



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY  
Monday 20220221

## Global infectious disease risk

**UK Lassa fever death shows rise in global infectious disease risk (The Tribune: 20220221)**

**Lassa fever is an acute viral haemorrhagic illness, similar to Ebola**

<https://www.tribuneindia.com/news/health/uk-lassa-fever-death-shows-rise-in-global-infectious-disease-risk-371568>

UK Lassa fever death shows rise in global infectious disease risk  
Photo for representational purpose only.

London, February 20

The death of a new-born baby with Lassa fever in the UK last week has raised concerns about the global threat posed by deadly infectious diseases.

Lassa fever is an acute viral haemorrhagic illness, similar to Ebola, and people become infected through exposure to food or other items that have been contaminated with urine or faeces of infected rats.

So far, the UK has confirmed three cases. It is the first time when acute viral illness has emerged in the UK in 13 years. It is normally seen only in West Africa, The Guardian reported.

Officials from the UK Health Security Agency are closely monitoring hundreds of people identified as potential contacts of the three cases.

Many of these individuals will continue to be monitored for the rest of the month and into March, the report said.

While no further cases have been identified to date, global health experts noted the return of Lassa fever, at a time when the UK is still fighting off Covid-19, is identified as a sign of worse things to come.

“The three confirmed cases of the potentially deadly Lassa fever in the UK, now very sadly including one death, are a stark reminder of our interconnected world and the need to continue to invest in outbreak preparedness and response efforts,” Melanie Saville, the director of vaccine development at the Coalition for Epidemic Preparedness Innovations (CEPI), was quoted as saying.

“Emerging infectious diseases are increasing in prevalence, severity and spread as a result of climate change, global transportation and human encroachment into previously isolated areas,” she added.

The growing threat posed by deadly infectious diseases, Saville said, underlines the “urgent need for vaccine”.

CEPI is now advancing the development of six Lassa fever vaccines. Three of these—developed by Inovio Pharmaceuticals, the International Aids Vaccine Initiative (IAVI), and Themis Bioscience—are the first in the world to enter clinical trials, the report said.

Further, to produce a licensed Lassa vaccine for routine immunisation, the largest-ever Lassa fever study, called Enable, has been launched in west Africa with more than 20,000 participants, the report said.

Some scientists have raised concerns over the need to increase funding for the development of vaccines for other deadly infectious diseases.

Dame Sarah Gilbert, one of the creators of the Oxford/AstraZeneca vaccine, had warned in October that her team was struggling to raise the money needed to develop vaccines against diseases, including Lassa fever.

Meanwhile, the UK government this week committed 10 million pound funding for research into vaccines against deadly infectious diseases. The UK Vaccine Network will provide grants for 22 projects aimed at tackling severe illnesses in low- and middle-income countries.

They include 498,000 pound to DIOSynVax to develop its vaccine against Lassa fever, Ebola and Marburg virus disease, the report said.

## **Vitamins**

### **Vitamins cannot reduce death risk from Covid-19, say researchers (The Tribune: 20220221)**

<https://www.tribuneindia.com/news/health/vitamins-cannot-reduce-death-risk-from-covid-19-say-researchers-371536>

While treatment with vitamin D may be associated with lower rates of intubation and shorter hospital stays, researchers states that more rigorous study is needed to validate that finding

Vitamins cannot reduce death risk from Covid-19, say researchers  
Photo for representational purpose only. iStock

In view of several studies claiming efficacy of vitamins against Covid-19, a new research proves that taking immune-boosting supplements such as vitamin C, D and zinc do not lessen your chance of dying from the virus.

While these supplements have also been dubbed as an alternative against proven vaccines, researchers at The University of Toledo in Ohio, the US, said there's been little evidence.

"A lot of people have this misconception that if you load up on zinc, vitamin D or C, it can help the clinical outcome of Covid-19," said Dr. Azizullah Beran, an internal medicine resident at the University's College of Medicine and Life Sciences.

"That hasn't been shown to be true," Beran added.

In the study, published in the journal *Clinical Nutrition ESPEN*, the team reviewed 26 peer-reviewed studies from around the globe that included more than 5,600 hospitalised Covid patients.

The analysis found no reduction in mortality for those being treated with vitamin D, C or zinc compared to patients who did not receive one of these three supplements.

While treatment with vitamin D may be associated with lower rates of intubation and shorter hospital stays, the researchers stated that more rigorous study is needed to validate that finding.

Vitamin C and zinc were not associated with shorter hospital stays or lowering the chance of a patient being put on a ventilator.

The researchers also analysed a smaller subset of individuals who had been taking vitamin D prior to contracting the virus and found no significant difference in the mortality rate.

However, they cautioned that the study should not be interpreted as saying vitamin and mineral supplements are bad or should be avoided, but rather made it clear that they are not effective at preventing deaths due to Covid.

At the same time, they also noted that it's possible that some Covid patients who are malnourished or otherwise deficient in micronutrients may benefit from taking supplements, but that's because their bodies already lack essential nutrients - not because vitamin D or vitamin C are effective against the virus.

"What we're saying is this: If you don't medically need these supplements, don't take them thinking they're protective against Covid," Beran said. "They're not going to prevent you from getting it and they're not going to prevent you from dying."

## **HIV/AIDS**

### **World still 20 years away from viable HIV cure: Scientist Last week, a third person, and the first woman, was reportedly cured of disease ((The Tribune: 20220221)**

<https://www.tribuneindia.com/news/health/world-still-20-years-away-from-viable-hiv-cure-scientist-371547>

World still 20 years away from viable HIV cure: Scientist  
Photo for representational purpose only.

