

Health Matters

Improving response to future infectious disease outbreaks

Researchers have come up with a new way to identify more infectious variants of viruses or bacteria that start spreading in humans -- including those causing flu, COVID, whooping cough and tuberculosis.

The new approach uses samples from infected humans to allow real-time monitoring of pathogens circulating in human populations, and enable vaccine-evading bugs to be quickly and automatically identified. This could inform the development of vaccines that are more effective in preventing disease.

The approach can also quickly detect emerging variants with resistance to antibiotics. This could inform the choice of treatment for people who become infected -- and try to limit the spread of the disease.

It uses genetic sequencing data to provide information on the genetic changes underlying the emergence of new variants. This is important to help understand why different

variants spread differently in human populations.

There are very few systems in place to keep watch for emerging variants of infectious diseases, apart from the established COVID and influenza surveillance programmes. The technique is a major advance on the existing approach to these diseases, which has relied on groups of experts to decide when a circulating bacteria or virus has changed enough to be designated a new variant.

By creating 'family trees', the new approach identifies new variants automatically based on how much a pathogen has changed genetically, and how easily it spreads in the human population -- removing the need to convene experts to do this.

It can be used for a broad range of viruses and bacteria and only a small number of samples, taken from infected people, are needed to reveal the variants circulating in a population. This makes it particularly valuable

for resource-poor settings.

The report is published today in the journal Nature.

"Our new method provides a way to show, surprisingly quickly, whether there are new transmissible variants of pathogens circulating in populations -- and it can be used for a huge range of bacteria and viruses," said Dr Noémie Lefrancq, first author of the report, who carried out the work at the University of Cambridge's Department of Genetics.

Lefrancq, who is now based at ETH Zurich, added: "We can even use it to start predicting how new variants are going to take over, which means decisions can quickly be made about how to respond."

"Our method provides a completely objective way of spotting new strains of disease-causing bugs, by analysing their genetics and how they're spreading in the population. This means we can rapidly and effectively spot the emergence of new highly transmissible strains,"

said Professor Julian Parkhill, a researcher in the University of Cambridge's Department of Veterinary Medicine who was involved in the study.

The researchers used their new technique to analyse samples of *Bordetella pertussis*, the bacteria that causes whooping cough. Many countries are currently experiencing their worst whooping cough outbreaks of the last 25 years. It immediately identified three new variants circulating in the population that had been previously undetected.

"The novel method proves very timely for the agent of whooping cough, which warrants reinforced surveillance, given its current comeback in many countries and the worrying emergence of antimicrobial resistant lineages," said Professor Sylvain Brisse, Head of the National Reference Center for whooping cough at Institut Pasteur, who provided bioresources and expertise on *Bordetella pertussis*

genomic analyses and epidemiology.

In a second test, they analysed samples of *Mycobacterium tuberculosis*, the bacteria that causes Tuberculosis. It showed that two variants with resistance to antibiotics are spreading. "The approach will quickly show which variants of a pathogen are most worrying in terms of the potential to make people ill. This means a vaccine can be specifically targeted against these variants, to make it as effective as possible," said Professor Henrik Salje in the University of Cambridge's Department of Genetics, senior author of the report.

He added: "If we see a rapid expansion of an antibiotic-resistant variant, then we could change the antibiotic that's being prescribed to people infected by it, to try and limit the spread of that variant."

The researchers say this work is an important piece in the larger jigsaw of any public health response to infectious disease.

The rapidly expanding global healthcare landscape demands a comprehensive approach to medical education. As the population ages, the need for healthcare grows, and the healthcare workforce adapts to meet increasing demand. Over the past few decades, the number of medical schools worldwide has doubled, highlighting the necessity of consistent accreditation systems to ensure quality education and maintain standards.

According to Kadwin Pillai, Managing Director of Transworld Educare and Chairman of Kings International Medical Academy, The global shortage of healthcare professionals, coupled with demographic and infrastructural challenges, has spurred the creation of new medical schools. According to the World Health Organization (WHO), there are now over 3,000 medical schools worldwide, with over 400,000 new doctors graduating annually. Countries like India, China, and the United States have become leaders in medical education.

Bacteria and viruses that cause disease are constantly evolving to be better and faster at spreading between us. During the COVID pandemic, this led to the emergence of new strains: the original Wuhan strain spread rapidly but was later overtaken by other variants, including Omicron, which evolved from the original and were better at spreading. Underlying this evolution are changes in the genetic make-up of the pathogens.

Pathogens evolve through genetic changes that make them better at spreading. Scientists are particularly worried about genetic changes that allow pathogens to evade our immune system and cause disease despite us being vaccinated against them.

