

Influenza Updates

The newsletter of the WHO Collaborating Centre for Reference and Research on Influenza in Melbourne

X @WHOCCFluMelb

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WHO Recommendations for the Southern Hemisphere 2027 Influenza Vaccines

The WHO Consultation on the Composition of Influenza Vaccines for the Southern Hemisphere 2027 was held in Lyon, France between 21-24 September 2026.

Following the Consultation, the WHO made the following recommendations:

The WHO recommends that **trivalent** vaccines for use in the 2027 southern hemisphere influenza season contain the following:

Egg-based vaccines

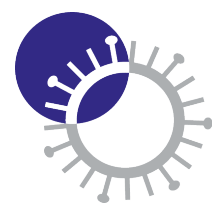
- an A/Missouri/11/2025 (H1N1)pdm09-like virus;
- an A/Darwin/1454/2025 (H3N2)-like virus; and
- a B/Tokyo/EIS13-175/2025 (B/Victoria lineage)-like virus.

Cell culture-, recombinant protein- or nucleic acid-based vaccines

- an A/Missouri/11/2025 (H1N1)pdm09-like virus;
- an A/Darwin/1415/2025 (H3N2)-like virus; and
- a B/Pennsylvania/14/2025 (B/Victoria lineage)-like virus

As part of the review, experts also looked at influenza viruses circulating in animals, particularly those that have caused infections in humans. These animal or zoonotic influenza viruses remain a significant concern because of their potential to cause pandemics.

These biannual meetings include a detailed assessment of these viruses and the selection of new candidate vaccine viruses (CVVs) from contemporary zoonotic influenza viruses, which can be used rapidly to manufacture vaccines should a pandemic threat arise. Information on newly selected influenza CVVs is available on the [WHO website](#).





AIVC recommendation for the composition of influenza vaccine for Australia in 2027

The Australian Influenza Vaccine Committee (AIVC) met on 6 October 2026 to recommend the composition of the influenza virus vaccines for the 2027 southern hemisphere influenza season and the committee has accepted the WHO recommendation. The full statement is available on the TGA's [website](#).

Contribution of National Influenza Centres to the vaccine recommendations

We thank all NIC's that have sent us influenza positive samples prior to the Consultation. Your viruses provide essential data on recently circulating strains and help to inform the choice of recommended vaccine strains for the Southern Hemisphere for 2027.

In this context, we would like to acknowledge the contribution and critical role played by WHO National Influenza Centres and other submitting laboratories in providing influenza samples to WHO Collaborating Centres, not only for the purposes of analysis and surveillance, but also for the provision of potential vaccine candidates. Please continue to send us your samples. The need for constant surveillance remains as influenza viruses continue to circulate and evolve. The next WHO influenza vaccine consultation will be for the Northern Hemisphere 2027-8 influenza vaccine and this will take place in late February 2027.

Centre Training Activities

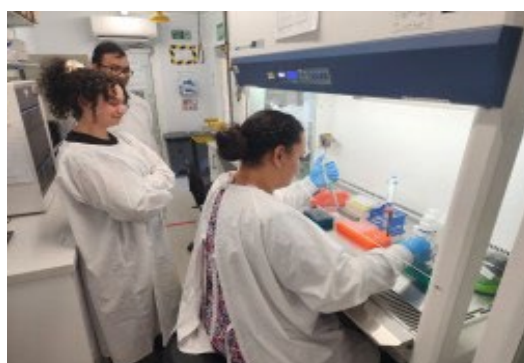
Patrick Reading and Jacinta Agius accompanied SEARO colleague Hytham Saber on a one-week mission (July 20-24) to review influenza surveillance capacity in Timor Leste, including at the National Health Laboratory (NHL) in Dili.



