GOVERNMENT OF INDIA
MINISTRY OF HEALTH AND FAMILY WELFARE
DEPARTMENT OF HEALTH RESEARCH

LOK SABHA
UNSTARRED QUESTION NO. 2269
TO BE ANSWERED ON 01ST AUGUST, 2025

ZOONOTIC DISEASE

2269. SHRI KALYAN BANERJEE

Will the **Minister of HEALTH AND FAMILY WELFARE** be pleased to state:

(a) whether the Government proposes to set up Virus Research and Diagnostic Laboratory (VRDL) under Indian Council of Medical Research-National Institute of Virology (ICMR-NIV) in the country and if so, the details thereof, district-wise;

(b) the details of VRDL working at present in the country, State/UT-wise and district-wise along with the proposal to set up new laboratories therefor;

(c) whether it is a fact that the number of known Viral Species has risen from 213 in 1971 to over 15,000 in 2023 in the country and if so, the details thereof;

(d) the details of the achievement of the Government in fighting emerging pathogens such as NIPAH Virus, Monkeypox, Crimean-Congo Haemorrhagic Fever, West Nile Virus and H5N1 in the country; and

(e) the details of the action taken by the Government and coordinate result oriented Research for Recurring Collaboration between Medical, Veterinary and Environmental sectors to fight against the Zoonotic Disease in the country?

ANSWER
THE MINISTER OF STATE IN THE MINISTRY OF HEALTH AND FAMILY WELFARE
(SHRI PRATAPRAO JADHAV)

(a) and (b): Under the Department of Health Research (DHR) scheme 'Establishment of a network of Laboratories for managing epidemics and Natural Calamities', a total of 165 Viral Research and Diagnostic Laboratories (VRDLs) have been sanctioned across the country. The State and Union Territory (UT)-wise list of these VRDLs is enclosed at Annexure.

Under the 15th Finance Commission period ending on 31.03.2026, a target of establishing 42 new VRDLs was set, which has since been successfully achieved.

Indian Council of Medical Research (ICMR) has informed that the National Institute of Virology (ICMR-NIV), Pune has been designated as the Resource Centre for the Viral Research Diagnostic Laboratories (VRDL), Network). As the Resource Centre, ICMR-NIV, Pune plays a pivotal role in supporting and strengthening the VRDLs across the country.

Apart from the above, under Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) four zonal centres of National Institutes of Virology (NIV) at Dibrugarh, Jabalpur, Jammu and Bengaluru have been approved for ICMR.

(c): ICMR has further informed that according to the 2024 report of International Committee on Taxonomy of Viruses (ICTV), a total of 16,215 viral species have been identified, categorized into 368 viral families.

(d): The details of the achievement of the Government in fighting emerging pathogens, are given below

i. Nipah Virus: ICMR-NIV Pune has made significant advances in combating Nipah virus. NIV has established robust surveillance systems and conducted widespread bat surveys across 14 states and 2 union territories to identify hotspots. The institute pioneered diagnostic innovations including a pioneering Point-of-Care assay and commercialized assay kits. Its research includes virological, antibody and immunological response profiling, multi-epitope vaccine design, and seroprevalence studies, supporting the state in outbreak containment responses, deployment of mobile BSL-3 laboratory for Nipah outbreak on-site diagnosis.

ii. Influenza (H5N1) virus: The ICMR-National Institute of Virology (ICMR-NIV) is a WHO recognized National Influenza Centre (NIC) and an H5N1 Reference Laboratory for South East Asian countries. The ICMR-NIV has investigated several outbreaks of highly pathogenic avian influenza virus in poultry, wild and migratory birds India. The H5N1 viruses were isolated and characterized. Phylogeography and gene pool analysis of highly pathogenic avian influenza viruses reported in India showed separate introductions from South-East Asian countries. H5N1 virus was isolated from environmental samples, dead birds and human cases, which belonged to clades 2.3.4.4b and 2.3.2.1a respectively. Full genome sequencing revealed markers associated with high pathogenicity and mammalian adaptation. It was showed that there was no human- to-human infections during these outbreaks. The study generated first reports of human cases of H5N1 virus from India. Thus, the ICMR-NIV has played a crucial role in investigations, prevention and control of outbreaks of H5N1 viruses in India.