"This work has the potential to become an integral part of infectious disease surveillance systems around the world, and the insights it provides could completely change the way governments respond," said Salje.

cy is especially concerning for students in lower-income countries, where educational infrastructure may be subpar. International students seeking medical degrees may also struggle to access high-quality education abroad, and this inconsistency threatens patient safety and healthcare efficiency.

To address these issues, the establishment of a unified accreditation system for medical schools is critical. Accreditation bodies play a key role in ensuring that institutions meet global standards in educating future doctors and providing quality healthcare services.

The Need for Unified Accreditation Standards

Accreditation serves as an essential mechanism for guaranteeing the quality of medical education. Without universal accreditation standards, it becomes difficult to evaluate the proficiency of medical schools or the preparedness of their graduates to work in different healthcare settings. The World Federation for Medical Education (WFME) and the Liaison Committee on Medical Education (LCME) have been at the forefront of creating international accreditation frameworks. These organizations aim to establish a globally recognized structure for medical training, ensuring that all medical graduates are competent and ethical, regardless of the institution they attended.

Ensuring Quality and Consistency

While the growth in the number of medical schools is encouraging, it is crucial that this expansion does not compromise the quality of education.



Kadwin Pillai

The WHO defines quality control in medical education as encompassing academic experience, clinical practice, equipment, resources, and evidence-based approaches. To maintain these standards, accreditation bodies such as the WFME and LCME monitor institutions to ensure they meet established criteria.

The growth of new medical schools globally reflects the rising demand for healthcare professionals, but it also highlights the challenges of standardizing medical education. A unified accreditation system is essential to ensure that all medical graduates are adequately trained to provide effective, high-quality care, regardless of where they were educated. As the future of medical education evolves, it will be crucial to produce doctors who are not only technically proficient but also professionally competent and ethically sound. The future of global healthcare depends on the ability of medical education systems to meet these standards and address the needs of a diverse, growing population.

FSSAI lifts ban on vitamin B12 derivatives

New Delhi: The Food Safety and Standards Authority of India (FSSAI) has provided clarity on the regulatory framework surrounding the use of methylcobalamin, a form of Vitamin B12, in health supplements, medical purpose and nutraceutical products.

The Union Health Ministry's decision to lift the ban on methylcobalamin, a critical vitamin B12 derivative, is yet to be formalized, leaving its regulatory status in limbo despite scientific backing and growing demand for its use in treating conditions such as diabetic neuropathy.

While the Government of India's Scientific Committee approved the molecule's safety in 2019, the necessary gazette notification to officially lift the ban is still pending, raising concerns among health professionals and industry stakeholders.

Dr Sanjay Agrawal, Scientific Advisor of ALKOMEX GBN U.S.A. and Leading Pharmaceutical Consultant and Inventor Ahmedabad, emphasized, "As per the Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, and Probiotic and Prebiotic Food) Regulations, 2022, the permitted forms of Vitamin B12 currently include cyanocobalamin and hydroxocobalamin. However, methylcobalamin may also be permitted under certain conditions, provided that food business operators notify the Food Authority and submit any additional safety data requested."

The regulations also stipulate that the level of Vitamin B12 in products must not exceed one Recommended Dietary Allowance (RDA)

except in specific categories such as Food for Special Medical Purposes (FSMP) and Food for Special Dietary Use (FSDU). In such cases, prior approval from the Food Authority is required for levels exceeding the RDA.

Most of Indian population is deficient of methylcobalamin due to a number of factors, most important is vegetarian population is more in Indian than non veg.

Methylcobalamin is frequently available in non veg. than veg sources. Best source is milk and milk products states, Dr Sanjay Agrawal said.

Vitamin B12, a crucial water-soluble vitamin, is integral to DNA synthesis, red blood cell production, and neurological function. It is predominantly found in animal-based foods like meat, fish, and dairy products, with plant-based foods providing little to none.

Deficiency in this vitamin can lead to serious health consequences, often requiring supplementation.

"Methylcobalamin, an active form of vitamin B12, is the most bioavailable and therapeutically effective form. Unlike cyanocobalamin, which requires biotransformation, methylcobalamin is readily absorbed and utilized by the body, making it a preferred choice for supplementation," says Dr Agrawal.

Dr. Agrawal added, "This development highlights Government's focus on balancing innovation in the nutraceutical sector with consumer safety. It is crucial for food business operators to remain compliant and ensure transparency in the use of derivatives and salts of vitamins in their formulations." The statement comes in response to an official letter issued by the Secretariat of FSSAI's Expert Committee on Nutraceuticals, addressing industry concerns about the inclusion of methylcobalamin under the regulations.

