STATE AEFI TECHNICAL COLLABORATION CENTRE

DEPARTMENT OF COMMUNITY MEDICINE

MAULANA AZAD MEDICAL COLLEGE, DELHI

E-NEWSLETTER

April 2026, Volume5, Issue2

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As we step into the summer months of 2026, we wish all our readers a safe, healthy, and energizing season ahead. Summer brings longer days and renewed activity, but it also calls for extra care in the face of rising temperatures and heatwaves.

Staying well-hydrated, avoiding peak sun hours, and using sunscreen are simple yet essential steps to stay safe during this season!!

In this issue, we bring you key updates on vaccine-preventable diseases and emerging public health concerns. From ongoing outbreak responses to significant global milestones alongside promising advancements of vaccines and immunologicals.

A special feature in this edition is the launch of India's nationwide HPV vaccination campaign; a major stride in cervical cancer prevention.

As always, we remain committed to promoting awareness, preparedness, and evidence-based action; because protecting communities begins with informed choices. Stay safe, stay cool, and stay protected this summer.

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In **February 2026, Malawi** launched an **emergency polio vaccination campaign** targeting approximately 1.3 million children following the detection of a **circulating variant poliovirus type 2 (cVDPV2) case in late January.** This marked the first such case since 2022, when wild poliovirus linked to an outbreak in Pakistan was identified in the country. The campaign, conducted over four days across eight districts in the Southern Region, achieved an impressive 97% coverage using the novel oral poliovirus vaccine type 2 (nOPV2), as recommended by the Global Polio Eradication Initiative.

A total of **1.7 million vaccine doses** were supplied by the International Coordinating Group on Vaccine Provision and distributed rapidly to ensure timely implementation. Notably, Blantyre District **exceeded its target with 109% coverage**. Strong community engagement played a crucial role, with health workers, religious leaders, and social mobilizers addressing vaccine hesitancy; nearly half of initially reluctant households later accepted vaccination. Post-campaign lot quality assessments are being conducted to evaluate coverage.

Epidemiological investigations linked the outbreak to **low immunization coverage, with transmission occurring through contaminated water or food**. Active case searches and social investigations were undertaken, including interviews within affected communities, to identify barriers and detect cases of acute flaccid paralysis. This coordinated response highlights Malawi's commitment to interrupting transmission and preventing further spread of this vaccine-preventable disease.

Source: Disease Outbreak News WHO

LIBYA ELIMINATES TRACHOMA

World Health Organization (WHO) has declared that Libya has eliminated trachoma as a public health problem, becoming the **28th country globally and 8th in the Eastern Mediterranean Region** to achieve this milestone. Trachoma, caused by *Chlamydia trachomatis*, can lead to blindness through repeated infections and trichiasis.

Libya's success follows decades of control efforts, strengthened health systems, and targeted interventions under its National Prevention of Blindness Programme. Surveys in 2022 and 2025 confirmed disease prevalence below WHO thresholds after surgical campaigns in affected districts.

This achievement is notable despite political instability and humanitarian challenges, reflecting strong national commitment, international support, and integrated strategies including surveillance, surgery, and improved eye care services.

Trachoma elimination aligns with WHO's neglected tropical diseases roadmap (2021–2030). Globally, these diseases affect over one billion people, mainly in impoverished communities with limited access to water and sanitation.

Source: WHO News

CLINICAL RESEARCH BREAKTHROUGHS IN IMMUNOLOGY

Advances in immunology are rapidly translating into a new generation of vaccines and immune-based interventions, offering powerful tools against infectious diseases and cancer.

mRNA-4157 (V940): The Melanoma Vaccine

Using an **mRNA platform,** it encodes patient-specific tumor neoantigens, training the immune system to recognize cancer cells as foreign. Delivered via lipid nanoparticles, it **activates CD8+ cytotoxic T cells** essential for tumor destruction. In combination with pembrolizumab (PD 1 checkpoint inhibitor), it has demonstrated nearly **50% reduction in recurrence or death** and significant reduction in metastasis, highlighting the promise of individualized cancer immunotherapy.

R21/Matrix-M vaccine for Malaria Control

This vaccine utilizes a virus-like particle platform targeting the **circumsporozoite protein of *Plasmodium falciparum***. It induces strong antibody responses that neutralize the parasite before liver infection. With **efficacy around 75%** in seasonal settings and compatibility with routine immunization systems (thermostability at 2 to 8ºC), it offers a scalable and cost-effective public health solution.

