Global Health Cast 22

December 13th, 2022

Dr. Melvin Sanicas

Prof. Dr. Joe Schmitt

Every Tuesday

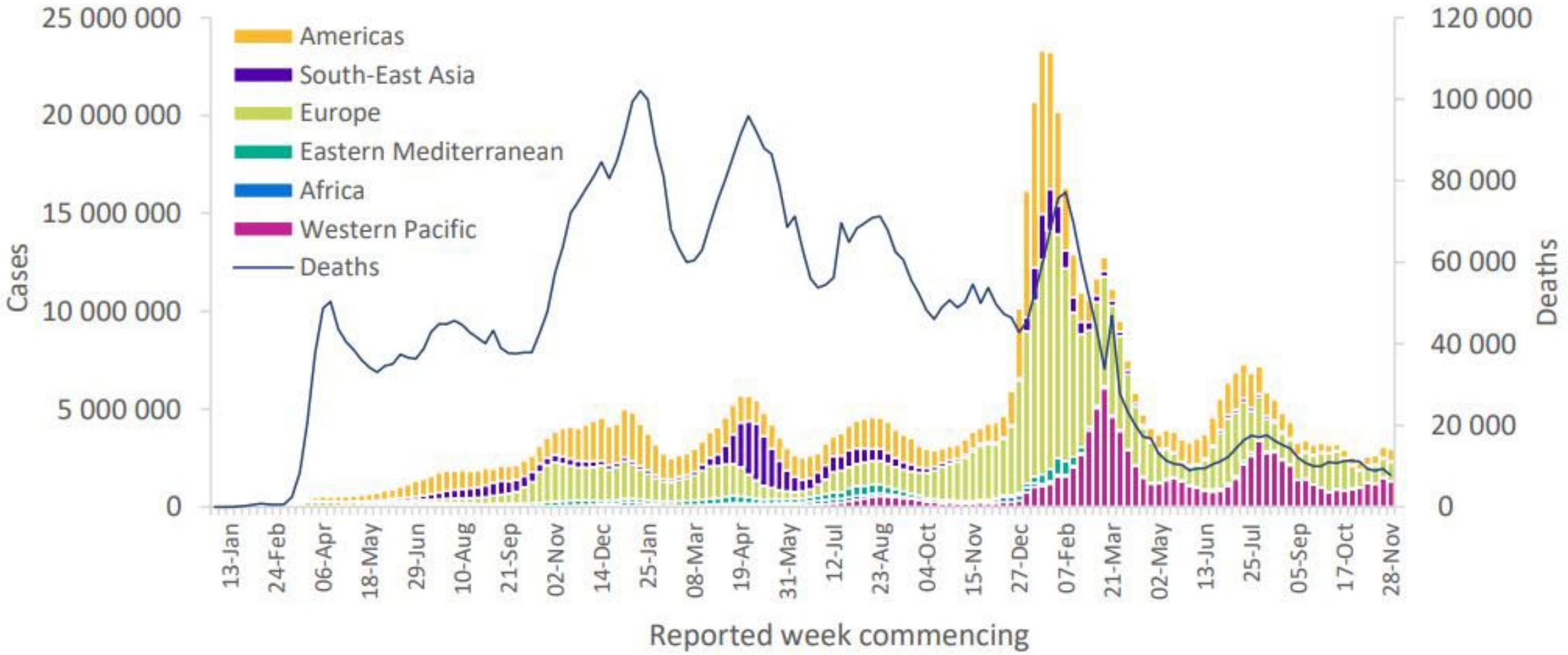
12.00 noon - CET

GLOBAL HEALTH PRESS

What we talk about today

- COVID-19 update
- Post COVID-19 (Long COVID) risk factors in England
- Pertussis vaccination during pregnancy: new 2 component aP “mono” in Thailand
- New name for Monkeypox
- Dengue outbreak in Bangladesh in the context of an unusual amount of rainfall
- Takeda Dengue vaccine: EMA gives ”positive opinion”
- Increased risk of endemic mosquito-borne diseases due to climate change
- RSV: Efficacy of Maternal vaccination data released

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 4 December 2022**



PLOS GLOBAL PUBLIC HEALTH

RESEARCH ARTICLE

Post-COVID-19 syndrome risk factors and further use of health services in East England

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Check for updates

This survey of a large number of people previously diagnosed with COVID-19 across East England shows a high prevalence of self-reported post-COVID-19 syndrome. **Female sex and BMI were associated with an increased risk of post-COVID-19 syndrome** and further utilisation of healthcare.