iii. Mpox Virus: ICMR-NIV Pune played a central role in developing and updating national guidelines for mpox diagnosis, sample collection, and management. The institute successfully isolated and characterized the mpox virus [Clade IIb and Clade Ib], enabling critical research and development of diagnostic real time PCR assay and indigenous IgM and IgG ELISA. It developed and validated a rapid, affordable LAMP assay for mpox detection, achieving results comparable to gold standard RT-PCR. NIV Pune acted as the nodal center for mpox diagnosis in India, coordinating a national network of 34 labs across India, sharing reagents, and capacity building for RT-PCR testing. The institute's genomic analysis established the presence of the Clade IIb A.2 strain and Clade Ib in India, crucial for public health strategies. Acting as the country's primary mpox diagnosis hub, NIV coordinated for commercial kit validation and development of neutralization assays for mpox.

iv. Crimean-Congo Hemorrhagic Fever (CCHF) Virus: ICMR-NIV, Pune has been pivotal in advancing CCHF research, diagnosis, and outbreak management in India since 2011. It first confirmed CCHF cases during the 2011 Ahmedabad nosocomial outbreak and investigated further outbreaks in Gujarat and Rajasthan. The institute established India's first BSL-4 lab in 2012, enabling safe handling and rapid indigenous development of serological assays for humans and livestock, enhancing surveillance and replacing reliance on imported reagents. NIV led extensive serosurveys across 22 states and 1 union territory, detecting CCHF

circulation in vectors and animals. It played a major role in studying seroprevalence among high-risk groups and coordinated national multisite viral hemorrhagic fever surveillance. NIV also investigated imported CCHF cases, facilitating timely containment. The molecular and immunological studies by NIV helped elucidate viral persistence, antibody response, and cytokine profiles, informing nationwide clinical management guidelines updated in 2019.

v. West Nile virus: In India, it was first identified in Kerala in 2011, with confirmation through laboratory isolation by the NIV Kerala Unit. Following the outbreak, the unit conducted systematic follow-up of affected patients to assess long-term health outcomes. To strengthen early detection and timely response, West Nile Virus was incorporated into the Acute Encephalitis Syndrome (AES) surveillance programme, enabling continuous monitoring and guiding public health interventions.

(e): With the objective of integrated research across human health, animal, plants and environment following a 'One Health' approach, a Program for strengthening Research and Development towards integrated disease control and pandemic preparedness for the National One Health Mission (NOHM) has been initiated by Department of Health Research (DHR).
National One Health Mission' (NOHM) as a collaborative effort brings multiple Ministries/Departments together for integrated disease prevention, control and pandemic preparedness system for the country. The key participants include Ministry of Health and Family Welfare (MoHFW), Ministry of Environment, Forest and Climate change (MoEFCC), Ministry of AYUSH, Department of Health Research (DHR), Department of Biotechnology (DBT), Department of Pharmaceuticals (DoP), Department of Animal Husbandry and Dairying (DAHD), Department of Science and Technology (DST), Defence Research and Development Organisation (DRDO), National Centre for Disease Control (NCDC), Department of Scientific and Industrial Research (DSIR), Department of Agricultural Research and Education (DARE), National Disaster Management Authority (NDMA) and office of Principal Scientific Advisor (PSA) to the Government of India. The components of DHR scheme include frameworks for integrated disease surveillance across sectors, targeted R&D for fast-tracking medical counter measures, data integration, capacity building and to foster global linkages for pandemic preparedness.