London, February 20

While there has been a milestone development in the treatment of HIV, with three people being cured of the disease so far, the world is still 10 to 20 years away from a viable cure against the virus, a scientist has warned.

Last week, a third person, and the first woman, was reportedly cured of the disease after undergoing a cord blood transplant from a donor to treat her separate diagnosis of leukaemia.

The woman, based in New York, was only cured because the donor had a rare genetic mutation that blocks HIV's method of invading cells.

According to Sharon Lewin, President-elect of the International AIDS Society, although the news is an "exciting find, the world is still at least a decade away from a widespread cure," The Telegraph reported.

"We are still many years away from a cure you might use, on a wide scale, in high-income countries," she was quoted as saying.

However, Lewin said the New York case strengthens using gene therapy as a viable strategy for an HIV cure.

"This case also suggests that it's the transplant of HIV-resistant cells that was key to achieving a cure here. It's interesting that in this case, there was no graft versus host disease," she added.

Previously, two men have been cured of the virus: Timothy Ray Brown, also known as the "Berlin patient", in 2008; and Adam Castillejo, the "London patient", in 2020 through a stem cell transplant.

Two women have also been cured through natural immunity, the report said.

"We've achieved some incredible things every decade in HIV research," Lewin said.

"We may have an intervention available for a few people in 10 years, but it won't be the next two to five years. It's hard to predict." Meanwhile, discussions are ongoing about what people would be willing to undergo to be cured -- with current estimates assuming people would agree to an intensive regime for six months, the report said.

The ultimate goal of having one shot and being cured is still a long way off," said Lewin.

## **Antibiotics**

### **Antibiotics after birth affects gut microbes of babies (The Tribune: 20220221)**

<https://www.tribuneindia.com/news/health/antibiotics-after-birth-affects-gut-microbes-of-babies-371320>

Under current guidelines, antibiotics directed at a wide range of bacteria are prescribed to four to 10 per cent of all newborns for suspected infections

Antibiotics after birth affects gut microbes of babies

Treating babies with antibiotics in the first week of life is linked to a decrease in healthy bacteria necessary, among others, to digest milk and an increase in antimicrobial resistance, research suggests.

According to experts, clinicians should consider using antibiotics in a way that causes least harm to the newborns microbiome – the community of microbes that live in our body.

Under current guidelines, antibiotics directed at a wide range of bacteria are prescribed to four to 10 per cent of all newborns for suspected infections.

However, experts say that in most cases the antibiotics are prescribed unnecessarily as only a small proportion of those who receive the drugs are eventually diagnosed with an infection.

This overprescription is to ensure early treatment for those who are ultimately found to have an infection as any delay may quickly become life-threatening.

The study, published in Nature Communications, found a change in 251 of 695 different bacteria after treatment, changing the balance between good and bad bacteria in favour of more potentially harmful microbes.

Though gradually recovering over time, the changes to the microbiome and to antimicrobial resistance genes persisted for at least 12 months and did not improve with breastfeeding, which is known to help a baby's immune system.

"We were surprised with the magnitude and duration of the effects of broad spectrum antibiotics on the infants' microbiome when compared to effects of those same antibiotics on adults' microbiota," said lead author Professor Debby Bogaert, Chair of Paediatric Medicine at the University of Edinburgh.

"This is likely because the antibiotic treatment is given at a time that infants have just received their first microbes from their mother and have not yet developed a resilient microbiome," Bogaert added.

Researchers conducted a clinical trial involving 227 babies to analyse how antibiotics affect a newborn's microbiome.

The samples were analysed for the microbes that made up their newly forming microbiome and for bacterial genes related to antimicrobial resistance.

For newborns that had been prescribed antibiotics, there was found to be a significant decrease in the levels of different Bifidobacterium species compared with babies who had no antibiotic treatment.

These microbes aid in the digestion of human breast milk and promote gut health, while also supporting the immune defence against infection.

The team also found an increase in potentially disease-causing bacteria and in the number and abundance of genes related to antimicrobial resistance in the group that received antibiotics.

Further, of the three antibiotic treatment regimens tested, the combination of penicillin and gentamicin, was found to have the least detrimental effect on a baby's gut microbiome and the number of antimicrobial resistance genes that emerge. IANS

## **Children's mental health crisis**

### **US children's mental health crisis worse during Covid: CDC studies (The Tribune: 20220221)**

<https://www.tribuneindia.com/news/world/us-childrens-mental-health-crisis-worse-during-covid-cdc-studies-371268>

Two new studies examined pediatric emergency department visits data from 2019 through

US children's mental health crisis worse during Covid: CDC studies  
Photo for representational purpose only. iStock

American children's mental health crisis has gotten worse during the Covid-19 pandemic, according to two new studies published by the US Centers for Disease Control and Prevention (CDC).

Both studies, published on Friday, examined pediatric emergency department (ED) visits data from 2019 through January 2022, Xinhua news agency reported.

One study showed Covid-19-related ED visits increased across all pandemic years and among pediatric age groups.

There were also increases in the weekly number and proportion of ED visits for certain types of injuries, some chronic diseases, and visits related to behavioral health concerns, especially among children aged from 5 to 17.

The other study showed that adolescent females may have experienced the largest overall increase in distress. During the pandemic, the proportion of ED visits for eating disorders doubled and tic disorders more than tripled in this group.

Adolescent females also visited the ED more often, for an increasingly wider variety of mental health conditions. Such conditions can be triggered by pandemic-related risk factors and made worse by pandemic-related reduced access to mental health care, according to the CDC.

The CDC recommends increased awareness for health concerns among children and adolescents that could arise due to delayed medical care and heightened emotional distress.

