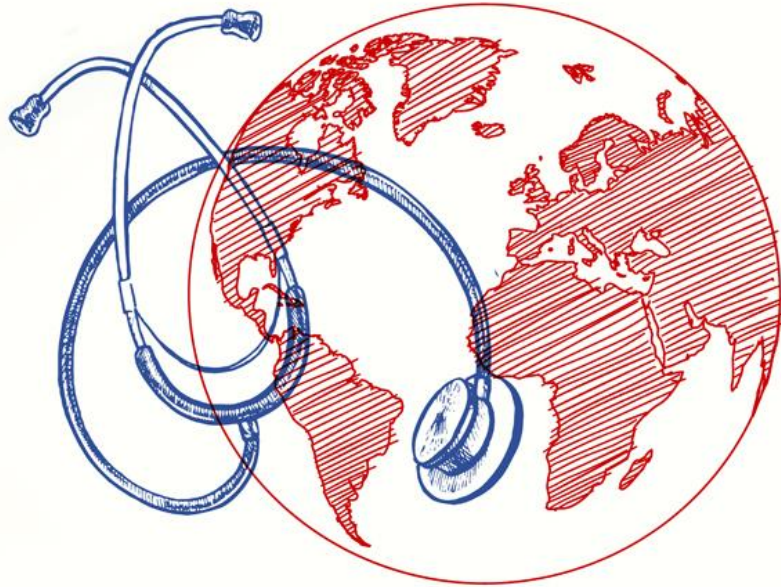


Global Health Cast 73

August 08, 2024



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What we talk about today

- **Mpox cases spiking in 10 African nations**
- **Increased hypervirulent, multidrug-resistant Klebsiella**
- **Risk of heart attack, stroke drops after COVID vaccination**
- **H5N1 update**
- **Politician's refusal for preparedness for an influenza pandemic**
- **PASC – vaccinated versus unvaccinated**

Mpox cases spiking in 10 African nations

Jan 2022-July 2024

Total Cases: **37,583**

Total Death: **1,451**

Case Fatality Rate
(CFR): **3.9%**

15 African Union
Member States
(AU MS)

Jan 2024-July 2024

Total Cases:

14,250

Total Death: **456**

CFR: **3.2%**

10 AU MS



Clade I
CAR, Congo, DRC,
Rwanda

Clade II
Benin, Ghana, Liberia,
Mozambique, Nigeria,
South Africa

Clade I & II
Cameroon

*Map of Africa showing AU Member
States reporting mpox outbreaks,
January-July 2024*

As of July 28, 2024, a total of 14,250 cases (2,745 confirmed; 11,505 suspected) and 456 deaths (case fatality rate [CFR]: 3.2%) have been recorded in 10 African nations, including Burundi, Cameroon, CAR, Congo, DRC, Ghana, Liberia, Nigeria, Rwanda, and South Africa.

Some of the cases have been caused by what researchers are calling "clade 1b," a new mpox lineage identified in the DRC last year that is highly transmissible and has a higher CFR than clade 2, which swept across the globe in 2022 among men who have sex with men in a sexual transmission pattern. The CFR for clade 2 is less than 1%, while 1b's CFR is roughly 6%.

WHO warning: increased hypervirulent, multidrug-resistant *Klebsiella*

Disease Outbreak News

Antimicrobial Resistance, Hypervirulent *Klebsiella pneumoniae* Global situation

31 July 2024

Countries should strengthen clinical and public health awareness for the detection of carbapenem resistance (CR)-hvKp.

There is a need to raise awareness among clinicians and diagnostic laboratory services to detect suspected hvKp infections based on the typical clinical picture of community-acquired hvKp infections, unusual spread of *K. pneumoniae* infections within the body, or clusters of healthcare-associated *K. pneumoniae* infections related to increased severity and mortality.

The WHO is particularly concerned about one strain of hvKp, sequence type (ST)23, a strain that carries genes (carbapenemase genes) that confer resistance to carbapenem antibiotics and all available beta-lactam antibiotics.