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Effectiveness of maternal TdaP vaccination at preventing infant pertussis, by timing of vaccination

Vaccination Status	Cases, No. (%)		Controls, No. (%)		Multivariable VE[a], % (95% CI)
Total	240	(%)	535	(%)	
Unvaccinated	104	(43.3)	177	(33.1)	reference
Before pregnancy	24	(10.0)	67	(12.5)	50.8 (2.1–75.2)
First or second trimester	5	(2.1)	27	(5.1)	64.3 (–13.8 to 88.8)
Third trimester	17	(7.1)	90	(16.8)	77.7 (48.3–90.4)
After pregnancy	90	(37.5)	174	(32.5)	4.9 (–49.3 to 39.5)

CDC recommendations: TdaP during pregnancy (selection)

1. **TdaP during pregnancy provides the best protection for mothers and infants**
   - TdaP during every pregnancy
   - Optimal timing: between 27 and 36 weeks' gestation

2. **Postpartum TdaP administration is NOT optimal**
   - Postpartum TdaP administration – no immunity to the infant
   - Cocooning: TdaP to close contacts – siblings, grandparents, and other caregivers

3. **TdaP should NOT be offered as part of routine preconception care**
   - Pertussis immunity is short; TdaP is recommended during each pregnancy
   - If TdaP is given at a preconception visit, it should be re-administered between 27 and 36 weeks' gestation
   - If TdaP is administered in early pregnancy, it should not be repeated between 27 and 36 weeks' gestation

Pre- and post vaccination immune responses to different aP vaccines in adolescents 12-17 years