## **Mental health disorders**

### **Covid-19 linked with increased risk of mental health disorders: US study (The Tribune: 20220221)**

<https://www.tribuneindia.com/news/health/covid-19-linked-with-increased-risk-of-mental-health-disorders-us-study-370717>

More than 403 million people globally have been infected with the virus since the pandemic started

Covid-19 linked with increased risk of mental health disorders: US study

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COVID-19 is associated with an increased risk of mental health disorders, including anxiety, depression, and substance use, and sleep disorders, up to one year after the viral infection, according to a US study.

The findings, published in *The BMJ* on Wednesday, suggest that tackling mental health disorders among survivors of COVID-19 should be a priority.

More than 403 million people globally and 77 million in the US have been infected with the virus since the pandemic started.

“To put this in perspective, COVID-19 infections likely have contributed to more than 14.8 million new cases of mental health disorders worldwide and 2.8 million in the U.S.,” said senior author of the study Ziyad Al-Aly, referring to data from the study.

“Our calculations do not account for the untold number of people, likely in the millions, who suffer in silence due to mental health stigma or a lack of resources or support,” Al-Aly, a clinical epidemiologist at Washington University, said.

The researchers used data from the US Department of Veterans Affairs national healthcare databases to estimate the risks of mental health outcomes in people who survived at least 30 days after a positive PCR test result between March 2020 and January 2021.

They compared mental health outcomes in the COVID-19 dataset with two other groups of people not infected with the virus: a control group of more than 5.6 million patients who did not have COVID-19 during the same time frame; and a control group of over 5.8 million patients from March 2018 through January 2019, well before the pandemic began.

The majority of study participants were older white males.

However, because of its large size, the study included more than 1.3 million females, more than 2.1 million Black participants, and large numbers of people of various ages.

The COVID-19 group was further divided into those who were or were not admitted to hospital during the acute phase of infection.

Information was also collected on potentially influential factors including age, race, sex, lifestyle, and medical history.

The researchers then followed all three groups for one year to estimate the risks of pre-specified mental health outcomes, including anxiety, depression and stress disorders, substance use disorders, neurocognitive decline, and sleep disorders.

Compared with the non-infected control group, people with COVID-19 showed a 60 per cent higher risk of any mental health diagnosis or prescription at one year.

When the researchers examined mental health disorders separately, they found that COVID-19 was associated with an additional 24 per 1,000 people with sleep disorders at one year, 15 per 1,000 with depressive disorders, 11 per 1,000 with neurocognitive decline, and 4 per 1,000 with any substance use disorders.

Similar results were found when the COVID-19 group was compared with the historical control group.

The risks were highest in people admitted to hospital during the initial phase of COVID-19, but were evident even among those who were not admitted to hospital.

People with COVID-19 also showed higher risks of mental health disorders than those with seasonal influenza, the researchers said.

Those admitted to hospital for COVID-19 showed increased risks of mental health disorders compared with those admitted to hospital for any other reason, they said.

The researchers cautioned that this is an observational study, so cannot establish cause, while acknowledging that some misclassification bias may have occurred.

The study included mostly older white men, so results may not apply to other groups, they added.

The research suggests that people who survive the acute phase of COVID-19 are at increased risk of an array of incident mental health disorders, and that tackling mental health disorders among survivors of the disease should be a priority.

## **Cancer**

### **‘75,000 children get cancer in India every year’(The Tribune: 20220221)**

<https://www.tribuneindia.com/news/health/75-000-children-get-cancer-in-india-every-year-370162>

Lack of awareness, treatment refusal, and financial constraints are among the prime reasons for this delay in seeking right medical care, says expert

‘75,000 children get cancer in India every year’  
Photo for representation. — iStock

India is home to at least 20 per cent of the global childhood cancer burden, with nearly 75,000 kids getting cancer every year, according to the World Health Organisation (WHO).

Non-communicable diseases, including cancer, account for nearly 50 per cent of the total deaths among children aged between 5 years and 14 years and this situation can be improved by ensuring there is an enhanced awareness about the problem and ensuring access to quality healthcare for all, say doctors on International Childhood Cancer Day on February 15.

Most common types of childhood cancers are leukemias, brain cancers, lymphomas, and solid tumours like neuroblastomas and Wilms tumours. The burden of childhood cancers is high in low- and middle-income countries where the health system is weak and contributes to cure rates of less than 30 per cent due to significant barriers in early diagnosis, inability to accurately diagnose, poor access to health care facilities, and inability to initiate treatment promptly.

Dr Srikanth Soma, Consultant Surgical Oncologist, SLG Hospitals, said: “In spite of drastic improvement in cancer care services over the past few decades, India continues to have a low success rate when it comes to curing childhood cancers completely. That is because most of the malignancies brought to the notice of doctors are at advanced stages. Lack of awareness, treatment refusal, and financial constraints are among the prime reasons for this delay in seeking right medical care.

“Another major problem is that childhood cancer care services are currently available only at tertiary health centres in major cities, forcing a majority of India to depend on these few centres.” Dr Narender Kumar Thota, Consultant Medical Oncology & Haemato Oncologist & Stem Cell Bone Marrow Transplant Specialist, KIMS Hospitals, said: “(As many as) 1.6 to 4.8 per cent of all cancer in India is seen in children below 15 years of age and the overall incidence of 38 to 124 per million children, per year, is lower than that in the developed world.

“The considerable inter-regional variation in incidence and mortality rates across India suggests a possible deficiency in ascertainment of cases and death notification, particularly in rural areas. Unlike adult malignancies, childhood cancers do not have a known cause in a majority cases. Only 10 per cent cases are due to genetic reasons. Childhood cancers cannot be prevented nor identified through screening.”