Risk of heart attack, stroke drops after COVID vaccination

nature communications



Article

<https://doi.org/10.1038/s41467-024-49634-x>

Cohort study of cardiovascular safety of different COVID-19 vaccination doses among 46 million adults in England

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Check for updates

Samantha Ip^{1,2,3,21}✉, Teri-Louise North^{4,21}, Fatemeh Torabi⁵, Yangfan Li^{1,2,3}, Hoda Abbasizanjani⁵, Ashley Akbari⁵, Elsie Horne⁴, Rachel Denholm^{4,6,7}, Spencer Keene^{1,3}, Spiros Denaxas^{8,9,10,11,12}, Amitava Banerjee⁹, Kamlesh Khunti¹³, Cathie Sudlow¹², William N. Whiteley^{12,14}, Jonathan A. C. Sterne^{4,6,7,22}, Angela M. Wood^{1,3,12,15,16,17,18,22}, Venexia Walker^{4,19,20,22}, the CVD-COVID-UK/COVID-IMPACT Consortium* & the Longitudinal Health and Wellbeing COVID-19 National Core Study*

The first dose of COVID-19 vaccines led to an overall reduction in cardiovascular events, and in rare cases, cardiovascular complications. There is less information about the effect of second and booster doses on cardiovascular diseases. Using longitudinal health records from 45.7 million adults in England between December 2020 and January 2022, our study compared the incidence of thrombotic and cardiovascular complications up to 26 weeks after first, second and booster doses of brands and combinations of COVID-19 vaccines used during the UK vaccination program with the incidence before or without the corresponding vaccination. The incidence of common arterial thrombotic events (mainly acute myocardial infarction and ischaemic stroke) was generally lower after each vaccine dose, brand and combination. Similarly, the incidence of common venous thrombotic events, (mainly pulmonary embolism and lower limb deep venous thrombosis) was lower after vaccination. There was a higher incidence of previously reported rare harms after vaccination: vaccine-induced thrombotic thrombocytopenia after first ChAdOx1 vaccination, and myocarditis and pericarditis after first, second and transiently after booster mRNA vaccination (BNT-162b2 and mRNA-1273). These findings support the wide uptake of future COVID-19 vaccination programs.

A study today involving 46 million adults in England shows that the **incidence of both heart attacks and strokes dropped following COVID-19 vaccination** compared to the incidence before or without vaccination.

The study authors said **the incidence of common cardiovascular diseases dropped after every COVID-19 vaccination, but COVID-19 vaccination was associated with slightly increased rates of myocarditis and pericarditis following mRNA-based vaccines, and vaccine-induced thrombotic thrombocytopenia following adenovirus-based vaccines** such as the AstraZeneca vaccine.

CDC – Influenza A(H5N1) Bird Flu Update August 2, 2024

- ▶ **3 additional human** cases of highly pathogenic avian influenza (HPAI) A(H5) (“H5 bird flu”)
 - ▶ confirmed by CDC associated with a second poultry farm in Northeast Colorado/Weld County.
 - ▶ All had mild illness and were offered oseltamivir, for treatment
- ▶ **Currently** total number of human cases of H5 bird flu reported in the United States since April 2024 is **13**. Prior to 2024, the only previous human case of H5N1 bird flu in the United States was [reported among a poultry worker in Colorado in April 2022](#). Counting that case, there have been **14 total human cases of H5 bird flu in the United States since 2022**.
- ▶ **CDC Recommendations**
 - ▶ avoid unprotected exposures to sick or dead animals
 - ▶ avoid unprotected exposures to animal feces (poop), bedding (litter), unpasteurized (“raw”) milk, or materials that have been touched by, or close to, birds or other animals with suspected or confirmed A(H5N1) virus.
 - ▶ RECOMMENDATIONS FOR prevention, monitoring, and public health investigations of A(H5N1) virus infections in people.