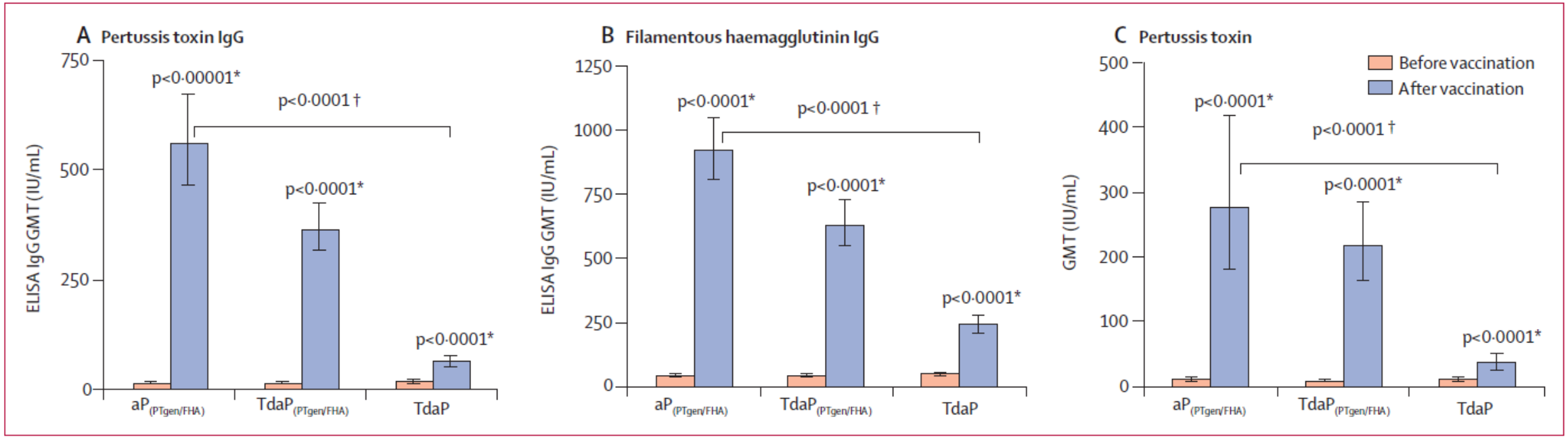
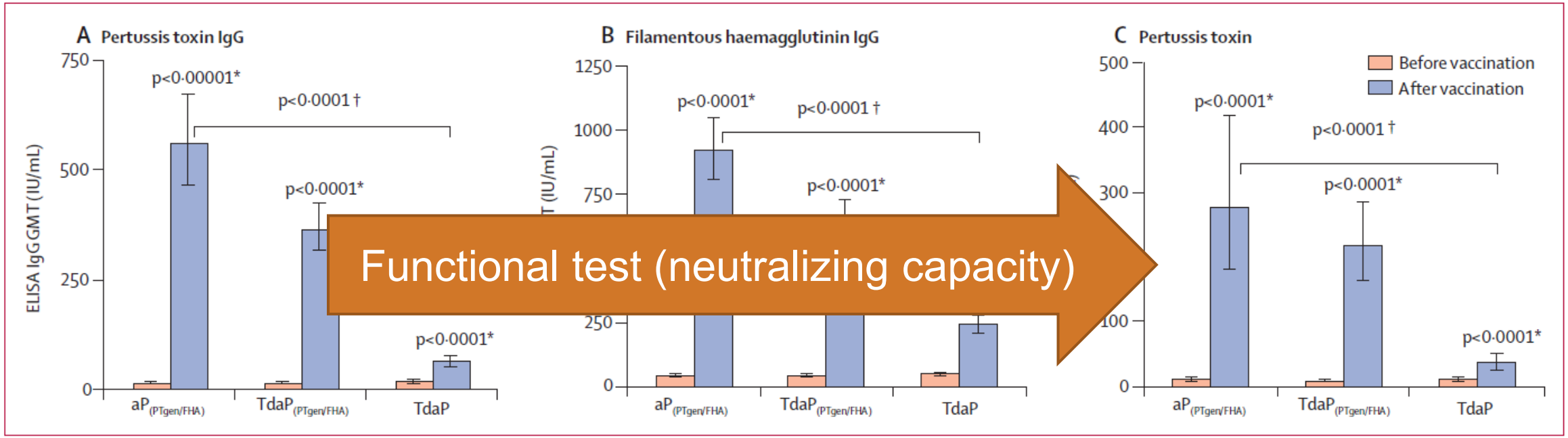


***Figure 2*: Pertussis toxin and filamentous haemagglutinin ELISA IgG GMTs and pertussis toxin neutralising antibody GMTs before and 28 days after vaccination**

Error bars show 95% CIs. Pertussis toxin and filamentous haemagglutinin antibody titres were assessed by ELISA and pertussis toxin neutralising antibody titres by the Chinese hamster ovary-cell neutralisation assay. GMT=geometric mean titre. $aP_{(PTgen/FHA)}$=acellular pertussis vaccine containing genetically inactivated pertussis toxin and filamentous haemagglutinin. $TdaP_{(PTgen/FHA)}$=tetanus with reduced-dose diphtheria and acellular pertussis vaccine containing genetically inactivated pertussis toxin and filamentous haemagglutinin. Tdap=tetanus with reduced-dose diphtheria and acellular pertussis combination vaccine. *We used paired *t* tests to compare GMTs between baseline and after vaccination. †To compare post-vaccination titrer, we used the Kruskal–Wallis test for pertussis toxin ELISA and neutralising GMTs, and one-way ANOVA for filamentous haemagglutinin ELISA GMTs. Differences in baseline titres did not differ significantly between the vaccination groups for any of the outcomes (Kruskal–Wallis p>0·05; Kruskal–Wallis).

