

The Paris Statement: "HIV Science Matters"

STAR HEALTH DESK

Scientific knowledge is the backbone of the HIV response. Over the past 30 years, scientific research has shaped and influenced our understanding and management of HIV and has pointed continually to better ways to reduce prevent HIV-related illnesses. Our lives depend on people living with HIV and prevent new infections. Science drives the HIV response. Yet the extraordinary scientific progress against HIV and the ability to address all of the scientific challenges still are threatened by a weakening resolve to fund HIV science.

We cannot achieve ambitious global goals, provide life-long treatment to the 37 million people living with HIV and reduce the epidemic without an unfaltering commitment to research.

Progress in HIV science has far-reaching synergistic effects across public health, informing and supporting the response to other disease areas.

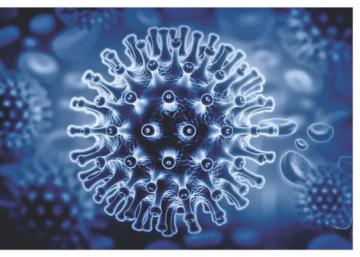
Political commitment to sustained and predictable investment in a robust HIV science agenda must be strengthened to ensure that scientific progress against the epidemic is maximized and that gains are not lost.

Understanding HIV and its interactions with its host at the most fundamental level requires continuing investment in basic science. Current research priorities include the analysis of the molecular and cellular mechanisms of HIV persistence and viral control. To enhance research efforts towards an HIV cure, animal models and pre-clinical new technologies must be funded.

Controlling the global epidemic requires a vaccine and an ongoing and consistent commitment to investigating new approaches to vaccine development for both prophylactic and therapeutic use. Research efforts must include the characterisation of different cellular and humoral immune responses to be harnessed in the development of preventive vaccine and immunotherapeutic strategies.

Improving HIV treatment options and outcomes for the millions of people who need it requires research on drug formulations and adherence support.

These efforts should prioritise the development of antiretroviral (ARV) formulations that support long-term adherence and reduce the risk of viral resistance. Cooperation between HIV, TB and cryptococcosis research



programmes must be promoted. Implementation science must continue to inform retention approaches across "Test-Treat-Retain", including new modalities for repeat testing in high-incidence settings, routine viral load monitoring, improved client adherence strategies and the adoption of differentiated service delivery models.

Prevention options must be accessible to and useful for the people who need them most. Investment in prevention and overcoming structural barriers should focus on improving access to diversified prevention tools,

including pre-exposure prophylaxis (PrEP), for people most vulnerable to HIV infection. Prevention research must continue to support the development and scale up of combination prevention, notably for key populations, migrants and the younger generation with a gender-sensitive approach. Research priorities in the humanities and social sciences must address stigma and discrimination and identify tailored approaches to reduce the drivers of the epidemic.

Beyond the laboratory and clinical trial setting, investments that better explore economics and

financing are essential to supporting a sustained response and the creation of innovative financing models. Research must continue to inform thinking on pricing models for HIV diagnostics and medicines, as well as treatments for co-infections, that are modified in particular for low- and middle-income countries and take into account the expanded role of genetics and bio-equivalents. Political and economic sciences must focus on existing financing gaps and work towards models that expand universal health coverage.

The HIV epidemic is far from over. Expanding the evidence base to guide policy and programme decisions is a key component in addressing critical research gaps. Multi-disciplinary approaches and research programmes adapted to a range of social and cultural contexts must be allowed to flourish; participatory and community-based research must be strengthened; and the meaningful involvement of key populations and people living with HIV in shaping research priorities must remain an unwavering principle.

HIV science matters. Ending the epidemic requires the continued contribution of and investment in science.

HAVE A NICE DAY

Shouting: Your way to awful life



If you are short tempered or impatient all the time, you just might find yourself sick more often. In fact, shouting and screaming can magnify anger and make you more prone to hurting someone. Shouting is one type of verbal abuse and that often turns to physical abuse. There will be no bruise or black eye or broken bone to signal what is happening inside houses. But that does not mean the abuse is any less harmful. Psychologist Dianne Tice found that prolonged yelling keeps the adrenaline pumping through our bodies and actually prolongs our feelings of anger. Then our mood gets gloomier and our stress levels rise.

Shouting is anger's best friend. Although some people are biologically more reactive than others - but it is also related to close companions. Anger's effect on one's cardiac health is the most damaging part. "In the two hours after an angry outburst, the chance of having a heart attack doubles," says Dr. Christopher Albers, an instructor in clinical psychiatry at the Mayo Treatment Center in the USA. Anger ups your stroke risk.

You do not need to be a smoker to destroy your lungs. According to a group of Harvard University scientists you still could be damaging your lungs if you are an angry and hostile nature person.

It is said that, pitiless and unkind words from parents are like 'sticks and stones'. A new study concludes that, rather than minimising problematic behavior in adolescents, the use of brutal language (shouting, cursing, or using insults) may in fact aggravate it. It is also known that shouting/loud voice can take away the power of one's voice.

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HEALTH bulletin



Long-acting antiretroviral injection safe

An injectable antiretroviral therapy (ART) consisting of two drugs (cabotegravir and rilpivirine) administered every four or eight weeks may be as effective as a daily oral dose of the drugs in maintaining viral suppression in patients with HIV, according to a new phase 2 trial published in *The Lancet*.

In the study, patients were given injectable ART as a maintenance therapy over 96 weeks once they had achieved viral suppression after 20 weeks of daily oral medication.