According to Dr Revanth Reddy, Consultant Surgical Oncologist, Aware Gleneagles Global Hospital, financial support through the government-promoted health insurance and holistic support through philanthropic organisations have improved treatment adherence and outcome.

“Moving forward, the focus should be on strengthening the cancer registries for capturing nationwide data, improving awareness of childhood cancer among caregivers and healthcare workers for early recognition and improving accessibility of childhood cancer care services beyond major cities,” he said.

Symptoms of childhood cancers generally include unexplained weight loss, persistent pain in bone, joints or legs, lumps/mass in the abdomen, chest, neck or pelvis, excessive bruising or bleeding, prolonged fatigue, whitish appearance of the pupil etc.

In infants and children less than one year, neuroblastoma appears to be one of the most common cancers while in children between 1-4 years leukemias are common, and in children aged between 9-16 years, bone cancers are common.

Treatment for such cancers would include surgery, chemotherapy, radiotherapy, or a combination depending on the nature of malignancy and its stage of presentation. Doctors say focus should be on improving awareness about childhood cancers and its symptoms among parents and healthcare providers and improving healthcare access to remote areas. India needs to have a policy framework specifically to address childhood cancer care, they added. IANS

## **Vaccination**

### **Vaccination prevented 1 lakh Covid deaths in third wave, says Mansukh Mandaviya**

**2 crore adolescents fully vaccinated (The Tribune: 20220221)**

<https://www.tribuneindia.com/news/nation/vax-prevented-1-lakh-deaths-in-third-wave-says-mansukh-mandaviya-371137>

Vaccination prevented 1 lakh Covid deaths in third wave, says Mansukh Mandaviya  
Minister Mansukh Mandaviya releases a book in New Delhi. PTI

Union Health Minister Mansukh Mandaviya today said vaccines prevented at least one lakh deaths in the country during the third Covid wave.

Releasing a book titled “A Nation to Protect: Leading India through the Covid Crisis” written by Piyam Gandhi-Mody, Mandaviya said he would consider the world safe from Covid only when the virus vanished globally.

He said major foreign Covid vaccine manufacturers wanted indemnity and complete and sovereign immunity waiver to supply vaccines to India, but the government had clarified that they could do business in India only on India’s terms. He said conditions the foreign vaccine makers set to supply jabs to India only cemented the domestic resolve to make indigenous shots. —

## **Antimicrobial resistance**

### **No slacking: On action plans against antimicrobial resistance (The Hindu: 20220221)**

<https://www.thehindu.com/opinion/editorial/no-slacking-the-hindu-editorial-on-action-plans-against-antimicrobial-resistance/article65068311.ece>

India must raise the standard of living for citizens, besides regulating the use of antibiotics  
If lack of data was an impediment to roll out action plans against antimicrobial resistance (AMR), now that excuse has been yanked off. The recent publication of The Lancet’s global burden of bacterial antimicrobial resistance — an elaborate and studied estimate validated by using counterfactual analysis for the first time — comes at a time when the world, weary with battling COVID-19, seems to have lost steam to mount a robust AMR policy. But the report makes it clear that no slacking can be allowed on this front any longer; it estimated that 4.95 million deaths were associated with bacterial AMR in 2019 alone. It also identified the pathogens and pathogen-drug combinations that cause such resistance. Bacterial AMR occurs when the drugs used to treat infections become less effective, as a result of the pathogens becoming resistant to the drugs. This happens due to indiscriminate use of antibiotics,

availability of antibiotics over the counter, poor hygiene and sanitation, antimicrobial use in the farming and poultry industry, lack of vaccines and newer antibiotics, and poor infection control practices in hospitals. While data on exact number of deaths might not have been available, there was no doubt about the alarming nature of associated mortality and morbidity. And yet, few nations have a policy to counter this pernicious problem.

In 2008, when the NDM1 enzyme that renders bacteria resistant to a range of antibiotics was traced back to India, it served as an urgent call for action. India released its own AMR action plan in 2017, and announced a task force for implementation. By 2019, Kerala and Madhya Pradesh had rolled out State action plans. Since then, little progress has ensued: 11 other States are still framing their action plans. The Chennai Declaration, a consortium of doctors and health-care institutions against AMR, was also formed in 2012 to draw up a road map. The ban on Colistin in the poultry, aqua farming and animal feeds supplements sectors, which India enforced from July 2019, was considered a strong strike in countering the AMR challenge. No doubt AMR offers humanity one of the most complex challenges that it has faced; but the recognition that solutions are not only in the realm of science is necessary. Scientific publications have established the correlation between AMR and poor hygiene, lax administrative governance and poor ratio of public-private expenditure. While the scientific community looks for solutions in its ken, governments must raise the standard of living for citizens, provide them accessible and affordable quality health care, besides regulating the sale and use of antibiotics. Not doing so in studied haste will only land up eroding the significant health-care gains India has proactively, and painfully at times, secured over the years.

## **Leprosy**

### **Leprosy detection fell during pandemic: report (The Hindu: 20220221)**

<https://www.thehindu.com/sci-tech/health/pandemic-affected-different-vulnerable-groups-differently-says-report-on-leprosy/article65068226.ece>

A COVID-19 vaccination vehicle for leprosy patients is flagged off in Tirunelveli in 2021.

A COVID-19 vaccination vehicle for leprosy patients is flagged off in Tirunelveli in 2021. | Active case tracking activities suspended in most States

The COVID-19 pandemic and its ensuing recommendations on social distancing and lockdowns caused a fall of 62.5% in the detection of active leprosy cases between April and September 2020 when compared with the previous year's corresponding period in four States — Andhra Pradesh, Odisha, Bihar and Madhya Pradesh.

