

Viruses, vaccines and superbugs: The biggest stories of 2016

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The year wasn't pretty but from its ashes may rise important scientific advances that could change the course of history. As 2016 winds to a close, we look back at the stories that made headlines, including the viruses reminding us that progress against infectious diseases is never easily won or maintained. Plus, we remember the political scandal that just kept giving and the deaths that shocked us all.

Neglected but deadly

First [discovered](#) in Uganda in 1947, the Zika virus continued its rise from neglected disease to the stuff of headlines in 2016.

In February, the World Health Organisation declared the Zika virus a [public health emergency of international concern](#) after almost 4,000 babies are suspected to have been born with [microcephaly](#), a rare neurological condition in which infants' heads are abnormally small.



Source: [LifeNews](#)

For months, the scientific community speculated that microcephaly could be caused by the Zika virus and, in April, they had their [answer](#) as the US Centres for Disease Control and Prevention (CDC) concluded that Zika did cause the severe brain defect.

CDC director Tom Frieden called it a “turning point in the Zika outbreak”, in a [statement](#).

Meanwhile, a fellow neglected tropical disease, [yellow fever](#), also seemed to embark on its own comeback tour as international humanitarian organisations rushed to quell outbreaks in Angola, the Democratic Republic of Congo and Uganda.

In [November](#), the Zika virus moved from being a public health emergency to a “significant enduring public health challenge,” as the WHO declared the worst was behind us but that the Zika virus may forever be with us.

The world's largest antiretroviral programme got bigger

It was a banner year for HIV treatment and prevention. On September 1, South Africa began offering HIV treatment to anyone who has been diagnosed with the virus [regardless of CD4 count](#). CD4 counts are a measure of the immune system's strength.

Since the dawn of HIV treatment, most people living with the virus had to wait until their CD4 counts fell to low levels before beginning treatment.

But in 2015, [two large-scale clinical trials](#) published in the *New England Journal of Medicine* showed that early antiretroviral (ARV) treatment was better for patients and cut people's risk of serious illness or death by at least 44%.

South African sex workers were the first to get immediate access to HIV treatment, following a March announcement. Ten sites are also providing the HIV prevention pill, Truvada, to up to [5,000 sex workers](#).

Truvada contains two of the ARVs that people with HIV use to suppress the virus in their bodies. When ARV treatment is used by HIV-negative people to reduce their chances of contracting HIV, it's called [pre-exposure prophylaxis \(PrEP\)](#). Research has shown that, when taken once a day at more or less the same time, Truvada can reduce a person's risk of contracting HIV by more than 90%.

Young women and men who have sex with men are likely to be the next in line to access the HIV prevention pill.

Bye-bye, Benny

Controversial [Free State health MEC Benny Malakoane](#) finally left his post in the embattled province, which saw a [mass exodus of healthcare workers](#) during his tenure. Malakoane now heads the province's department of economic and small business development, tourism and environmental affairs.



Source: *Dumelang News*

The ANC maintained Malakoane's [removal](#) had "bogger-all" to do with health activists' two-year public campaign to get him fired, according to Free State ANC spokesperson Thabo Meeko.

Malakoane faces several serious charges of fraud and corruption in a court case that has been [postponed numerous times](#).

The charges relate to him and others allegedly receiving kickbacks worth R13m for irregularly awarded contracts in Matjhabeng local municipality in 2007/2008 when Malakoane was a municipal manager there.

Health lobby group the [Treatment Action Campaign](#) has been advocating for his removal through its #firebenny campaign, claiming that the provincial health system has "limped from crisis to crisis with people who rely on it left traumatised by death and pain" under Malakoane's reign.

Bhekisisa [exposed](#) several instances of alleged wrongdoing in the province's healthcare system during Malakoane's three-and-a-half years in office, including claims that he robbed a dying woman of her hospital bed and gave it to an ANC official, and that Malakoane dismissed hundreds of community health workers unfairly.

Our best shot at an HIV vaccine?

The largest and most advanced HIV vaccine trial to be undertaken in South Africa kicked off this year. At its centre is a tiny jab likely to be the strongest experimental vaccine against the virus the world has ever seen.

The [HVTN 702 vaccine](#) is a new and improved version of the world's only moderately successful HIV inoculation to date. In

2009, [Thai researchers](#) found that an experimental HIV vaccine tested there reduced new infections in clinical trial participants by about 60% but that protection fell quickly to 31%. This meant the vaccine was too weak to be marketed.