Pre- and post vaccination immune responses to different aP vaccines in adolescents 12-17 years



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WHO recommends new name for monkeypox

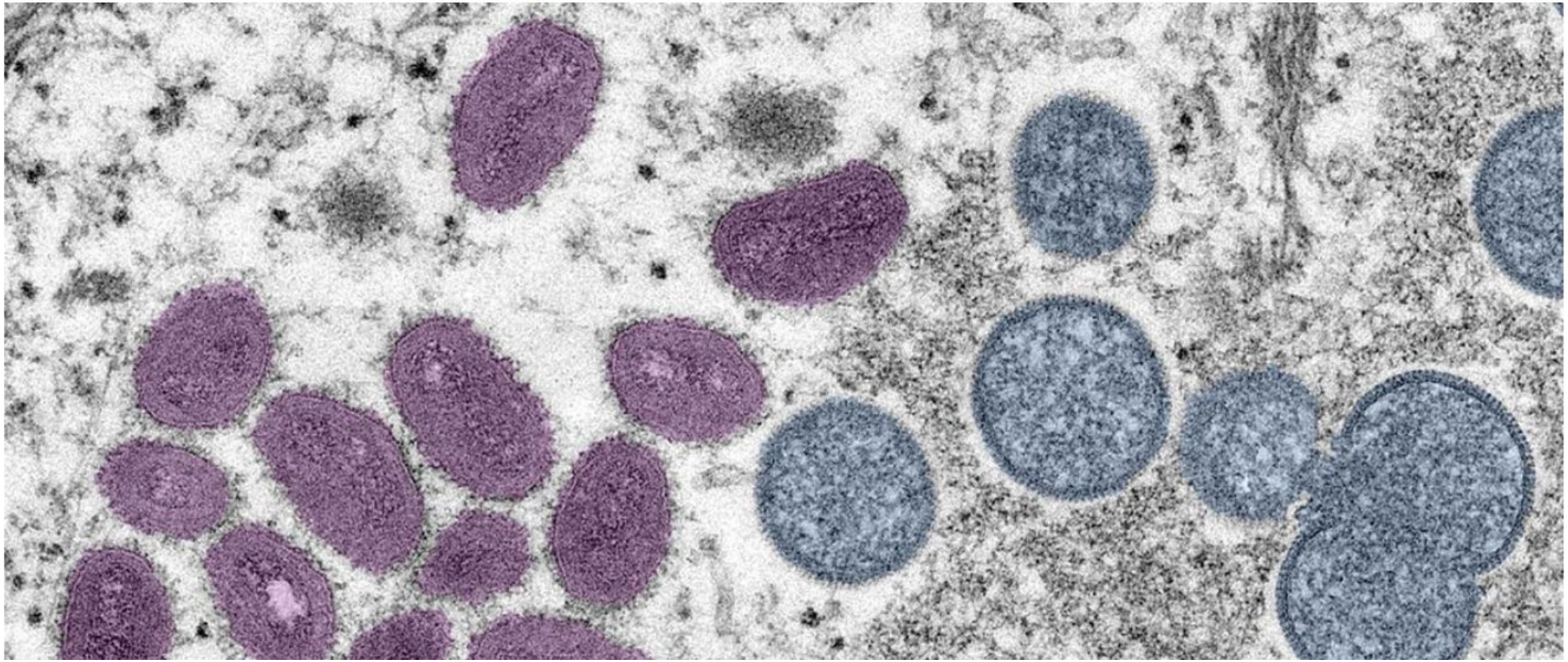
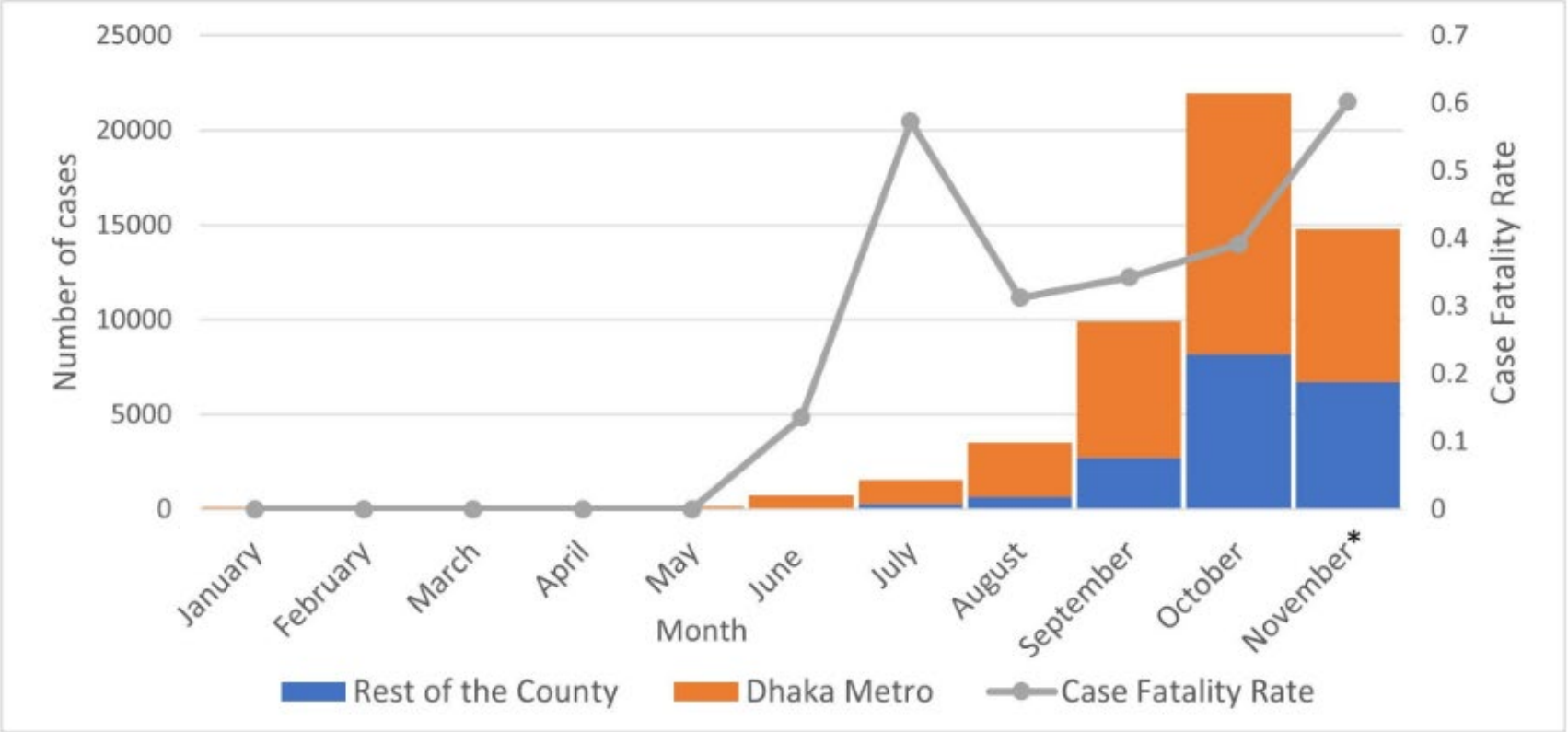