In 2019, these States accounted for 35% of the total new leprosy cases reported in the country. They reported 22,000 new cases during April-September 2019, but only 8,270 for the same period in 2020. The latest report by the Leprosy Mission Trust India, "The Pandemic and the People's Plight", says that active case finding activities were suspended in most States since April 2020.

Two other worrying trends emerged. The report highlights that the proportions of multibacillary (MB) leprosy and grade-2 disability (G2D) among the new cases increased by 20% and 12%, respectively, during April-September 2020, compared to the same six-month period in 2019. Moreover, the proportion of both women and children among new cases decreased by 70% compared to the same two quarters in 2019. These figures were shared by the National Leprosy Eradication Programme (NLEP), notes the report.

Other Indian States may have experienced similar outcomes, especially when the second wave put brakes on the Leprosy Case Detection Campaign for the entire second quarter of 2021 (April-June).

Did detection of leprosy fall during the pandemic? | In Focus podcast

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The report also has constraints in terms of the sample size it reached out to. “Collectively, we could reach out to around 400 respondents for getting firsthand information on the impact of COVID-19. The in-house survey of patients, residents of leprosy colonies, public health consultants, ASHA workers and students from vocational training centres is restricted to six States and Union Territories: Andhra Pradesh, Chhattisgarh, Delhi, Maharashtra, and Tamil Nadu,” it said.

The report said that people undergoing leprosy treatment need to visit hospitals regularly for their routine medical needs such as blood pressure monitoring, ulcer dressing, medicines (multi drug therapy or MDT blister packs, and steroids), and micro-cellular rubber (MCR) footwear.

The report also states: “With public transport becoming out of bounds because of nationwide lockdown, the scope for getting healthcare and disability management services in institutional setup reduced. Of all the things that COVID-19 pandemic taught us, the most important was, perhaps, the fact that the ‘vulnerable population’ is not a homogenous entity. Their vulnerability is sometimes a complex intersection of different social variables: poverty, disability, stigma, exclusion, etc. Much to our dismay, the pandemic demonstrated how it affects different vulnerable groups differently, with adverse consequences being the constant factor.”

## **Chickenpox vaccine**

### **Google Doodle honours Dr Michiaki Takahashi, the inventor of chickenpox vaccine(The Hindu: 20220221)**

<https://www.thehindu.com/sci-tech/science/google-doodle-honours-dr-michiaki-takahashi/article65058366.ece>

Today’s Doodle celebrates Japanese virologist Dr. Michiaki Takahashi, who developed the first vaccine against chickenpox

Today’s Doodle celebrates Japanese virologist Dr. Michiaki Takahashi, who developed the first vaccine against chickenpox | Photo Credit: The Hindu

Japanese virologist Dr Michiaki Takahashi had developed the first vaccine against chickenpox in 1974

A doodle on search giant Google's homepage on February 17, 2022, has featured Japanese virologist Dr Michiaki Takahashi, the developer of the world's first vaccine against chickenpox, to commemorate his 94th birthday.

The doodle, illustrated by Tatsuro Kiuchi, a Tokyo-based artist, depicts Dr Takahashi looking through his microscope, and putting a bandaid on a child's arm.

"Thanks to his innovations, millions of cases of chickenpox are prevented each year," Google said in a note released with the doodle.

Dr Takahashi was born on this day in 1928 in Japan's Osaka. His chickenpox vaccine, named 'Oka', was developed in 1974 and subsequently approved by the World Health Organization. The lifesaving immunisation went on to be used by 80 countries and was administered to millions of children .

After earning a medical degree from the Osaka university, Dr Takahashi had joined the Research Institute for Microbial Disease at the same university in 1959, to study polio viruses and measles.

In 1963, Dr Takahashi accepted a research fellowship at Baylor College in the United States. It was during his time at the institute that his son developed a severe case of chickenpox, which led him to change the focus of his research, with the aim of developing a vaccine against the viral illness.

Returning to Japan in 1965, the virologist began culturing weakened, live strains of chickenpox. In 1974, he came up with the first vaccine against Varicella Virus, which causes the disease. The drug was subjected to a thorough trial process, involving immunosuppressed patients, eventually proving to be highly effective.

The Research Foundation for Microbial Disease at Osaka University began rolling out the vaccine in 1986 in Japan. At the time, Dr Takahashi's was the only vaccine approved by the World Health Organisation, against Varicella virus.

In 1994, Dr Takahashi was appointed the director of the Microbial Disease study Group at Osaka University. He held this position until retirement.

Dr Michiaki Takahashi died in 2013 of a cardiac arrest.

A doodle on search giant Google's homepage on February 17, 2022, has featured Japanese virologist Dr Michiaki Takahashi, the developer of the world's first vaccine against chickenpox, to commemorate his 94th birthday.

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## Medical knowledge

### **This isn't yet another fancy hospital, future of medical knowledge will unfold in IISc. -(The Hindu: 20220221)**

<https://www.thehindu.com/news/cities/bangalore/this-isnt-yet-another-fancy-hospital-future-of-medical-knowledge-will-unfold-in-iisc-bengaluru-subroto-bagchi/article65055529.ece>

Radha and N.S. Parthasarathy with Subroto and Susmita Bagchi who gave their wealth to Indian Institute of Science in Bengaluru to set up a facility for research and healthcare. Radha and N.S. Parthasarathy with Subroto and Susmita Bagchi who gave their wealth to Indian Institute of Science in Bengaluru to set up a facility for research and healthcare. | Photo Credit: The Hindu

Philanthropist says underbelly of the healthcare system was starkly visible during the Covid-19 pandemic, and we run the risk of collective amnesia as we come out of it  
Philanthropist couples Susmita and Subroto Bagchi, and Radha and N.S. Parthasarathy collectively donated ₹425 crore to the Indian Institute of Science (IISc.) to set up a postgraduate medical college and an 800-bed multi-speciality hospital on its Bengaluru campus. Less than a year ago, the Bagchis had committed ₹340 crore towards building a cancer hospital and palliative care centre in Odisha.