SHIVALIK SMALL FINANCE BANK LTD.
Registered Office: 501, Salcon Aurum, Jasola District Centre, New Delhi - 110025
CIN : U65900DL2020PLC366027

AUCTION NOTICE

The following borrowers of Shivalik Small Finance Bank Ltd. are hereby informed that Gold Loans/availed by them from the Bank have not been adjusted by them despite various demands and notices including individual notices issued by the Bank. All borrowers are hereby informed that it has been decided to auction the Gold ornaments kept as security with the Bank and accordingly **30th January 2025** has been fixed as the date of auction at **03:00 pm** in the branch premises from where the loan was availed. All, including the borrowers, account holders and public at large can participate in this auction on as per the terms and conditions of auction.

S. No.	Branch	Account No.	Actt Holder name	Father's/ Spouse Name	Address	Ac opening Date	Payoff
1.	CHENNAI	104142510986	RAJ/KUMAR J	S/O JANAKIRAMAN	21 33,84TH STREET 13TH SECTOR SIVALINGAPURAM KK NAGAR,KALAIAGNAR KARUNANIDHI NAGAR CHENNAI TAMIL NADU 600078	08-08-2024	210962.47
2.	CHENNAI	104142510334	K DINESH	S/O KARUPPATHEVAN	1 17 VEMBULI AMMAN KOVIL,STREET EXTN BRINDAVAN NAGAR ,PAZHAVANTHANGAL KANCHEEPURAM TAMILNADU 600114	05-03-2024	83134.97
3.	CHENNAI	104142510704	R NARAYANAN	S/O RAMU	29 AND 52 A BLOCK F2 PLOT VISOKA, ASWINI FLAT WEST INDIRA NAGAR 5TH STREET , KATTUPAKKAM TIRUVALLUR TAMIL NADU 600056	31-05-2024	142074.63
4.	CHENNAI	104142510967	MALATHI K	C/O KUMARESANA	NO 3 456 GROUND FLOOR 25TH STREET NSK NAGAR ARUMBAKKAM CHENNAI TAMIL NADU 600106	02-08-2024	254754.66
5.	CHENNAI	104142510341	ALEXANDER M	S/O MARIAROKO	O N 5 N 9 (BLOCK C), VALLALAR STREET MMDA ARUMBAKKAM,CHENNAI TAMIL NADU 600106	06-03-2024	106169.19
6.	CHENNAI	104142510553	R PRAMA	S/O RAJAN	9/4,SOLAI 2ND STREET AYANPURAM AYANAVARAM, CHENNAI/TAMILNADU 600023	25-04-2024	67607.10
7.	CHENNAI	104142510855	SAIRAM T	S/O KRISHNAIYA	98,MAHATMA GANDHI STREET RAJIV GANDHI NAGAR ALA, AKKAM PORUR TIRUVALLUR CHENNAI/TAMILNADU 600116	05-07-2024	471436.08
8.	CHENNAI	104142511003	VAISALI S	S/O SELVARAJ	NO 3/5,ELANGO STREET VIVEKANANTHA NAGAR KODUNGAIYUR CHENNAI TAMIL NADU 600118	13-08-2024	121318.21
9.	CHENNAI	104142511005	MUKESHRAJA KENNEDI	S/O KENNEDI	54, G CHETTY STREET MLYAPORE, CHENNAI TAMIL NADU 600004	13-08-2024	177439.91
10.	CHENNAI	104142511008	K SATHISH	S/O KUMAR	9/5,PILLAIYAR KOIL STREET T NAGR THIYARARAY NAGAR CHENNAI TAMIL NADU 600017	13-08-2024	139282.24

Auction date is 30th January 2025 @ 03:00 pm.

The Bank reserves the right to delete any account from the auction or cancel the auction without any prior notice.

Authorised Officer, Shivalik Small Finance Bank Ltd.

Kotak Mahindra Bank Limited Online E - Auction Sale Of Asset

Registered Office: 27 BKC, C 27, G-Block, Bandra Kurla Complex, Bandra (E) Mumbai, Maharashtra, Pin Code-400051, Branch Office: Kotak Mahindra Bank Ltd., - 485, 2nd Floor, Mount Road, Anna Salai, Chennai-600006, (Land Mark - Next To India Garage Mahindra Car Show Room)

Notice For Sale Of Immovable Properties

E-auction sale notice for sale of immovable assets under the securitisation and reconstruction of financial assets and enforcement of security interest act, 2002 under rule 6(5) and 6(6) of the security interest (enforcement) rule, 2002. Subsequent to the assignment of debt in favour of Kotak Mahindra Bank Limited by "PNB Housing Finance Limited" (hereinafter referred to as "PNBHF") the authorised officer of Kotak Mahindra Bank Limited (hereinafter referred to as "The Bank/MBMS Secured Creditor") has taken the possession of below described immovable property (hereinafter called the secured asset) mortgaged/charged to the secured creditor on 13.08.2024. Notice is hereby given to the borrower (s) and co-borrower (s) in particular and public in general that the bank has decided to sell the secured asset through e-auction under the provisions of the Sarthees Act, 2002 on "As is where is", "As is what is", and "Whatever there is" basis for recovery of Rs. 2,03,17,728/- (Rupees Two Crore Three Lakh Seventeen Thousand Seven Hundred and Twenty Eight Only) outstanding as on 10.01.2025 along with future applicable interest till realization, under the loan account no. HOUJCMR081954349; loan availed by Mr. Rajasekar Pillai K. M. Shobana J. as per below details.