In collaboration with VIDRL, we welcomed nine scientists from the National Institute of Public Health in Cambodia for a workshop on running and managing a PC3 laboratory from 18-22 May. Over the week, the scientists had an opportunity to tour the PC3 and PC4 laboratories at the Doherty Institute, as well as the PC3 laboratory at AgriBio. Topics for discussion included biorisk management & risk assessment, as well as safe handling of high-risk pathogens at PC3. We look forward to continuing to work with our colleagues at NIPH.



Jacinta Agius and Presa Chanthavanh delivered a one-week, hands-on training program (15-19 June) on open PCR for influenza detection, typing, and subtyping with medical scientists and laboratory technicians from the Tonga Laboratory Service at Vaiola Hospital.





Recent Publications

Stannard HL, Brock N, Sun X, Pulit-Penaloza JA, Kieran TJ, et al. (2026) Updated A(H1N1)pdm09 influenza virus ferret infection model permits refined antiviral assessment using aerosol inhalation challenge. PLOS Pathogens 22(9): e1014604. <https://doi.org/10.1371/journal.ppat.1014604>

Hussain S, Guo C, Deng YM, et al. (2026) Antiviral resistance associated with multiple mutations occurring in seasonal influenza A(H3N2) virus in a patient treated with oseltamivir. Clinical Case Reports 14(9): e73351. <https://doi.org/10.1002/ccr3.73351>.

Hussain S, Chia C, Muraleetharan A, et al. (2026) A cluster of influenza A(H3N2) viruses in 2024 from Tasmania, Australia, with reduced susceptibility to baloxavir. Influenza and Other Respiratory Viruses 20(9): e70312. <https://doi.org/10.1111/irv.70312>.

Highlights from the recent Options XIII conference

Several Centre staff attended the Options XIII Conference for the Control of Influenza, which was held. 30 August – September 2, 2026, in Washington DC, USA. Centre staff delivered oral and poster presentations on their research and surveillance work, and chaired several sessions as listed below.

Ian Barr presented “*Advances and Challenges in Assessing Vaccine Composition over the Last 20 Years*” and chaired several sessions.

Saira Hussain presented:

- “*Precision-Cut Lung Slices: Development of a High-Throughput Ex Vivo Model to Study Influenza Virus Infections*”
- “*Development of a Novel Long-Acting Pan-Antiviral to Influenza*”

Michelle Wille presented “*Understanding Determinants and Impacts of Interspecies Transmission.*”

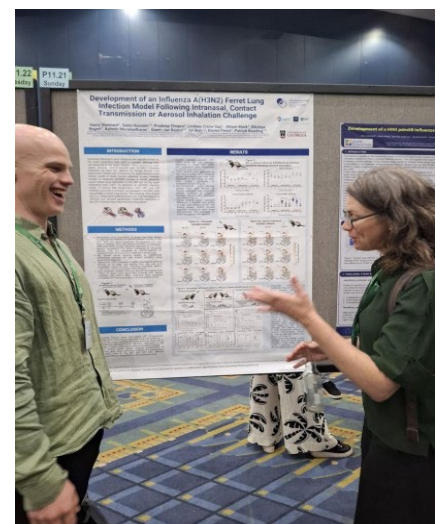
Annette Fox presented:

- “*Recombinant Influenza Vaccines Induce Antibodies with Broader A(H3N2) Virus Reactivity Among Repeat Vaccinees Compared to Egg- or Cell-Based Vaccines*”
- “*Deep Immune Characterization Following Controlled Human A/Texas/71/2017 (H3N2) Infection of Healthy Australian Adults.*”

Harry Stannard presented “*Development of an Influenza A(H3N2) Ferret Lung Infection Model Following Intranasal, Contact Transmission or Aerosol Inhalation Challenge.*”

Jessica Miller presented “*Piloting Household Transmission Investigations in Melbourne, Australia, to Improve Representativeness of Surveillance in the 2026 Respiratory Season.*”

Jessie Goldsmith presented “*Influenza Vaccine Effectiveness Amongst a Young Influenza Virus-Naïve Cohort by Dose: A Target Trial Emulation Study Using Routinely Collected Data.*”





Recent activities at the Centre (1 January — 30 September 2026)

Below is a summary of surveillance activities at the Centre during this recent reporting period.