Mr. Bagchi, co-founder of Mindtree, in a conversation with The Hindu spoke about why health is the most important space that requires attention and how the Covid-19 pandemic drastically changed his views about the term 'lifetime'.

Excerpts from an interview:

Why do you believe healthcare in India requires a lot of resources, attention and focus?  
For a nation of 1.3 billion people, we are woefully inadequate in terms of healthcare infrastructure and investment. The big part of this is not the hardware, it is the human capital mismatch. We do not have enough doctors, nurses, paramedics, hospital beds. As a result, access and equity have suffered hugely over the last many decades. The underbelly of the healthcare system was starkly visible during the Covid-19 pandemic, and we run the risk of collective amnesia as we come out of it.

The difficulty with us is that we think that the big strides in healthcare must be always the government's job. But if we look at developed nations, great things in medical research and healthcare happened because private individuals came forward to write a cheque and had the sagacity to walk away from it. That is how Sloan Kettering (oldest and largest cancer centre in New York) happened. Harvard, Yale and Stanford and Oxford flourished because of commitment from non-government and non-institutional actors of change.

Giving is not so easy, it's a special call. What prepared you and Ms. Susmita for it?

Long back, Susmita and I chose to focus on healthcare due to personal reasons. Her mother battled cancer and later dementia. My mother was blind, and my father had mental health issues. Through deeply personal experiences, deeply personal choices present themselves. That is how we decided to work on mental health, vision, cancer and ageing. We decided to set up a large cancer hospital and a palliative care centre in Odisha. This will be one of the largest cancer cure and care facilities in the country.

Sri Shankara Cancer Foundation from Bengaluru is setting up a 750-bed hospital in Bhubaneswar. Karunashraya, the hugely regarded palliative care pioneer, will set up their facility. These two will be adjacent to each other. The Odisha Government has given 20 acres of prime land to each of these institutions free of charge. With these two major projects under way, we needed to do something in Karnataka.

What made you zero in on Karnataka and IISc.?

Odisha and Karnataka are very dear to us. Odisha has given us life, and Karnataka has given us identity. But, we were looking at a possible convergence between health and education. That is exactly what happened with the IISc. project. While our work in Odisha will deliver care, our support to IISc. will lead to path-breaking inter-disciplinary research that will have bench-to-bed translational impact. It will create a special cadre of scientist-doctors that India badly needs. The facility will create a new breed of physician-scientists who will pursue careers in clinical research to develop new treatments and healthcare solutions.

Can you take us through the highlights of the discussions with IISc.?

The Government of India had taken a decision that institutes of eminence, like IISc. and IITs, could start medical schools so that science, engineering and medicine could be under one roof, as it happens in leading institutions in the world. But, the caveat was that these institutes were told to generate their own resources.

Health facilities require massive investments. It could freeze anyone into inaction. But we were stumped when we saw how far, how professionally, a group of leaders in IISc. had gone forward to blueprint their ideas. Frankly, when I read their papers, I was asking myself, could I myself have written a plan so good with my decades of institution building experience. They drew us in.

Bengaluru is already the healthcare capital of India. Why do you think the city requires another healthcare and training facility?

As I said before, India has woefully inadequate healthcare research and delivery capacity. Bengaluru is better than other places, but not good enough. Not globally comparable. Not demographically adequate. But leaving that aside, don't for a moment think that all that is happening is an 800-bed multi-speciality hospital in IISc. The hospital is the focal point where doctors, physicists, biologists, nano-technologist, software and deep tech experts as much as med-tech start-ups will learn by doing. The bigger umbrella is the Institute of Medical Sciences, which will do cross-disciplinary research, training, innovation, capacity building. The hospital will be the stage on which they will all perform. It is called a bench-to-bed and bed-to-bench flow of knowledge.

New machines and equipment will be designed and tried here, new processes will be perfected here, new vaccines will be designed, developed and tried here. A whole new cadre of scientist-doctors will come out of it who will be able to lift the larger eco-system of healthcare in India. This isn't yet another fancy hospital. The future of medical knowledge will unfold here.

Certain sections of the public feel a hospital venture on the pristine campus of IISc. may disturb its calm and tranquil environment, which is critical for research-related activities. What are your views?

We have been told that the green cover of IISc. will not suffer. The total area is only 15 acres in about a 440-acre campus. If there is any need for relocation of any tree, there is enough technology and capability on hand to do so. The IISc. administration is deeply committed to protecting its environment. We were very impressed with how they have executed their super-state-of-the-art fablab without sacrificing a single tree.

How has the Covid-19 pandemic impacted your philanthropic decisions?

It made Susmita and me, and at the same time Partha and Radha, rethink timelines. It gave us a sense of urgency like never before. We had a shared belief that we must spend our money for the larger good in our own lifetime. The Covid-19 pandemic told us, don't think a lifetime can be a long time. Engage now, tomorrow may be too late.