Particular	Detail
Date of Auction	25.02.2025
Time of Auction	between 12:00 pm to 1:00 pm with unlimited extension of 5 minutes
Reserve Price	Rs. 48,07,000/- (Rupees Forty Eight Lakh seven thousand only)
Earliest Money Deposit (EMD)	For property No.1-Rs.5,00,000/- (Rupees Five Lakh Only) For property No.2-Rs.4,80,700/- (Rupees Four Lakh Eighty Thousand and Seven Hundred Only)
Last Date For Submission Of EMD With KYC	24.02.2025 up to 6:00 P.M. (IST)

Description Of The Secured Asset - "A": All that piece and parcel of land bearing Plot No. 285, 287, 288, 289, 290, 291 forming part of IT Highway Co-operative Nagar layout as D.T.C.P approved plan No. 62/011, situated at Thaur Village, previously Chengalpet Taluk, now Thirupur Taluk, Kanchipuram District, comprised in Survey Nos. 909/2 and 911/2, Plot No. 286 Bounded on the North by: Plot No. 283, South by: 30 feet wide road, East by: Plot No. 285, West by: Plot No. 287, Plot No. 286 Measuring: North to south on the Eastern Side: 60 feet, North to south on the Western Side: 60 feet, East to West on the Northern Side: 60 feet, East to West on the Southern Side: 30 feet, Measuring to an extent of 1800 Sq.ft. Plot No. 287 Bounded on the North by: Pkt No. 282, South by: 30 feet wide road, East by: Plot No. 286, West by: Plot No. 288, Plot No. 287 measuring: North to south on the Eastern Side: 60 feet, North to south on the Western Side: 60 feet, East to West on the Northern Side: 30 feet, East to West on the Southern Side: 30 feet, Measuring to an extent of 1800 Sq.ft. Plot No. 288 Bounded: North by: Plot No. 281, South by: 30 feet wide road, East by: Plot No. 285, West by: Plot No. 291, Plot No. 288 measuring: North to south on the Eastern Side: 60 feet, North to south on the Western Side: 60 feet, East to West on the Northern Side: 30 feet, East to West on the Southern Side: 30 feet, Measuring to an extent of 1800 Sq.ft. Plot No. 289 Bounded on the North by: Plot No. 287, South by: 30 feet wide road, East by: Plot No. 290, West by: Plot No. 292, Plot No. 291 measuring: North to south on the Western Side: 60 feet, East to West on the Northern Side: 30 feet, East to West on the Southern Side: 30 feet, Measuring to an extent of 1800 Sq.ft. Plot No. 286, 287, 288, 289, 290, 291 in all measuring to an extent of 10900 sq.ft lying within the Registration District of Chengalpet and Sub-District of Thirupur.

Known Encumbrances : NIL

The borrower's attention is invited to the provisions of sub section 8 of section 13, of the act, in respect of the time available, to redeem the secured asset. Borrowers in particular and public in general may please take notice that if in case auction scheduled herein fails for any reason whatsoever then secured creditor may enforce security interest by way of sale through private treaty. In case of any clarification/requirement regarding assets under sale, bidder may contact Mr. Suriya Narayanan P (Mob. No. +919600222111) & Mr. Vishal Adhishashan (Mob. No. +9199410146500). Bidder may also contact the bank's IPR No. (+91512219751) for clarifications. For detailed terms and conditions of the sale, please refer to the link <https://www.kotak.com/en/bank-auctions.html>, provided in the bank's website i.e. www.kotak.com and/or on <http://bank.auctions.in/>

Authorized Officer,
Kotak Mahindra Bank Limited
Place : Kanchipuram, Chennai., Date: 16.01.2025

Kotak Mahindra Bank Limited Online E - Auction Sale Of Asset

Registered Office: 27 BKC, C 27, G-Block, Bandra Kurla Complex, Bandra (E) Mumbai, Maharashtra, Pin Code-400051, Branch Office: Kotak Mahindra Bank Ltd., - 485, 2nd Floor, Mount Road, Anna Salai, Chennai-600006, (Land Mark - Next To India Garage Mahindra Car Show Room)

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Authorized Officer,
Kotak Mahindra Bank Limited
Place : Chennai, Date: 15.01.2025