Samples received:

The Centre received 7139 influenza samples from the laboratories and institutions listed below between 1 January — 30 September 2026.

AUSTRALIA: CANBERRA HOSPITAL, ICPMR WESTMEAD, THE CHILDREN'S HOSPITAL AT WESTMEAD, ROYAL DARWIN HOSPITAL, PATHOLOGY QUEENSLAND, PUBLIC AND ENVIRONMENTAL HEALTH REFERENCE LABORATORIES (PEHRL), QUEENSLAND CHILDREN'S HOSPITAL, SA PATHOLOGY, PRINCESS ALEXANDRA HOSPITAL, HOBART PATHOLOGY, ROYAL HOBART HOSPITAL, AUSTRALIAN CLINICAL LABS (ACL) , ALFRED HOSPITAL, AUSTIN PATHOLOGY, DOREVITCH PATHOLOGY, MONASH MEDICAL CENTRE, ROYAL CHILDREN'S HOSPITAL, ROYAL MELBOURNE HOSPITAL, VICTORIAN INFECTIOUS DISEASES REFERENCE LABORATORY, PATHWEST LABORATORY MEDICINE (QEII), SA PATHOLOGY, AUSTRALIAN CLINICAL LABS

BRUNEI: NATIONAL VIROLOGY REFERENCE LABORATORY, DEPARTMENT OF LABORATORY SERVICES

CAMBODIA: INSTITUT PASTEUR DU CAMBODGE

FIJI: CENTRE FOR DISEASE CONTROL

INDIA: NATIONAL INSTITUTE OF VIROLOGY, PUNE

INDONESIA: NATIONAL HEALTH BIOLOGY LABORATORY(BALAI BESAR LABORATORIUM BIOLOGI KESEHATAN)

MALDIVES: REPUBLIC OF MALDIVES- DEPARTMENT OF LABORATORY MEDICINE

NEPAL: NATIONAL PUBLIC HEALTH LABORATORY

NEW CALEDONIA: CENTRE HOSPITALIER DE NOUVELLE CALÉDONIE

NEW ZEALAND: PHF SCIENCE

PAPUA NEW GUINEA: INSTITUTE OF MEDICAL RESEARCH

SAMOA: TUPUA TAMASES MEAOLE HOSPITAL

SINGAPORE: NATIONAL PUBLIC HEALTH LABORATORY

SOLOMON ISLANDS: NATIONAL REFERRAL HOSPITAL

SOUTH AFRICA: NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

SRI LANKA: MEDICAL RESEARCH INSTITUTE

TIMOR-LESTE: LABORATORIO NACIONAL DA SAÚDE

TONGA: LABORATORY SERVICE VAIOLA HOSPITAL TONGATAPU

TUVALU: PRINCESS MARGARET HOSPITAL

VANUATU: VCH LABORATORY DEPARTMENT

Isolation of viruses in eggs:

The Centre undertakes primary isolation of selected viruses in eggs to obtain potential vaccine strains. From 1 January — 30 September 2026, 6 A(H1N1)pdm09, 18 A(H3N2) and 5 B/Victoria viruses were successfully isolated in eggs at the Centre.



