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Health

Welcome to the Next Deadly AIDS Pandemic

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As The worldâEuros"s experts on HIV/AIDS gathered in Amsterdam for the 22nd International AIDS Conference a collective anxiousness has set in. [1]

The 2016 optimism that fueled a United Nations declaration that the end of AIDS was near has been replaced by a gnawing fear among experts. If properly treated with available drugs, todayâEuros"s 37 million infected people no longer face mortal illness as did their counterparts in the pre-treatment days of the 1980s and 1990s. [2] That much is true.

But given the rest of the equation, itâEuros"s remarkable that the mood in Amsterdam isnâEuros"t one of panic. Danger surely looms.

For years, humanity had the virus on the run, and death tolls plunged to joyously low levels. But the disease is now poised, for the first time in recent memory, to add massively to its global death toll of 35 million since 1981. Three factors are contributing to its runaway resurgence: flawed public health strategy, rapidly shifting demography, and diminished resources.

A flawed strategy for HIV control

LetâEuros"s start with strategy. In 1996, researchers from multiple institutions and pharmaceutical companies announced the discovery that a combination of drugs, taken daily, could drive HIV levels down so dramatically that the treated individuals could live normal lives. And more than a decade ago, it was shown that the anti-HIV drugs worked so well that viruses were forced into hiding in parts of the body from which they couldnâEuros"t spread to other people sexually, through shared needles or blood, or in utero from mother to child.

A worldwide strategy for HIV control was set upon, aiming to place all HIV-positive people on the drugs, both to spare their lives and to stop the spread of the virus. [3] The year 2030 was set as the worldâEuros"s deadline for halting the spread of HIV, stopping AIDS deaths, and having the first generation since 1980 born and raised completely free from infection. To make the dream a reality, a cocktail of anti-HIV drugs was manufactured cheaply, bringing the annual cost down from a 1996 high of well over $10,000 per person to less than $75. And a multibillion-dollar infrastructure was created to find infected individuals, provide them with those drugs, and monitor their health.

But the strategy was a gamble. The drugs didnâEuros"t cure anybodyâEuros"HIV still lurks in the bodies of the nearly 22 million treated individuals. Any interruption in taking the medicine allows hidden viruses to flood into the individualâEuros"s bloodstream, endangering the health and survival of the patient and making him or her a contagious risk to others. War, a transport breakdown, government financial glitches, loss of international donor support, patient migration, individual forgetfulnessâEuros"hundreds of personal, financial, and political factors can interrupt treatment.

Moreover, 15 million people are still untreated and therefore infectious to others. Worse, most of these individuals are unware that they carry the virus, do not see any reason to get a HIV test, and are unlikely to take precautions to protect others, such as using condoms during sex. As a result, the pandemic is continuing to grow. Last year, 940,000 people died of HIV-related causes, while 1.8 million were newly infected with HIV.

And new infections are increasingly showing up in forms that are very hard to treat because the strains of HIV spreading today are more likely to be resistant to those $75-a-year treatments. Drug resistance forces the use of more expensive medicines, and the supply chain for second- and third-line treatments in poorer countries is minimal, in some cases nonexistent. When an individual is infected with a strain of HIV that is already resistant to available drugs, all aspects of the patientâEuros"s treatment and survival are affected.

Between 2014 and 2016, the World Health Organization (WHO) surveyed new infections in 11 poor countries, finding in six of the countries more than 10 percent were drug resistant. [4] 63-nation survey funded by WHO and the Bill & Melinda Gates Foundation found anywhere from 6 to 11 percent of new infections involved drug-resistant forms of HIV, and the trend was dire, with resistance increasing as high as 23 percent annually. [5] Once individuals were put on their daily treatments, in 2017 failure rates due to drug resistance were as high as 90 percent in some countries, meaning new infections in those regions could no longer be controlled with the $75-a-year first-line therapies. [6] The first such survey conducted in Cameroon, recently published, found that the majority of patients failing their primary treatmentsâEuros"up to 88 percent of themâEuros"were infected with resistant strains of HIV, and overall drug resistance rates in the West African nation in 2018 approach 18 percent. [7]

Meanwhile, preventing HIV infection has fallen off the priority list, both in funding and individual action. A new UNAIDS-Lancet Commission report on defeating AIDS calls for an all-fronts urgent increase in prevention efforts worldwide. [8] Rates of sexually transmitted diseases (STDs)âEuros"syphilis, gonorrhea, chlamydia, herpes, various forms of hepatitisâEuros"are skyrocketing, especially among young gay men in Europe and North America and heterosexual youth in much of sub-Saharan Africa, often in antibiotic-resistant forms. [9] [10] [11] [12] A type of essentially incurable gonorrheaâEuros"so-called XDR, or extensively drug resistantâEuros"has emerged in Australia and the United Kingdom, prompting alert across the European Union. If sexually active young adults were using condoms and following the sorts of safe sex guidelines that would protect them from HIV, these other STD trends would not be the new normal. [13]

The demography challenge

Demographics are also contributing to the resurgence of AIDS. Sub-Saharan AfricaâEuros"s population is growing at the fastest rate on Earth, projected to increase by 50 percent to 1.8 billion people in 2035 and 2.1 billion by mid-century. [14] The total African population is forecast to top 2.5 billion people by 2050. [15]

The World Bank is urging African governments to aggressively promote family planning in hopes of slowing population growth and minimizing the chaos inherent in a child-dominated society. [16] But in 2018, 62 percent of sub-Saharan AfricaâEuros"s population is under 25 years of age. [17] The 10 youngest societies are all African, with mean ages below 18 years. [18]

If fertility rates remain high regionally over the next 10 yearsâEuros"and there is no reason to believe they will decline appreciably given current policiesâEuros"tens of millions more sexually active teens and young adults will potentially be exposed to HIV during the 2020s. If drug resistance continues to rise at its current alarming pace, the majority of infections by 2025 will defy first-line affordable treatments.