## **Miracle cure for HIV**

### **A miracle cure for HIV(The Hindu: 20220221)**

<https://www.thehindu.com/sci-tech/health/a-miracle-cure-for-hiv/article65059925.ece>

A woman from the U.S has reportedly been cured of the HIV infection, making her the third person ever to be cured.

A woman from the U.S has reportedly been cured of the HIV infection, making her the third person ever to be cured. | Photo Credit: Getty Images/iStockphoto

What is the usual treatment for HIV infection? How is the latest experimental remedy different? The story so far: There is considerable excitement in the world of medicine after scientists reported that a woman living with HIV (Human Immunodeficiency Virus) and administered an experimental treatment is likely 'cured'. Only three people so far are known to have been cured of HIV.

What do we know about the treatment?

This week at a Conference on Retroviruses and Opportunistic Infections, Colorado, United States. researchers described the case of a 60-year-old African American woman who was diagnosed with an HIV infection in 2013 was started on the standard HIV treatment regimen of anti-retroviral treatment (ART) therapy consisting of tenofovir, emtricitabine and raltegravir. She was also later diagnosed with leukemia in 2017

In that year she received cord blood, or embryonic stem cells, from a donor with a rare mutation that naturally blocks the HIV virus from infecting cells. She was also given blood stem cells, or adult stem cells, from a relative. The adult stem cells boosted the patient's immunity and possibly helped the cord blood cells fully integrate with the lady's immune system.

## THE GIST

This week at a Conference on Retroviruses and Opportunistic Infections, Colorado, United States, researchers described the case of a 60-year-old African American woman who was diagnosed with an HIV infection in 2013 and has reportedly been cured of the infection. She has been off ART treatment for almost 14 months now.

A combination of embryonic stem cells, from a donor with a rare mutation that naturally blocks the HIV virus from infecting cells, along with adult stem cells seems to have been the 'miracle' cure. The adult stem cells boosted the patient's immunity and possibly helped the cord blood cells fully integrate with the lady's immune system.

While this approach is certainly a welcome addition, stem cell therapy is a cumbersome exercise and barely accessible to most HIV patients in the world. A vaccine for HIV or a drug that eliminates the virus is still elusive and would be the long sought 'cure' for HIV/AIDS.

A little over three years after the transplant, the lady discontinued the ART and today more than 14 months down, her doctors report that she has no sign of HIV in her blood and also has no detectable antibodies to the virus.

Embryonic stem cells are potentially able to grow into any kind of cell and hence their appeal as therapy, though there is no explanation for why this mode of treatment appeared to be more effective.

What is unique about the recovery of this woman?

Only two people have reportedly been cured of HIV so far and both have relied on bone marrow transplants from donors who carried the mutation, called CCR5 delta 32, that naturally makes one immune to an HIV infection and AIDS.

Timothy Ray Brown, or the 'Berlin patient' staved off the virus for 12 years but died of cancer in 2020. Another patient, Adam Castillejo, was the second reported case of a cure. Both men received bone marrow transplants from donors who carried a mutation that blocks HIV infection. However, the previous transplants involved adult stem cells and these cells from the bone marrow replaced their immune system. The body's natural tendency is to reject foreign stem cells and so both donors suffered side effects such as graft versus host disease where the donor's cells attack the recipient's body. Both men developed severe illnesses throughout their HIV remission but in contrast the woman was discharged from hospital within 17 days of the transplant and did not develop graft versus host disease. Her doctors theorise that it was a combination of the embryonic and adult stem cells that led to a better health outcome. However, because it's only been five-odd years of being HIV-free, it remains to be seen if the lady will live longer than Brown or Castillejo.

Is this treatment the long-sought cure for AIDS?

Not at all. While this approach is certainly a welcome addition to the arsenal of treatments, stem cell therapy is a cumbersome exercise and barely accessible to most HIV patients in the world. Moreover, this requires stem cells from that rare group of individuals with the beneficial mutation. Anti-retroviral therapy, through the years, has now ensured that HIV/AIDS isn't always a death sentence and many with access to proper treatment have lifespans comparable to those without HIV.

A vaccine for HIV or a drug that eliminates the virus is still elusive and would be the long sought 'cure' for HIV/AIDS.

What is the prevalence of HIV/AIDS in India?

As per the India HIV Estimation 2019 report, the estimated adult (15 to 49 years) HIV prevalence trend has been declining in India since the epidemic's peak in the year 2000 and has been stabilising in recent years. In 2019, HIV prevalence among adult males (15–49 years) was estimated at 0.24% and among adult females at 0.20% of the population.

There were 23.48 lakh Indians living with HIV in 2019. Maharashtra had the maximum at 3.96 lakh followed by Andhra Pradesh (3.14 lakh) and Karnataka.

India's National Aids Control Organisation says that ART is "freely available" to all those who require and there are deputed centres across the country where they can be availed from.

## **Depression**

### **Depression remains a neglected global health crisis: report(The Hindu: 20220221)**

<https://www.thehindu.com/sci-tech/health/depression-remains-a-neglected-global-health-crisis-report/article65056889.ece>

Representational image | Photo Credit: Getty Images/iStockphoto

Lancet and World Psychiatric Association Commission on depression released its document on Tuesday

The world is failing to tackle the persisting and increasingly serious global crisis of depression it is facing, a Lancet and World Psychiatric Association Commission on depression has stated. The document was released Tuesday night.

It has estimated that 5% of adults worldwide suffer from depression each year, and yet it remains a neglected global health crisis. Poor understanding of this condition and lack of psychosocial and financial resources are already impacting on prevention, diagnosis, treatment, and the economic prosperity of nations.