Recent activities at the Centre (1 January — 30 September 2026) continued

Antigenic analysis

2487 viruses analysed by haemagglutination inhibition (HI) assay

Antiviral drug susceptibility

727 viruses analysed by neuraminidase inhibition (NAI) assay

Sequencing

1860 viruses analysed

Country of submitting laboratory	No. of viruses analysed by HI assay*			No. of viruses tested by NAI assay*			No. of viruses sequenced by NGS		
	A(H1N1)pdm09	A(H3N2)	B/Victoria	A(H1N1)pdm09	A(H3N2)	B/Victoria	A(H1N1)pdm09	A(H3N2)	B/Victoria
Australia	301	1319	141	64	187	22	237	1119	123
Brunei	28	42	6	24	3	5	26	4	11
Cambodia	7	40	30	7	33	21	7	18	22
Fiji	0	1	0	0	1	0	0	1	0
India	1	8	1	1	8	1			
Indonesia	9	3	2	2	2	2	4	3	2
Maldives	11	62	13				11	20	13
Nepal	7	10	5	1	10	3	7	10	6
New Caledonia	2	87	10	2	87	10	2	48	10
New Zealand	23	23	3				23	23	3
Papua New Guinea	0	41	0	0	41	0	0	22	0
Samoa	0	0	8	0	0	8	0	1	9
Singapore	41	81	35	38	76	32			
South Africa	15	12	1				15	5	1
Sri Lanka	3	29	12	0	26	3	3	24	14
Timor-Leste	0	3	3	0	1	0	2	2	3
Tonga	0	3	0	0	3	0	0	1	0
Vanuatu	0	3	2	0	2	1	0	3	2
	448	1767	272	139	480	108	337	1304	219

* Subtypes and lineages are based on analysis of HA and in some cases confirmed by genetic analysis of NA.



Surveillance update: Virus activity 1 January—30 September 2026 continued

The data below are results for viruses collected between 1 January and 30 September 2026 that have been analysed at the Centre as of 5 October 2026.

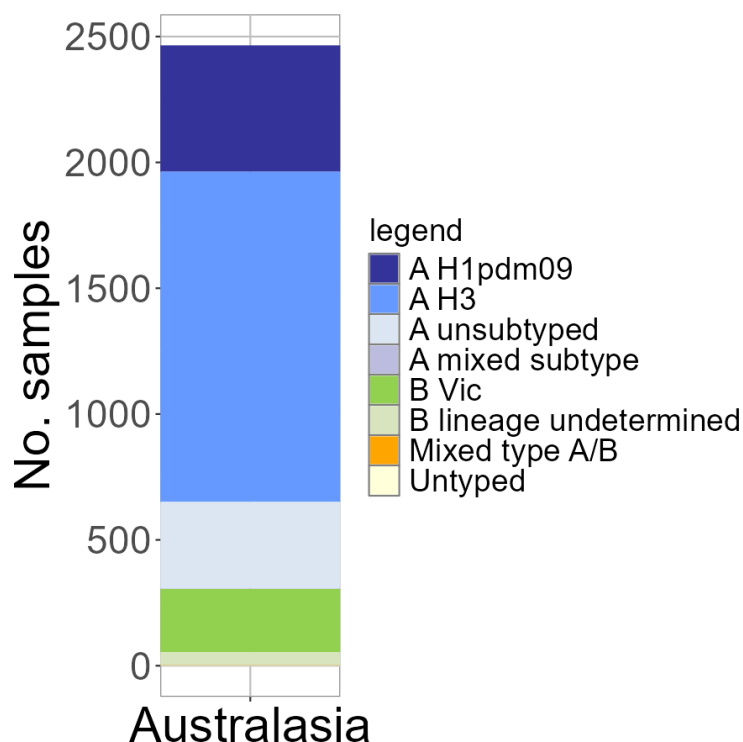
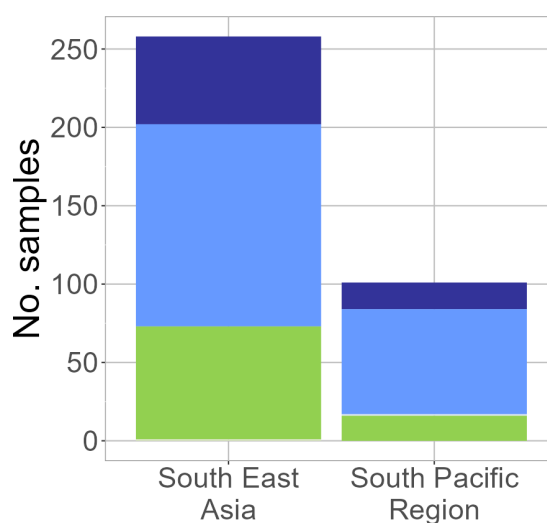
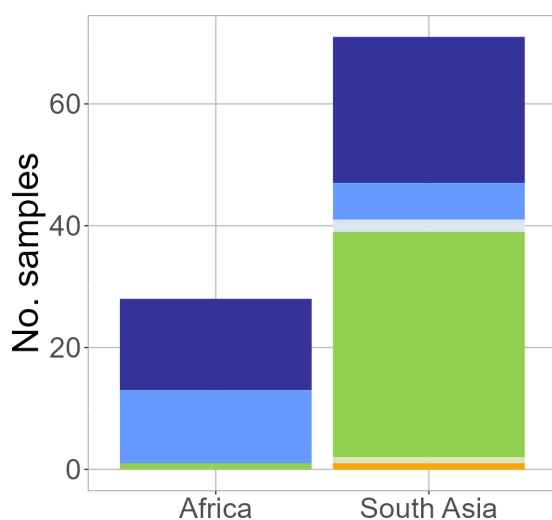
Virus types/subtypes*