A deeply disturbing possibility presents itself: the emergence of a second AIDS pandemic, surging out of AfricaâEuros"s most densely populated cities, riding the wave of a youth-dominated population boom, and built atop an already existent base of tens of millions of currently infected adults. Such a pandemic would dwarf the scale of todayâEuros"s AIDS crisis.

The resource crunch

According to a newly released report from UNAIDS, the current roughly $19 billion in spending on HIV prevention, care, and treatment is about half of what funding is needed to reach the 2030 HIV eradication goal. [19] Dependency on external donors is acute, with the United States responsible for the lionâEuros"s share of financing. [20] Sadly, net funding for HIV efforts flatlined. [21] It is inconceivable that countries with minimal tax bases and majorities of populations living on less than $3 a day will be able to muster the resources to tackle their epidemics without outside help.

So the race is on, pitting the treatments and an inadequately funded multibillion-dollar global public health apparatus against rising drug resistance and an imminent tidal wave of African youngsters maturing into their sexually active teens and early 20s.

The UNAIDS-Lancet Commission reckons that a minimum of $36 billion a year will be required to win the race against rising drug resistance and surging youth populations. [22] Yet eight out of 14 donor countries have reduced their support over the last few years, in some cases drastically. [23] And U.S. funding via the PresidentâEuros"s Emergency Plan for AIDS Relief (PEPFAR) is expected to decline amid cutbacks in foreign aid and global health by the Trump administration. [24] A âEurosoedangerous complacencyâEuros has set in, fueled in part by exuberance over the use of anti-HIV drugs as the equivalent of morning-after pills, taken by sexually active youth in lieu of using condoms or avoiding unsafe sexual encounters. [25] For millions of young people around the world, this strategy has spawned a sort of collective shrug about the risks of HIV. [26]

Many in the leadership of global HIV efforts blame overly optimistic messaging for high-level complacency and declines in funding. As Chris Beyrer, the former president of the International AIDS Society, said, âEurosoeWe have done ourselves a disservice by selling to a policymaker or donor audience that we have this problem solved when we havenâEuros"t.âEuros [27]

But the two greatest resource needs receive little rhetorical or financial attention: a vaccine and a cure. No matter how optimistic the assumptions made in models forecasting the mid-21st-century status of the worldâEuros"s pandemic, it is impossible to imagine global control of the virus continuing to rest primarily on lifelong, daily drug treatment for tens of millions of people. If current new infection trends hold, by 2030 another 22 million people will be infected. There are 37 million living with HIV today, dying at a rate of about 1 million a year. If that trend holds, and treatment isnâEuros"t radically expanded, 12 million will die by 2030. Combined, this could mean that nearly 50 million people will require daily treatment by 2030, and millions of them will be infected with strains that defy the cheap drugs.

Even that figure may be wildly optimistic, as there is no way to calculate the impact that AfricaâEuros"s demography change might have on youthful sexual exploration or other mass behavior changes that might favor viral transmission. The future seems horribly grim.

But over the nearly four decades since HIV was discovered, revolutions have unfolded in basic biology. Not only has the entire human genome been sequenced, but there are now commercial kits that allow one to decipher a human genome in a matter of hours for less than $1,000. The gene-editing technology CRISPR and other innovations in manipulation of genetic material make it possible to alter the DNA and RNA of microbes at the single-nucleotide level with precision. The very tools that bacteria have used for billions of years to fend off invading viruses similar to HIV are now being refined for medical purposes. And researchers are characterizing the interactions between microbes that reside inside the human body and its highly complex immune system, conjuring almost daily revelations about how the bodyâEuros"s own cells and biochemistry can be programmed to fight cancers, heart disease-inducing plaques, genetic disorders, and, yes, infections.

HumanityâEuros"s war with AIDS has reached a dangerous, critical juncture, forcing a collective reappraisal of strategies used to treat the infected and prevent spread of the virus. This should be a pivot point for rethinking the scientific missionâEuros"its funding, urgency, and directionsâEuros"bringing fresh vitality and robust energy to the search for an effective immune system response to the constantly mutating, deadly virus.

The treatment strategy now in use from London to Pretoria must be seen as an opportunity to buy the world time, saving lives, until a technology that truly vanquishes the HIV threat is discovered and put to use. But the sands of time are pouring through the pandemic hourglass. Humanity will have betrayed todayâEuros"s children if they grow up to face the same small set of options to protect themselves from infection as 20-somethings today.

Foreign Policy

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