Qdenga (TAK-003): A Live-Attenuated Dengue Vaccine with Broadened Use

Qdenga (TAK-003) addresses the long-standing challenge of multiple serotypes. Built on a **genetically stable DENV-2 backbone**, it generates both antibody and T-cell responses. It shows over 60% efficacy against dengue and more than 80% protection against hospitalization. Removing the pre-vaccination screening requirement (a disadvantage of Dengvaxia), this significantly enhances its public health utility in endemic regions.

M72/AS01E: Hope for a Tuberculosis Vaccine

For tuberculosis, M72/AS01E marks the first significant progress in decades. It combines a **recombinant fusion protein of two M. tuberculosis antigens (Mtb32A and Mtb39A)** with GSK's potent liposome-based AS01 adjuvant system. By inducing **strong Th1-mediated cellular immunity** along with polyfunctional CD4+ T cells that produces IFN-γ, TNF, and IL-2-cytokines crucial for macrophage activation and containment of the bacillus. Hence this **prevents progression from latent infection to active disease**, showing around 50% efficacy in over 3 years in preventing pulmonary TB in latently infected adults.

Clesrovimab: Passive Immunization for RSV

This **long-acting monoclonal antibody** provides immediate protection in infants, reducing severe respiratory infections and hospitalizations with a single dose. It binds with high affinity to a conserved epitope (Site IV) on the RSV fusion (F) protein, **blocking viral entry into host cells**. Its conservation ensures coverage of both RSV A and B subtypes. The mAb is engineered with YTE technology, extending its serum half-life to approximately 5 months which is enough to cover a typical RSV season with a single intramuscular dose

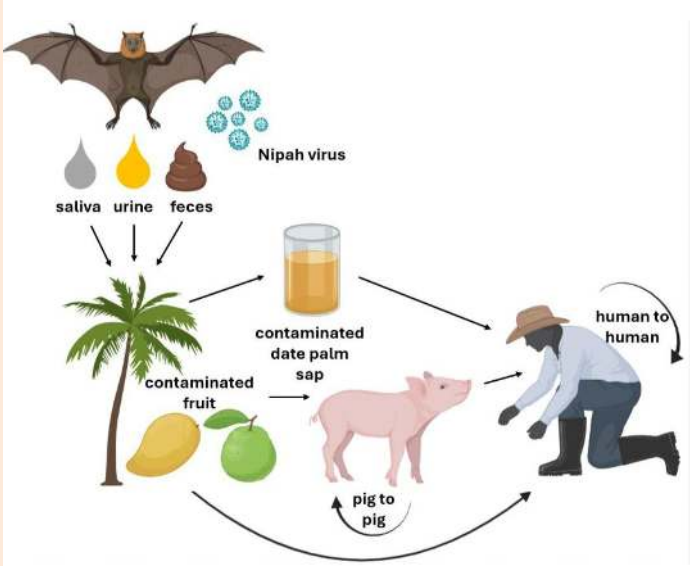
Together, these innovations reflect a shift toward precision, durability, and broader applicability in modern vaccinology.

-Dr Vinay Khanna, Dr SD Inbaraj, Dr Nemer Alotaibi
College of Medicine, Dawadmi, Shaqra University, Saudi Arabia

NIPHAH VIRUS OUTBREAK

In January 2026, WHO was notified by India's International Health Regulations (IHR) National Focal Point of two laboratory-confirmed cases of Nipah virus infection (NiV) in **Barasat, North 24 Parganas district, West Bengal**. This event represents the third recorded NiV outbreak in West Bengal, following earlier outbreaks in 2001 (Siliguri) and 2007 (Nadia).

Both cases were young healthcare workers from the same private hospital, highlighting the risk of nosocomial transmission. Lab confirmation was established at National Institute of Virology, Pune, using RT-PCR and ELISA testing. Clinically, both cases presented with severe disease; one required mechanical ventilation, while the other developed neurological manifestations but subsequently improved.



Over **190 contacts**, including healthcare workers and community members, were traced and **all tested negative**, indicating effective containment. A **mobile BSL-3 laboratory** was deployed to strengthen diagnostic capacity. Infection prevention and control (IPC) measures were reinforced across healthcare facilities, including isolation protocols, use of personal protective equipment, and adherence to droplet and contact precautions, with airborne precautions during aerosol-generating procedures.

Risk communication and community awareness campaigns emphasized avoiding consumption of raw date palm sap, proper food hygiene, and minimizing exposure to bats and their secretions.

WHO assessed the **risk as moderate at the sub-national level, low nationally and globally,** given the limited number of cases and absence of further transmission. No travel or trade restrictions were recommended.