The type and subtype/lineage of 2939 viruses have been determined.

20.9% A(H1N1)pdm09

51.9% A(H3N2)

12.3% B/Victoria



*Subtypes and lineages are based on analysis of the HA and in some cases confirmed by genetic analysis of NA.

^The Pacific region comprises countries in Polynesia, Melanesia and Micronesia.

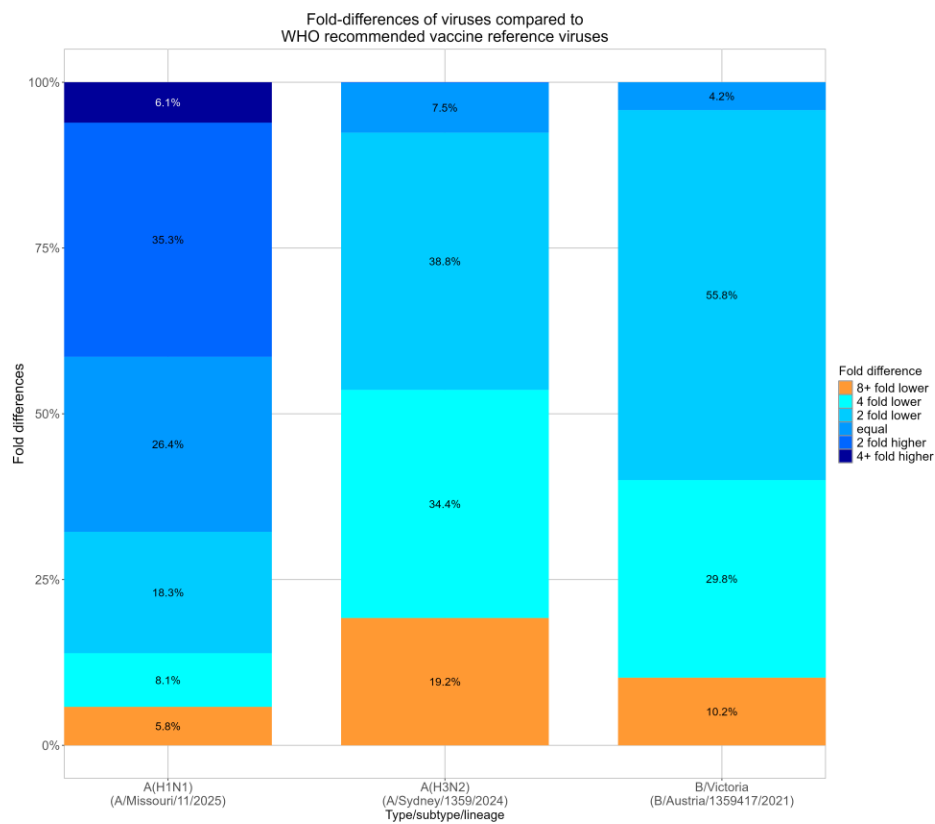


Surveillance update: Virus activity 1 January —30 September 2026 continued

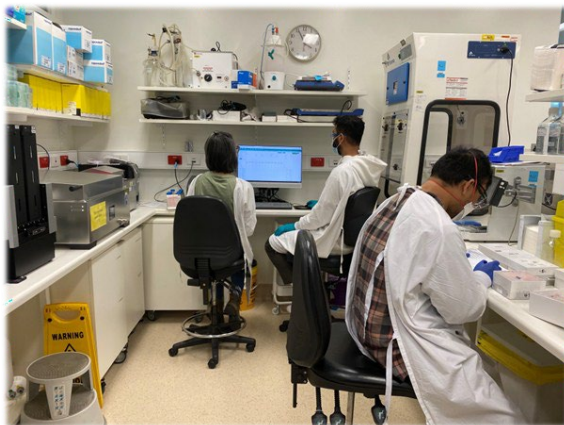
Antigenic analysis*

A total of 2487 viruses were tested using the haemagglutination inhibition (HI) assay.

Viruses were identified as low-reactors if their titre with reference antiserum was at least 8-fold lower than the titre of the reference virus. Of the virus isolates tested, 5.8% of A(H1N1)pdm09, 19.2% of A(H3N2) and 10.2% of B/Victoria were 8-fold lower (low reactors) to the reference vaccine strain.



*Subtypes and lineages are based on analysis of the HA and in some cases confirmed by genetic analysis of NA.