There is abundant evidence that much can be done to prevent depression and aid recovery even in resource-limited settings, and yet the burden of people living with depression, many of them not diagnosed and consequently not treated. While in high income countries, about half of people suffering from depression come under this category, this rises to 80-90% in low- and middle-income countries. As expected, the COVID-19 pandemic has created additional challenges, with the hardship, bereavement, isolation, and uncertainties, besides limited access to health care exacerbating mental health conditions, and bringing more people to the brink.

The document was authored by 25 experts from 11 countries spanning disciplines from neuroscience to global health and advised by people with experience of depression. Commission Chair Professor Helen Herrman said: "Depression is a global health crisis that demands responses at multiple levels. This Commission offers an important opportunity for

united action to transform approaches to mental health care and prevention globally. Investing in reducing the burden of depression will give millions of people the chance to become healthier, happier and more productive members of society, help to strengthen national economies, and advance the United Nation's Sustainable Development Goals for 2030.

The Lancet- WPA Commission 'Time for united action on depression' has called for a whole-society approach to preventing depression, on the lines of what has been done for conditions such as heart disease or cancer.

Co-author Charles Reynolds adds: "We know that most individuals with depression at all stages of life will recover if they obtain adequate support and treatment. With sound science, political will, and shared responsibility, depression can be prevented and treated and potentially disabling consequences avoided. We must empower people with experience of depression together with families, practitioners, policymakers and civil society to address the tsunami of unmet needs."

## **Bone health, immunity**

### **Nutritionist suggests 10 winter superfoods for 'bone health, immunity, good skin and hair'**

**"Make sure you include them in your diet this winter," Rujuta Diwekar said, listing the foods, the best way to consume them and the various health benefits associated with them. (The Indian Express:20220221)**

<https://indianexpress.com/article/lifestyle/health/winter-health-superfoods-healthy-food-cold-season-rujuta-diwekar-7746089/>

peanutsConsume peanuts during winter months. (Source: Getty Images/Thinkstock)  
Winter brings much-needed respite from the sultry weather and adds festive cheer to the atmosphere. However, the seasonal change also calls for a nutritious diet and balanced lifestyle to protect oneself from the dry weather, dipping temperatures, and keep the body warm and healthy.

Thus, you must include some winter foods that are known for their innumerable health benefits to keep seasonal issues at bay. To help you, celebrity nutritionist Rujuta Diwekar has shared 10 "time-tested" superfoods "for good immunity, joint and bone health, good skin and hair, and much more."

ALSO READ |Brinjals make for the perfect addition to your winter meals; know why  
"Make sure you include them in your diet this winter," Diwekar said, listing the foods, the best way to consume them and the various health benefits associated with them.

## Coronavirus

**कोरोना को मात देता देश; बीते दिन 16 हजार केस मिले तो 37 हजार से ज्यादा लोग ठीक हुए(Dainik Bhasker:20220221)**

<https://www.livehindustan.com/national/story-india-corona-virus-cases-daily-report-latest-updates-death-toll-and-recovery-rate-5865394.html>

कोरोना को मात देता देश; बीते दिन 16 हजार केस मिले तो 37 हजार से ज्यादा लोग ठीक हुए इस खबर को सुनें

देश में रविवार को कोरोना वायरस से संक्रमण के 16,051 से कम मामले सामने आए और 206 मरीजों की मौत हुई। इस दौरान 37,901 लोग ठीक हुए, जिससे अब तक रिकवर होने वालों की संख्या बढ़कर 4,21,24,284 हो गई। फिलहाल रिकवरी रेट 98.33% है।

इस समय कोरोना के 2,02,131 एक्टिव केस हैं, जिसकी दर 0.47% है। रविवार को देश भर में 8,31,087 कोरोना टेस्ट हुए। अब तक 76.01 करोड़ टेस्ट हो चुके हैं। वहीं, कोविड-19 के खिलाफ वैक्सीनेशन कैंपेन जारी है। देश भर में अब तक 175.47 करोड़ वैक्सीन डोज लग चुकी हैं।

मध्य प्रदेश में रविवार को कोरोना के 950 नए मामले मिले

मध्य प्रदेश में रविवार को कोरोना के 950 नए मामले सामने आने से संक्रमितों की संख्या बढ़कर 10,34,440 हो गई। स्वास्थ्य विभाग के अधिकारी ने कहा कि पिछले 24 घंटों में मध्य प्रदेश में कोविड-19 से दो और मरीजों की मौत हुई है, जिसे मिलाकर राज्य में इस महामारी से अब तक कुल 10,715 लोगों की जान जा चुकी है। राज्य में फिलहाल 7,527 मरीज उपचाराधीन हैं और पिछले 24 घंटों में 1,785 लोगों के स्वस्थ होने से राज्य में इस संक्रमण को मात देने वालों की संख्या बढ़कर 10,16,198 पर पहुंच गई है।

महाराष्ट्र में बीते दिन कोरोना 1,437 नए केस आए

महाराष्ट्र में रविवार को कोरोना वायरस संक्रमण के 1,437 नए मामले सामने आने के बाद संक्रमितों की कुल संख्या बढ़कर 78,58,431 हो गई। इसके अलावा छह रोगियों की मौत के साथ ही मृतकों की तादाद बढ़कर 1,43,582 तक पहुंच गई। एक अधिकारी ने बताया कि राज्य में बीते 24 घंटे में 3,375 लोगों के संक्रमण से उबरने के बाद ठीक हो चुके लोगों की कुल संख्या 76,94,439 हो गई है। वहीं, राज्य में फिलहाल 16,422 मरीज उपचाराधीन हैं जबकि संक्रमण से उबरने की दर 97.91 प्रतिशत है।