20th International AIDS Conference Research Highlights

A summary of major findings presented at AIDS 2014.

August 4, 2014 By Benjamin Ryan

Held in Melbourne, Australia, July 20 to 25, the 20th International AIDS Conference (AIDS 2014) began with tragedy as six of the delegates were killed when Malaysia Airlines flight MH17 was shot down over Ukraine. Among them was prominent researcher Joep Lange, MD, PhD, a former president of the International AIDS Society, which organizes the biennial conference, as well as World Health Organization press officer Glenn Raymond Thomas.

Despite the tragic beginning, AIDS 2014 soldiered on as scientists from around the world presented new results from HIV as well as hepatitis C virus (HCV) research. Among the major findings are the following studies. Click on the hyperlinks to reach about each study in greater detail.

As Global Pandemic Slows, Most Are Still Unaware of Their Status

A new UNAIDS report on the global HIV pandemic found significant drops in HIV incidence and AIDS-related deaths in recent years. Called the UNAIDS Gap Report, the document also highlights the concern that an estimated 19 million of the 35 million people living with HIV worldwide don't know their status.

The estimated 2.1 million new HIV infections in 2013 represents a 13 percent decrease in HIV incidence in three years and is the lowest level found this century. The Caribbean has seen the greatest drop in new HIV infections, with a 40 percent decline since 2005. Meanwhile, during that same time frame the rates have risen in Western Europe and North America (8 percent), the Middle East and North Africa (7 percent) and Eastern Europe and central Asia (5 percent).

After peaking in 2005, annual global AIDS-related deaths have fallen 35 percent. However, the Middle East and North Africa have experienced a 66 percent increase in AIDS-related deaths since 2005. Eastern Europe and central Asia is the only other region to experience an increase, with a 5 percent uptick during the same time frame.

100% Efficacy for Gays Who Adhered Well to PrEP; Most Didn't

Men and transgender women who have sex with men and who took Truvada as pre-exposure prophylaxis (PrEP) were totally protected against HIV if they adhered four or more days a week to the daily regimen. However, participants in the iPrEx trial's open-label extension phase actually adhered that well just 33 percent of the time during the 72-week trial, and overall adherence declined throughout the study. The study members took Truvada daily just 12 percent of the time. When considering all participants who received Truvada, regardless of their adherence, the study showed that PrEP lowered the rate of new HIV cases by about half.

The trial showed no evidence of increased sexual risk taking. Actually, the participants, who were all given risk-reduction counseling, trended toward less risky sexual behaviors during the trial.

Out of 1,603 enrolled participants, 1,225 chose to receive PrEP—indicating a relatively high 76 percent interest. The remainder volunteered to serve as a control group and did not receive the drug. Those who were at greater risk of HIV appeared more likely to take PrEP; and the higher-risk participants also tended to adhere better, providing hope for PrEP's ultimate capacity to reduce new HIV infections in real-world settings.

No one who was taking Truvada four or more days a week contracted HIV. The researchers projected that PrEP reduces HIV risk by 100 percent at this general level of adherence, but that the risk reduction may be as low as 86 percent.

Sovaldi and Ribavirin Cure High Rates of Those With HIV & Hep C

Sovaldi (sofosbuvir) and ribavirin cured high rates of people coinfected with HIV and hepatitis C virus (HCV). With a total study population of 274, participants with genotypes 1, 3 and 4 of hep C who were being treated for the first time (treatment naive) and participants with genotypes 2 and 3 who had failed a previous regimen (treatment experienced) received 24 weeks of treatment with Gilead Sciences' nucleotide analog polymerase inhibitor Sovaldi plus ribavirin. Treatment-naive participants with genotype 2 were treated for 12 weeks. Twenty percent of the study members had cirrhosis.

Almost all of the participants were also taking antiretrovirals (ARVs) to treat HIV, most commonly Sustiva (efavirenz), Isentress (raltegravir) Prezista (ritonavir-boosted darunavir) and Reyataz (boosted atazanavir). All of them were taking Truvada (tenofovir/emtricitabine).

Between 83 percent and 91 percent of the participants in each category were cured of the virus. None experienced a change in CD4 levels.

Those in Poorer Nations Don't Drop Condoms When on HIV Meds

A meta-analysis of studies examining the sexual behaviors of people with HIV after they started treatment found that, at least among heterosexuals in the poorer nations covered, there was no evidence of people using condoms less. Researchers pulled together 37 studies of low- and middle-income nations, published between 1990 and May 2012, that provided treatment to HIV-

positive participants and then combination antiretroviral (ARV) therapy once that was an option. This analysis was restricted to 15 papers that looked at differences in condom use.

The study found that those who were receiving HIV therapy were 80 percent more likely to report consistent condom use than those who were not taking ARVs. Consistent condom use doubled among men taking ARVs when compared with men not on therapy. Among women on treatment, consistent condom usage was 50 percent higher than it was among women not taking ARVs. When people in the studies had sex with someone HIV negative or whose serostatus they did not know, their likelihood of using a condom was 160 percent higher. If on treatment, participants of the studies were also 160 percent more likely to use condoms with their spouses or partners.

Treatment Demand in Poorer Nations to Keep Rising

A study by the ARV Forecasting Technical Working Group projects that demand for HIV treatment in low- and middle-income nations will rise from 11.5 million people at the end of 2013, to 15 million by the end of 2015 and to 16.8 million people by the close of 2016. The study defined treatment eligibility as 80 percent of those eligible under the 2013 World Health Organization criteria.

Donors Only Reaching 7% of Global Harm Reduction Needs

Major international donors are only spending 7 percent of the estimated funds needed to support harm reduction for injection drug users (IDUs) worldwide. A survey conducted by Harm Reduction International found that the Global Fund to Fight AIDS, Tuberculosis and Malaria, along with donor governments, spent $160 million for harm reduction programs in 2010, with little promise of subsequent increases. In fact, some donors may be scaling back funds. UNAIDS estimates that harm reduction efforts require $2.3 billion to adequately meet the needs of IDUs.

The harm reduction umbrella includes syringe exchange programs, antiretroviral therapy to treat HIV, education and outreach for IDUs, HIV testing and counseling, condom programs, and opioid substitution therapy such as methadone as well as prevention, testing and treatment programs for sexually transmitted infections, viral hepatitis and tuberculosis (TB).

For an analysis of the themes at AIDS 2014, click here.

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