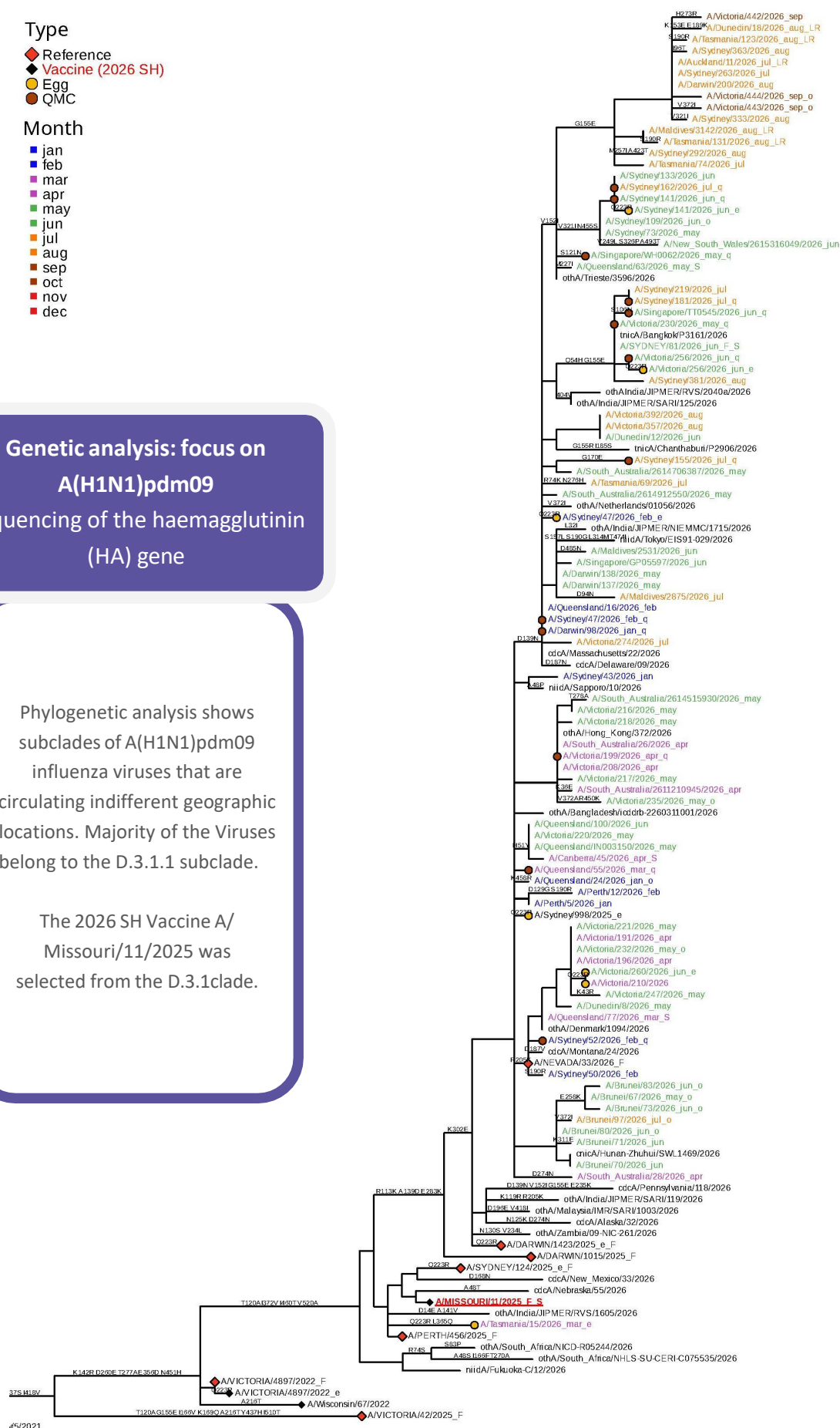




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Sequencing of the haemagglutinin (HA) gene

The 2026 SH Vaccine A/
Missouri/11/2025 was
selected from the D.3.1 clade.



D.3.1.1

D.3.1



Surveillance update: Virus activity 1 January —30 September 2026 continued

Antiviral drug susceptibility testing: 728 viruses tested by neuraminidase inhibition (NAI) assay

Testing for susceptibility to the antiviral drugs oseltamivir (Tamiflu), zanamivir (Relenza), peramivir, and laninamivir showed that 1 virus had highly reduced inhibition by one or more neuraminidase inhibitors (NAI).

Type/ subtype/ lineage	Oseltamivir			Peramivir			Laninamivir			Zanamivir		
	Normal inhibition	Reduced inhibition	Highly reduced inhibition	Normal inhibition	Reduced inhibition	Highly reduced inhibition	Normal inhibition	Reduced inhibition	Highly reduced inhibition	Normal inhibition	Reduced inhibition	Highly reduced inhibition
A(H1N1) pdm09	178	1	1	178	1	1	178	2	0	179	1	0
A(H3N2)	455	0	0	455	0	0	455	0	0	455	0	0
B/Victoria	94	0	0	94	0	0	94	0	0	94	0	0
Total	727	1	1	727	1	1	727	2	0	728	1	0

Viruses with reduced inhibition by antiviral drugs in the NAI assay undergo genetic analysis of the neuraminidase gene to detect mutations associated with the functional change. The relationship between reduced inhibition and the clinical effectiveness of a neuraminidase inhibitor is not well understood. Further studies would be required to determine whether a virus with reduced inhibition in the NAI assay is clinically resistant.

Viruses with highly reduced inhibition to one or more NAI

Type/subtype/lineage		Country of submitting laboratory	NAI(s) with highly reduced inhibition (marked with *)			
			Oseltamivir	Peramivir	Laninamivir	Zanamivir
A(H1N1) pdm09	A/VICTORIA/235/2026	Australia	*	*		

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