No need to panic – but be prepared

As H5N1 is spreading in US cattle and with H5N6 deaths in China COVID19 – Refusals to learn lessons?

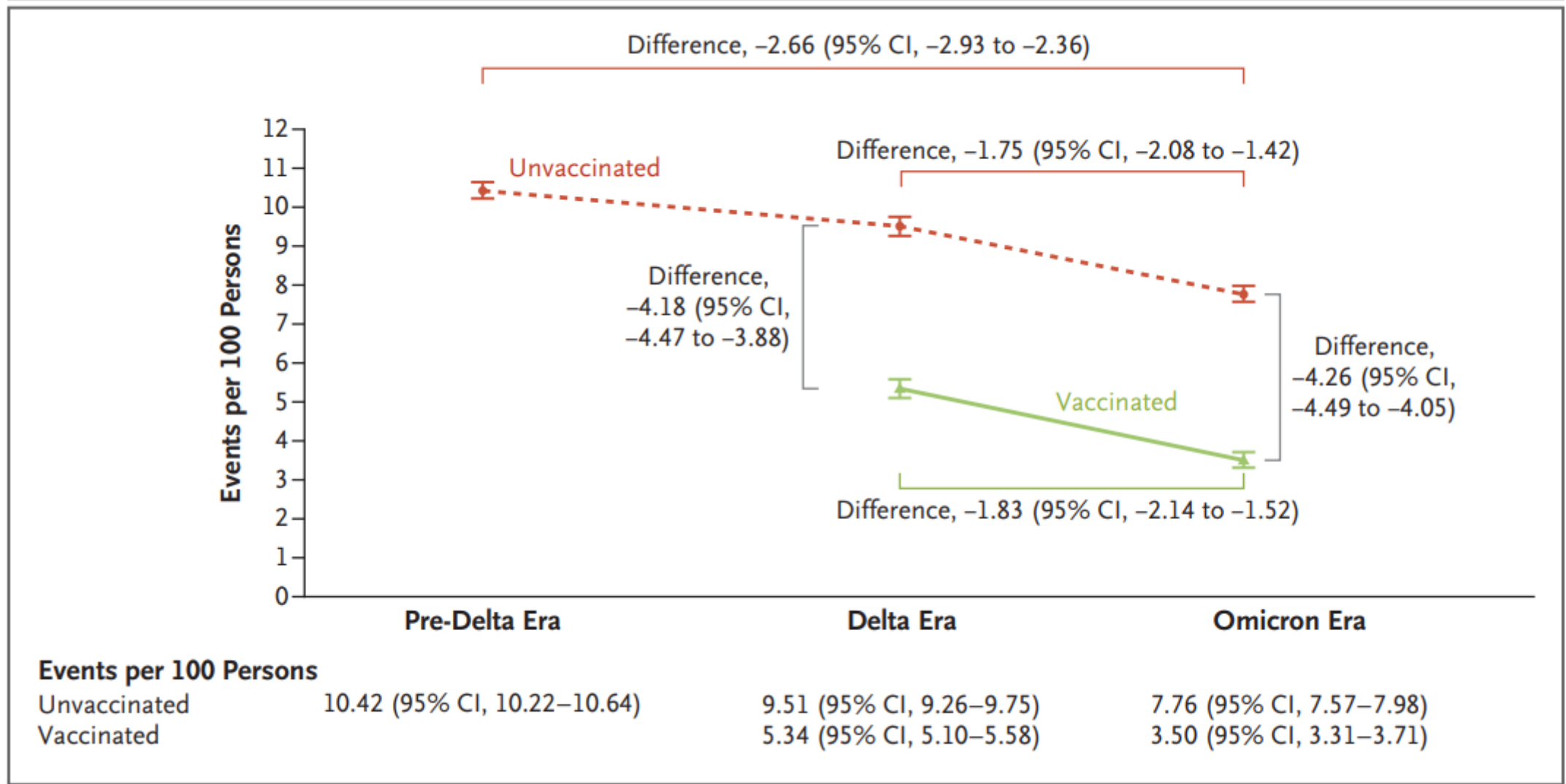
Is your government preparing for H5NX pandemic NOW in any way?	Unclear	No	YES
Stockpiling for immediate needs (masks; antibiotics, ...)			
Supply chains (medical, economic, ...)			
Surveillance (incidence data; electronic reporting, ...)			
Vaccine production/procurement ...			
Communication to lay public (hygiene, vaccination, ...)			
Fiscal preparedness			
Political preparedness			