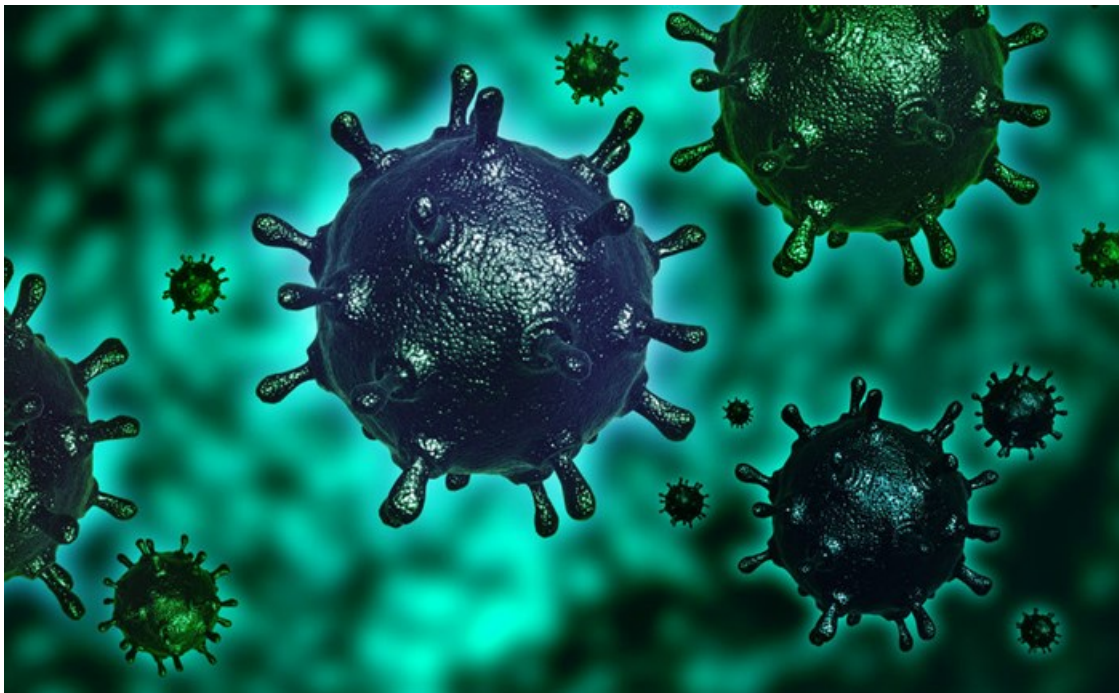
Now, researchers have supercharged the Thai vaccine — adding a booster to make sure any protection it may offer participants lasts. They've also thrown in an adjuvant or an extra ingredient to kick-start the production of HIV antibodies among participants. They are hoping that these [antibodies](#), or proteins used by the immune system to fight off bacteria or viruses such as HIV, will eventually protect people from HIV infection.

If by 2021 the vaccine has been shown to cut HIV infection rates by at least 50%, it could become available in Southern Africa, with other regions not far behind.

The rise of the superbugs continues

This year, the National Institute for Communicable Diseases put South Africa on alert for cases of [multidrug-resistant yeast infections](#) on the heels of similar warnings in the United States.

Although the bug largely only affects patients who have recently been hospitalised, it is just the latest “superbug” to make headlines.



[123rf.com](#)

The WHO says antimicrobial resistance now threatens the prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi. The international body's website now ranks antimicrobial resistance as a [threat to global public health](#).

This year saw the first ever high-level United Nations General Assembly on drug resistance. One of only four such meetings to ever be convened on a health issue, the gathering resulted in all 193 member states signing a [declaration](#) to combat rising rates of antimicrobial resistance.

Drug resistance is nothing new in South Africa as the country continues to battle one of the world's worst epidemics of drug-resistant tuberculosis. On the bright side, the country has a [national plan](#) to combat growing drug resistance that includes, for instance, restricting the use of antimicrobials designed for humans to, well, humans and keeping them out of our food.

But South Africa remains one of only roughly [20 African countries](#) tracking drug resistance and, as this year's drug-

resistant yeast strain shows, antimicrobial resistance knows no borders.

Scores of mental health patients die in Gauteng

This year proved [deadly for dozens of state mental health patients](#) in Gauteng after they were removed from the care of private hospital group Life Healthcare.

In June 2015, Gauteng health MEC Qedani Mahlangu announced that about 2 000 patients from the group's Life Esidimeni facilities would be sent home or placed in the care of community-based nongovernmental organisations. Civil society groups such as the South African Depression and Anxiety Group, the South African Federation for Mental Health and the South African Society of Psychiatrists fiercely opposed the move. Many of the community organisations identified by the department [lacked the ability to care for severely ill patients](#) who needed high-level care, these groups said.

Several of the groups unsuccessfully sought a Johannesburg high court interdict to halt some of the patient transfers.

At least 36 of the transferred patients have since died, according to Mahlangu. In November, the Democratic Alliance claimed the number is as high as 60. Several community organisations were also found to be [operating without licences](#).

In an [exclusive interview](#) with Bhekisisa, Mahlangu said that many patients have been removed from of community organisations. But she could not recall how many patients have died nor how many community organisations still had patients.

The country's recently created health ombudsman is investigating the issue. As families of Life Esidimeni patients wait for answers about how so many patients could have died in such a short space of time, the incident stands as a reminder of the [promise and peril](#) of continuing to move mental healthcare out of hospitals.

Source: Bhekisisa Centre for Health Journalism

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