDC reported the first cases of AIDS, the sense of national crisis may have waned – but our resolve cannot. We have to ensure that the right populations are reached with the right tools, so that all Americans have the information they need to make healthy sexual decisions,” Wejnert emphasises.

The fact that surveillance systems such as NHBS continue to collect information enables a better understanding of the populations most affected, the behaviours that contribute to increased risk and the development of tailored, highly-specific programmes that are a real, tangible force for both prevention and awareness of HIV infection.