Figure 1. Number of dengue cases and deaths reported in Bangladesh from 1 January to 20 November 2022.



As of 20 November 2022, a total of 52,807 laboratory-confirmed dengue cases and 230 related deaths have been reported by the Ministry of Health & Family Welfare of Bangladesh since 1 January 2022 with a case fatality rate (CFR) of 0.44%. Dengue is endemic in Bangladesh however a surge of cases started in June 2022.

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

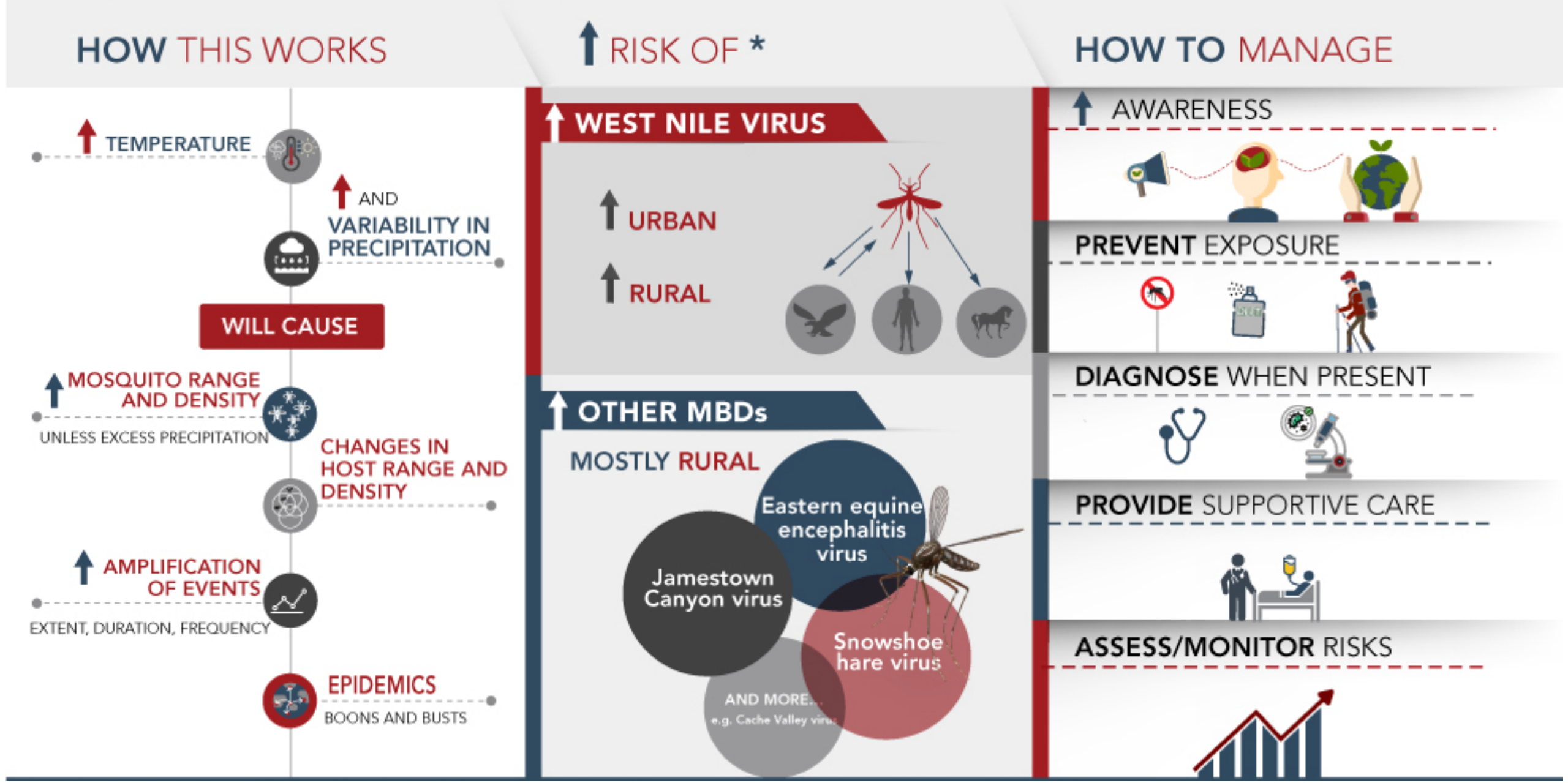
13 October 2022
EMA/CHMP/781055/2022
Committee for Medicinal Products for Human Use (CHMP)

Summary of opinion

Dengue Tetravalent Vaccine (Live, Attenuated) Takeda

dengue tetravalent vaccine (live, attenuated)

On 13 October 2022, the Committee for Medicinal Products for Human Use (CHMP) adopted a positive opinion in accordance with Article 58 of Regulation (EC) No 726/2004[1] for the medicinal product Dengue Tetravalent Vaccine (Live, Attenuated) Takeda, intended for prophylaxis against dengue disease. This medicinal product has been developed by Takeda GmbH.