PASC= Post Acute Sequelae of CCOVID19

METHODS

- ▶ Health records of the Department of Veterans Affairs
- ▶ Build study population
 - ▶ **441,583 veterans with SARS-CoV-2** infection between March 1, 2020, and January 31, 2022,
 - ▶ **4,748,504 noninfected contemporaneous controls.**
- ▶ Estimation of the cumulative incidence of PASC at 1 year after SARS-CoV-2 infection during the pre-delta, delta, and omicron eras of the Covid-19 pandemic.

Cumulative Incidence of PASC, Pre-Delta, Delta, Omicron Eras by Vaccination Status



Incidence of PASC by Disease Category, Vaccination Status, Pandemic Era

Disease Category	Unvaccinated: Omicron Era vs. Pre-Delta and Delta Eras Combined		Vaccinated: Omicron Era vs. Delta Era	
	Difference in Cumulative Incidence (95% CI) <i>events per 100 persons at 1 yr</i>	Incidence Rate Ratio (95% CI)	Difference in Cumulative Incidence (95% CI) <i>events per 100 persons at 1 yr</i>	Incidence Rate Ratio (95% CI)
Cardiovascular	-0.46 (-0.61 to -0.30)	0.80 (0.75 to 0.87)	-0.48 (-0.65 to -0.30)	0.67 (0.58 to 0.78)
Coagulation and hematologic	-0.01 (-0.13 to 0.12)	1.00 (0.94 to 1.06)	-0.57 (-0.72 to -0.42)	0.63 (0.56 to 0.71)
Fatigue	-0.29 (-0.37 to -0.19)	0.85 (0.81 to 0.90)	0.02 (-0.08 to 0.12)	1.03 (0.90 to 1.17)
Gastrointestinal	0.39 (0.23 to 0.56)	1.14 (1.08 to 1.21)	0.08 (-0.11 to 0.27)	1.04 (0.94 to 1.16)
Kidney	-0.17 (-0.31 to -0.03)	0.78 (0.63 to 0.96)	-0.17 (-0.33 to 0.00)	0.67 (0.44 to 1.00)
Mental health	-0.75 (-0.91 to -0.58)	0.77 (0.73 to 0.82)	-0.50 (-0.69 to -0.30)	0.81 (0.75 to 0.88)
Metabolic	0.19 (0.06 to 0.32)	1.14 (1.05 to 1.25)	-0.30 (-0.45 to -0.15)	0.66 (0.53 to 0.81)
Musculoskeletal	0.13 (0.01 to 0.26)	1.08 (1.00 to 1.17)	-0.04 (-0.19 to 0.11)	0.97 (0.88 to 1.08)
Neurologic	-0.37 (-0.53 to -0.20)	0.88 (0.83 to 0.93)	-0.31 (-0.49 to -0.12)	0.79 (0.68 to 0.91)
Pulmonary	-1.15 (-1.27 to -1.03)	0.74 (0.72 to 0.77)	-0.88 (-1.01 to -0.74)	0.67 (0.62 to 0.71)
Any PASC	-2.47 (-2.73 to -2.20)	0.76 (0.74 to 0.78)	-1.83 (-2.14 to -1.52)	0.66 (0.61 to 0.71)

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If your net isn't in the water,
you won't be catching any fish!