The potential for a long-acting injectable ART could ease the burden faced by people living with HIV of having to take daily oral medication lifelong to manage the disease. Phase 3 trials are ongoing and are needed to confirm the results, and further trials will be needed in wider groups of patients to generalise the findings.

The trial is presented on April 24, 2017 at the International AIDS Society meeting in Paris, France.

An estimated 36.7 million people worldwide are living with HIV, and advances in ART have led to improved survival and quality of life for people with HIV.

How to avoid yellow fever

DR ZUBAIR KHALED HUQ

Yellow fever is a viral disease of typically short duration. The disease is caused by the yellow fever virus and is spread by the bite of an infected female mosquito. It infects humans, other primates and several species of mosquitoes. In cities, it is spread primarily by *Aedes aegypti*, a type of mosquito found throughout the tropics and subtropics. *Aedes aegypti* also transmits the viruses that cause dengue fever, West Nile fever, chikungunya, eastern equine encephalitis and Zika virus.

In areas where yellow fever is common and vaccination is uncommon, early diagnosis of cases and immunisation of large parts of the population is important to prevent outbreaks. Death occurs in up to half of those who get severe disease. **Avoid mosquito bites**

When you go outdoors, use oil of lemon eucalyptus on exposed skin.

Wear proper clothing to avoid mosquito bites. When weather permits, wear long-sleeves, long pants and socks when outdoors. Mosquitoes

may bite through thin clothing, so spraying clothes with repellent containing Permethrin gives extra protection. Mosquito repellents containing Permethrin are not approved for application directly to skin. Be aware of peak mosquito hours. The peak biting time for many mosquito species is dusk to dawn. However, *Aedes aegypti* feeds during the daytime.

Getting a dose of recommended Yellow fever vaccine is recommended for persons aged > 9 months who are travelling to or living in areas at risk for yellow fever virus transmission in South America and Africa. Mosquitoes acquire the virus by feeding on infected primates (monkeys), and then can transmit the virus to other primates (human or non-human).

People infected with yellow fever virus are infectious to mosquitoes (referred to as being 'viraemic') shortly before the onset of fever and up to 5 days after onset.

Symptoms

The majority of persons infected with yellow fever virus have no

illness or only mild illness. In persons who develop symptoms, the incubation period is typically 3-6 days. The initial symptoms include sudden onset of fever, chills, severe headache, back pain, general body ache, nausea, vomiting, fatigue and weakness. Most persons improve after the initial presentation.

Roughly 1-5% of cases progress to develop a more severe form of the disease.

The severe form is characterized by high fever, jaundice, bleeding and eventually shock and failure of multiple organs.

Treatment

No specific treatments have been found to benefit patients with yellow fever. Whenever possible, yellow fever patients should be hospitalized for supportive care and close observation. Treatment is symptomatic. Rest, fluids, and use of pain-relievers and medication to reduce fever may relieve symptoms of aching and fever. Yellow fever patients should be protected from further mosquito exposure (staying indoors and/or under a mosquito net) for up to 5 days after the onset of fever.

Outcome

The majority of infected persons will be asymptomatic or have mild disease with complete recovery. In persons who become symptomatic but recover, weakness and fatigue may last several months. Those who recover from yellow fever generally have lasting immunity against subsequent infection.

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Chikungunya

Key facts

- Chikungunya is a viral disease transmitted to humans by infected mosquitoes. It causes fever & severe joint pain. Other symptoms include muscle pain, headache, nausea, fatigue & rash.

- Joint pain is often debilitating and can vary in duration.

- The disease shares some clinical signs with dengue & Zika and can be misdiagnosed in areas where they are common.

- There is no cure for the disease. Treatment is focused on relieving the symptoms.

- The proximity of mosquito breeding sites to human habitation is a significant risk factor for chikungunya.

- The disease mostly occurs in Africa, Asia and the Indian subcontinent. However a major outbreak in 2015 affected several countries of the Region of the Americas.

Transmission

Chikungunya has been identified in over 60 countries in Asia, Africa, Europe & the Americas.

The virus is transmitted from human to human by the bites of infected female mosquitoes. Most commonly, the mosquitoes involved are *Aedes aegypti* and *Aedes albopictus*, two species which can also transmit other mosquito-borne viruses, including dengue. These mosquitoes can be found biting throughout daylight hours, though there may be peaks of activity in the early morning and late afternoon. Both species are found biting outdoors, but *Ae. aegypti* will also readily feed indoors. After the bite of an infected mosquito, onset of illness occurs usually between 4 and 8 days but can range from 2 to 12 days.

Prevention and control

The proximity of mosquito vector breeding sites to human habitation is a significant risk factor for chikungunya as well as for other diseases that these species transmit. Prevention and control relies heavily on reducing the number of natural and artificial water-filled container habitats that support breeding of the mosquitoes.

This requires mobilization of affected communities. During outbreaks, insecticides may be sprayed to kill flying mosquitoes, applied to surfaces in and around containers where the mosquitoes land, and used to treat water in containers to kill the immature larvae.

For protection during outbreaks of chikungunya, clothing which minimizes skin exposure to the day-biting vectors is advised. Repellents can be applied to exposed skin or to clothing in strict accordance with product label instructions. For those who sleep during the daytime, particularly young children, or sick or older people, insecticide-treated mosquito nets afford good protection. Mosquito coils or other insecticide vaporizers may also reduce indoor biting.

Basic precautions should be taken by people travelling to risk areas and these include use of repellents, wearing long sleeves and pants and ensuring rooms are fitted with screens to prevent mosquitoes from entering.

WHO encourages countries to develop and maintain the capacity to detect & confirm cases, manage patients and implement social communication strategies to reduce the presence of the mosquito vectors.



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