Increased risk of endemic mosquito-borne diseases in Canada due to climate change
A Ludwig, H Zheng, L Vrbova, MA Drebot, M Iranpour, LR Lindsay. **April 4, 2019**

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Global burden of RSV disease: 100% of infections by the age of 2 years, often twice

Global pneumonia

31% caused by RSV
33 million acute respiratory infections
3.1 million hospitalizations
118,200 deaths

Total costs

US $3.13 billion
direct medical costs
(95% CI 2.27,5.13)

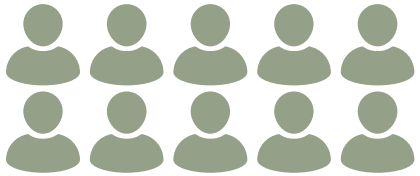
+87% direct non-medical costs

+36.7% indirect costs

Expected vaccine impact

	Deaths averted (×1000)	DALYs (×1000)
Maternal vaccine	3 (95% CI 1, 11)	98 (95% CI 16, 308)
mAbs	5 (95% CI 1, 16)	17 (95% CI 23, 423)

RSV deaths



More than **99%** of deaths occur in low- and middle-income countries

24% access to intensive care

Location of RSV-related pediatric deaths

20–50% in hospital

50–80% out of hospital

Age at death

2.4 months

1.5 months

Mazur NI et al. Lancet Infect Dis 2022; doi: S1473-3099(22)00291-2

RSV Vaccines and Trial Names

Late-stage RSV pipeline			
Project	**Company**	**Description**	**Details**
Nirsevimab (SP0232)	Sanofi/ Astrazeneca	Fusion antibody	Filed; accepted under accelerated assessment in EU
GSK3844766A	Glaxosmithkline	Protein subunit vaccine, adjuvanted	Aresvi 004 in adults ≥60, data due H1 2022
RSVPreF3 (GSK3888550A)	Glaxosmithkline	Protein subunit vaccine, unadjuvanted	Trials on pause; Grace maternal protection trial was due to read out H2 2022
RSVpreF (PF-06928316)	Pfizer	Protein subunit vaccine	Data from Renoir (adults ≥60) and maternal protection trial due H1 2022
Ad26.RSV.preF	Johnson & Johnson	Adenovirus type 26 viral vector vaccine	Evergreen in adults ≥60, data due H2 2022
Clesrovimab (MK-1654)	Merck & Co	Fusion antibody	MK-1654-007 in high-risk infants; ph2/3 MK-1654-004 in healthy infants, data due 2022
Rilematovir (JNJ-53718678)	Johnson & Johnson	Oral RSV F-protein fusion inhibitor	Daisy in hospitalised children; Primrose in adult outpatients; trials started late 2021

Medley, Melody

Aresvi

Grace

Renoir, Matisse

Evergreen

Daisy, Primrose

Pfizer RSV Vaccine: Efficacy of Adult and Maternal Immunization

RENOIR (Older Adult) RSVPreF Phase 3 Study Topline Results	
Study design	Up to 40,000 participants Adults ≥ 60 years Randomized to receive RSVpreF 120 µg or placebo
Endpoint	
RSV LRTI >2 symptoms	66.7%
RSV LRTI >3 symptoms	85.7%

MATISSE (Maternal Immunization) RSVPreF Phase 3 Study Topline Results	
Study design	Approx. 7000 mother infant pairs 95% ≥37 weeks GA
Endpoint	
MA RSV LRTI	D90: 57.1% (CI: 14.7, 79.8) D180: 51.3% (CI: 29.4, 66.8)
Severe MA RSV LRTI	D90: 81.8% (CI: 40.6, 96.3) D180: 69.4% (CI: 44.3, 84.1)