Department of Animal Husbandry and Dairying (DAHD) has informed that it supports the States/UTs through the implementation of Livestock Health & Disease Control Programme (LHDCP) Scheme, with the aim of reducing risk to animal health. The Department has also undertaken a series of measures to strengthen surveillance and ensure the prevention and control of Avian Influenza caused by H5N1, as outlined below:

The National Action Plan for Prevention, Control and Containment of Avian Influenza (Revised 2021) has been formulated by DAHD, which provides comprehensive guidelines for preparedness, identification and notification of affected areas, culling operations, movement restrictions, implementation of biosecurity measures, active surveillance in poultry farms, backyard poultry, live bird markets (LBMs), and migratory bird habitats, along with post-operation surveillance protocols.

Under the National One Health Mission, a National Joint Outbreak Response Team (NJORT) comprising representatives from the Department of Animal Husbandry & Dairying, National Centre for Disease Control, Indian Council of Medical Research, and Indian Council of Agriculture Research has been constituted. NJORT has often been deployed to investigate

outbreaks in different parts of the country for coordinated field investigations and support for control and containment operations.

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Annexure

State/UT-wise and District-wise Details of VRDLs in the Country

Sr. No.	State/UT	No of VRDLs	Name of District
1	Andaman & Nicobar Island	2	South Andaman
2	Andhra Pradesh	9	Chittoor, Krishna, Anantapur, YSR, East Godavari, Guntur, Vishakhapatnam, Kurnool
3	Arunachal Pradesh	1	Papumpare
4	Assam	10	Dibrugarh, Kamrup Metro, Cachar, Jorhat, Sonitpur, Barpeta, Karbi Anglong, Lakhimpur, Nagaon
5	Bihar	6	Patna, Darbhanga, Muzaffarpur, Bhagalpur
6	Chandigarh	2	Chandigarh
7	Chhattisgarh	6	Bastar, Raipur, Bilaspur, Kanker, Durg
8	Delhi	7	South Delhi, Central Delhi, East Delhi, New Delhi, South West Delhi, North Delhi
9	Goa	1	North Goa
10	Gujarat	7	Ahmedabad, Jamnagar, Surat, Bhavnagar, Rajkot, Vadodara
11	Haryana	3	Rohtak, Sonipat, Karnal
12	Himachal Pradesh	5	Shimla, Mandi, Kangra, Chamba, Bilaspur
13	Jammu and Kashmir	5	Srinagar, Jammu, Baramulla, Anantnag
14	Jharkhand	3	Ranchi, East Singhbum, Deogarh
15	Karnataka	10	Bengaluru Urban, Mysuru, Ballari, Hassan, Shivamogga, Dharwad, Kalaburagi, Belagavi, Kodagu,
16	Kerala	8	Kozhikode, Alappuzha, Thiruvananthapuram, Thrissur, Kannur, Malapuram, Ernakulam
17	Madhya Pradesh	7	Bhopal, Sagar, Indore, Gwalior, Jabalpur, Rewa, Ratlam
18	Maharashtra	11	Nagpur, Sangli, Mumbai, Aurangabad, Solapur, Dhule, Akola, Pune
19	Manipur	2	Imphal East

20	Meghalaya	1	East Khasi Hills
21	Mizoram	1	Aizawl
22	Odisha	6	Khordha, Sambalpur, Ganjam, Cuttack, Koraput
23	Puducherry	2	Puducherry
24	Punjab	5	Amritsar, Faridkot, Patiala, Bathinda, S.A.S Nagar
25	Rajasthan	8	Jaipur, Jodhpur, Udaipur, Bikaner, Jhalawar, Kota
26	Tamil Nadu	10	Madurai, Theni, Salem, Thiruvarur, Villupuram, Tirunelveli, Coimbatore, Chennai, Thiruvallur
27	Tripura	1	West Tripura
28	Telangana	4	Hyderabad, Warangal
29	Uttar Pradesh	9	Lucknow, Aligarh, Etawah, Varanasi, Gorakhpur, Rae Bareli, Gautam Buddha Nagar, Meerut
30	Uttarakhand	3	Nainital, Dehradun
31	West Bengal	10	Kolkata, Murshidabad, Medinipur West, Darjeeling, Maldah, Bardhaman, 24 Paraganas South, Nadia

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