In Bangladesh, a single fatal NiV case linked to raw date palm sap consumption was reported **in January 2026**. Thirty-five contacts tested negative with no evidence of further transmission. The event reflects the region's seasonal NiV pattern, with ongoing surveillance, contact tracing, and risk communication measures effectively limiting spread.

Source: Disease Outbreak News WHO

AIDS VACCINE: ENTERING A NEW PHASE

The Hurdle:

HIV **mutates at an astonishing rate**, generating countless variants even within a single individual. Its envelope, the outer protein layer targeted by antibodies, is cloaked beneath a dense sugar shield that conceals its vulnerable sites. The virus can also change shape, exposing or hiding critical epitopes. Most insidiously, HIV integrates its genetic material into human DNA almost immediately after infection, creating long-lived reservoirs that cannot be cleared by the immune system.

Broadly Neutralizing Antibodies: Nature's Blueprint

The breakthrough came from studying rare individuals who naturally develop broadly neutralizing antibodies (bnAbs) capable of neutralizing diverse HIV strains. These antibodies require years of maturation, guided by complex somatic hypermutation pathways, that conventional vaccines could never replicate.

Germline Targeting: Training the Immune System

Instead of trying to generate mature bnAbs in a single step, scientists now aim to guide the immune system along the entire developmental journey.

1. **Identify germline B-cell receptors**: These are unmutated precursors capable of maturing into bnAbs.
2. **Design immunogens**: Engineered viral proteins are used to activate these specific B cells.
3. **Sequential immunizations**: Carefully timed doses push the B cells further along the maturation pathway.

This strategy requires atomic-level structural knowledge of HIV's envelope and computationally optimized vaccine design. Early-phase human trials have shown the immune system responding exactly as intended, demonstrating proof-of-concept for the first time.

Current Progress and Remaining Challenges

Researchers are combining germline-targeting approaches with mRNA platforms, native-like trimers, and sequential booster regimens to maximize antibody development. Despite progress, challenges remain: bnAbs require extensive somatic hypermutation, correlates of protection are not fully understood, and HIV's global diversity demands a vaccine that is broadly effective across multiple clades.

A vaccine does not exist yet, but for the first time, it feels scientifically plausible. For a virus that has long confounded humanity, that alone counts as progress.

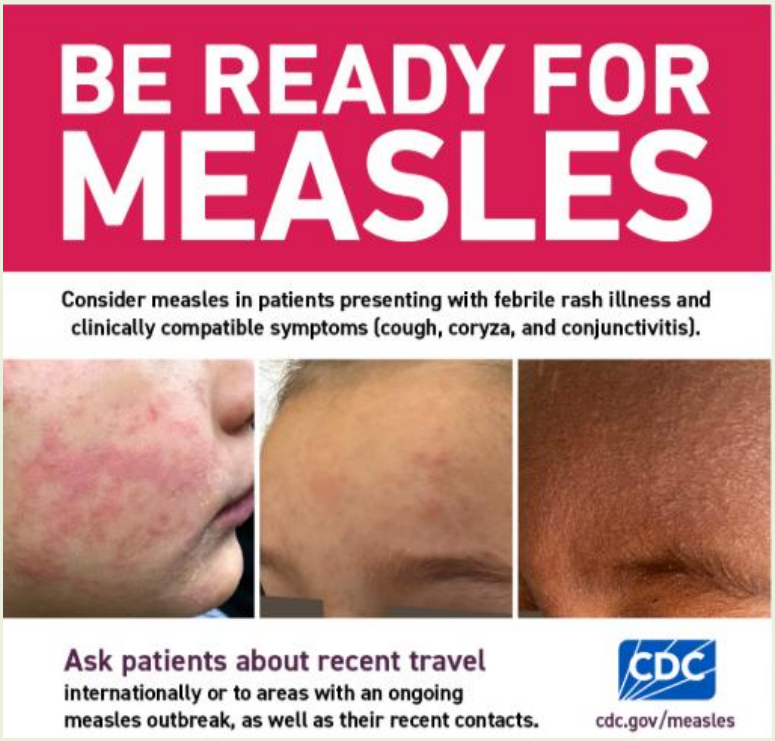
Dr Kinshuk Gupta, PG resident, MAMC

MEASLES OUTBREAK

Bangladesh is currently facing a severe measles outbreak, with transmission reported in 58 of 64 districts, highlighting its widespread reach and public health urgency. Since 15 March 2026, a total of 18,219 suspected cases have been reported, including **2,897 laboratory-confirmed cases and 164 suspected deaths (30 confirmed),** resulting in a case fatality rate of 1.2%. The burden is **highest in Dhaka Division**, while incidence rates peak in Barisal (39.4 per million), followed by Dhaka (35), Mymensingh (29.6), and Rajshahi (28.3).