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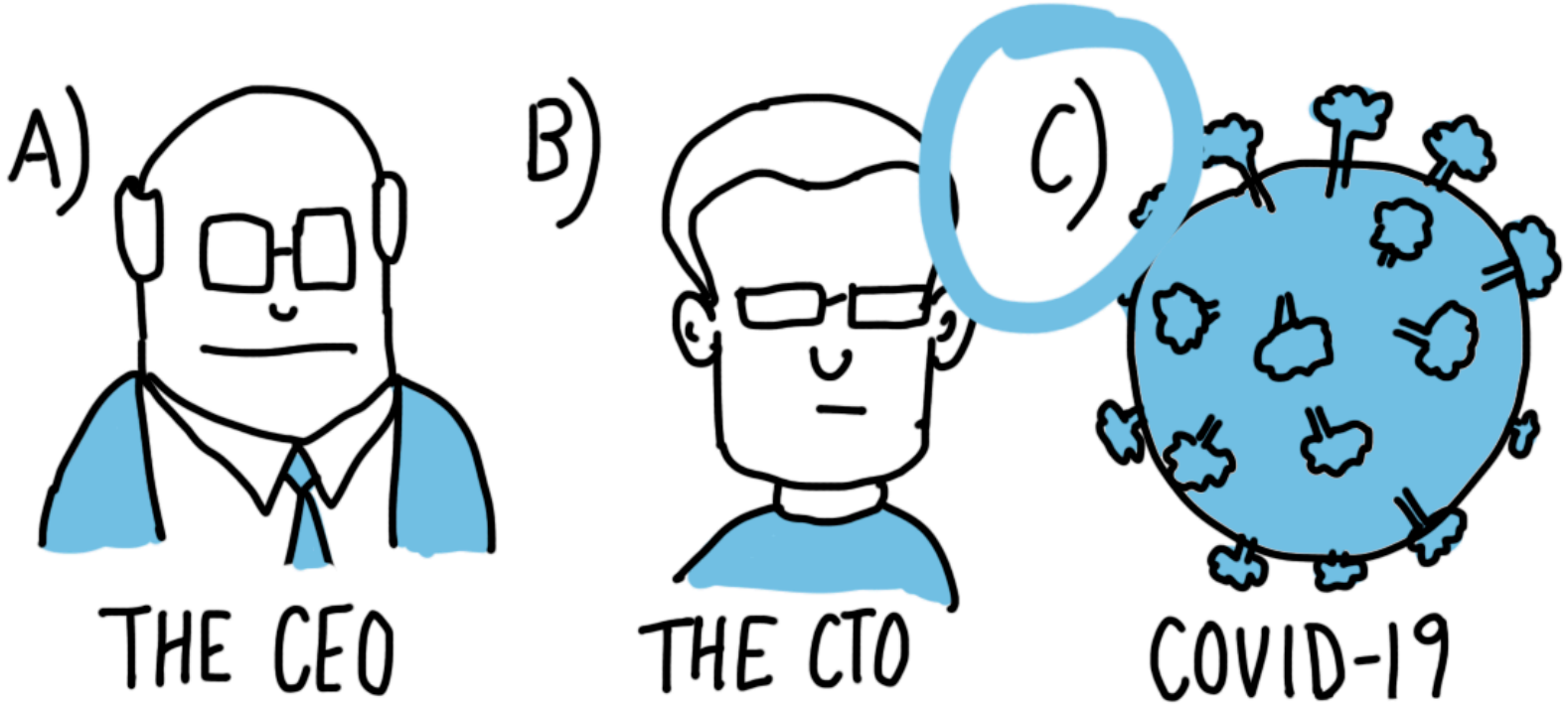
WHO LED THE DIGITAL TRANSFORMATION OF YOUR COMPANY ?



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