The outbreak is disproportionately affecting young children, with **nearly 80% of cases occurring in those under five years of age**, especially among children under two years and infants below nine months. Most deaths have been reported among unvaccinated children, clearly indicating immunity gaps in recent birth cohorts.

In response, national authorities have launched a **phased measles-rubella vaccination campaign starting 5 April 2026**, targeting 1.2 million children aged 6–59 months in high-incidence districts, with nationwide completion planned by 21 May 2026. This effort is supported by strengthened surveillance, improved laboratory capacity, and enhanced hospital preparedness. Measures are also underway to address vaccine supply constraints.



Given the proximity and movement across borders, **Indian states bordering Bangladesh, as well as Delhi, are on high alert**. Authorities are intensifying surveillance and actively working to complete catch-up immunization to prevent any potential spread.

Despite these actions, the outbreak continues to pose a serious threat due to declining routine immunization, high population movement during recent festive periods, and existing immunity gaps. The scale and speed of transmission risk prolonging the outbreak, straining health services, and increasing the potential for cross-border spread. Strengthening vaccination coverage and sustaining response efforts remain critical to controlling the outbreak and protecting vulnerable children.

Source: WHO News

TWO SCHEDULES, ONE GOAL

In India, childhood immunization guidance is provided through two major schedules: the **National Immunization Schedule (NIS)** under the Universal Immunization Programme (UIP) of the Ministry of Health and Family Welfare, and the **Indian Academy of Pediatrics (IAP) Immunization Schedule,** which serves as a professional guideline for pediatric practice.

Although both schedules aim to reduce the burden of VPDs, **they differ in vaccine inclusion, timing, and scope.** Understanding these differences is essential to ensure appropriate immunization practices and effective communication.

Key differences between NIS and IAP schedule:

Vaccine	NIS/UIP	IAP	Rationale
OPV at 6, 10, 14 weeks **OPV Booster at 16-24 months**	Given routinely	Not recommended	NIS prioritizes herd immunity; IAP minimizes VAPP/cVDPV risk
IPV	fIPV included	IPV included in hexavalent vaccine	IAP favors safer inactivated vaccine
Measles vaccine	MR given (2 doses)	MMR given (3 doses)	IAP includes mumps for individual protection
Hepatitis A	Not included	Recommended (12–23 months, 2 doses)	Lower national priority; cost considerations
Varicella (Chickenpox)	Not included	Included (2 doses)	Generally mild disease; not prioritized for mass programme
Typhoid Conjugate Vaccine	Limited/state-specific	Recommended (6-9 months)	Recognized burden, rollout pending nationally
Influenza	Not included	Annual recommendation	Seasonal disease, limited feasibility for UIP
Meningococcal vaccine **Cholera vaccine**	Not included	Risk-based recommendation	Low general population burden

The **NIS is a population-based program** prioritizing vaccines based on disease burden, cost-effectiveness, feasibility, and equity, ensuring wide, free coverage and herd immunity. In contrast, the **IAP schedule is child-centric**, offering broader protection with newer vaccines based on evolving evidence, with less concern for cost or logistics. While NIS has reduced major infectious diseases, it lacks some newer vaccines, leaving gaps in protection. The coexistence of both schedules may cause confusion and inequities. However, **they are complementary**, and aligning them with phased inclusion of select vaccines into NIS can strengthen immunization outcomes and improve child health in India.

Dr Tanya Singh, Senior Resident, MAMC

SHIELDING HER FUTURE!
INDIA'S HPV VACCINE DRIVE TAKES OFF

India launched **a nationwide Human Papillomavirus (HPV) vaccination campaign** on 28 February 2026, marking a major step toward cervical cancer prevention. The three-month campaign targets approximately 1.2 crore girls aged 14 years (those who have completed 14 but not yet 15 years) across all States and Union Territories, with continued availability through routine immunization thereafter. The programme provides a **single 0.5 ml intramuscular dose of Gardasil-4 vaccine** is given **free of cost** at government health facilities, including Primary Health Centres (PHCs) ensuring access even in rural and underserved areas.

Operationally, the campaign is designed with strong emphasis on safety, logistics, and monitoring. Beneficiaries may preregister in UWIN or opt for walk in sessions. Vaccination is **voluntary** and administered only after parental consent, recorded digitally via the U-WIN (or offline where required). Sessions are conducted under trained medical supervision, with linkage to 24×7 Adverse Events Following Immunization (AEFI) management centres. Vaccine supply and cold chain logistics are managed through e-VIN, ensuring quality and continuity.

Vaccination will **be deferred or avoided** in the following cases:

- Incase of moderate or severe illness until recovery
- History of severe allergic reaction to previous vaccination
- Known allergy to yeast
- Girls who have already received any HPV vaccine

The initiative is backed by robust scientific evidence. Gardasil-4 protects against **HPV types 6, 11, 16, and 18**, with types 16 and 18 responsible for the majority of cervical cancer cases. HPV vaccines demonstrate 93–100% efficacy against vaccine-covered types and offer long-lasting protection. High coverage also contributes to herd immunity, reducing virus circulation in the population.

This campaign complements India's broader strategy of screening, early diagnosis, and timely treatment for cervical cancer, which remains the second most common cancer among women in the country. By focusing on vaccination before potential exposure, the programme represents a transformative,evidence-based public health intervention aimed at significantly reducing future cervical cancer burden.

Pass it on!

HPV vaccine is safe, science-backed, and life-saving.

Bust the myths, spread the word, protect every girl.

Source: PIB, MoHFW

DELHI KICKS OFF HPV VACCINE DRIVE!

On 28 February 2026, **alongside the nationwide rollout**, Delhi launched its HPV vaccination drive with the Hon'ble Chief Minister inaugurating the programme at Guru Teg Bahadur Hospital, highlighting that protecting girls today is key to building a cancer-free future for the city.

The rollout reflects a **coordinated public health effort,** with a wide array of frontline workers including ASHAs, Anganwadi Workers (AWWs), ANMs and Medical officers working in tandem to ensure service delivery. Their roles span beneficiary identification, counselling, vaccination, and follow-up, forming the backbone of implementation.

The **Department of Education** plays a pivotal role by facilitating school-based mobilisation, sensitizing teachers, and ensuring that eligible girls are guided to nearby vaccination sites. This intersectoral convergence strengthens outreach and improves coverage.

Awareness generation is arguably the most critical pillar for the success of the HPV vaccination campaign. Since this vaccine is administered to **adolescent girls aged 14,** the decision-making involves multiple stakeholders: parents, teachers, and community leaders; making clear communication essential to bridge the gap between vaccine availability and vaccine acceptance.

De-stigmatization of the Vaccine, Overcoming Vaccine Hesitancy, Myths and infodemics regarding side effects is the need of the hour.While **challenges of awareness and hesitancy remain**, India's experience with large-scale programmes like polio demonstrates that **strong systems, community engagement, and consistent messaging can drive acceptance.** This is not just a vaccine rollout; it is a well-calibrated public health strategy with the potential to eliminate cervical cancer within a generation.

-Dr Amita Root, Programme officer Immunisation, In-charge training center, Directorate of Family Welfare

COMING UP: DON'T MISS THESE DATES!

National events

- May 02, 2026 - Hyderabad, India - International Conference on Vaccines, Infectious Diseases and Immunological Research (ICVIDIR)
- May 03, 2026 - Chennai, India - International Conference on Pathogen Biology, Vaccines and Immunology (ICPBVI)
- May 16, 2026 - Mumbai, India - International Conference on Antiviral Strategies, Vaccines and Immunology (ICAVSI)
- May 31, 2026 - Mumbai, India - International Conference on Innovations in Infectious Diseases, Vaccines and Immunology (ICIIDVI)
- June 10-11, 2026 - Pune, India - Vaccines World Forum 2026 (CPHI / Informa Markets)
- August 2026 - National Immunization Awareness Month

International events

- May 28-30, 2026 - Madrid, Spain - Global Summit on Public Health, Immunology & Vaccines
- May 18-23, 2026 - Geneva, Switzerland - 79th World Health Assembly
- June 15-16, 2026 - Paris, France - 8th World Conference on Vaccine and Immunology
- July 06-07, 2026 - Rome, Italy - Vaccine Congress 2026 (Global Vaccine R&D Conference)
- July 2026 - Global Vaccine Safety & AEFI Discussions (GACVS platform)
- August 14-15, 2026 - Toronto, Canada - International Conference on Vaccines and Vaccination (ICVV 2026)
- August 17-18, 2026 - Orlando, USA - 2nd International Conference on Infectious Diseases & Immunology
- August 27-28, 2026 - Paris, France - International Conference on Vaccines, Vaccination & Immunization

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