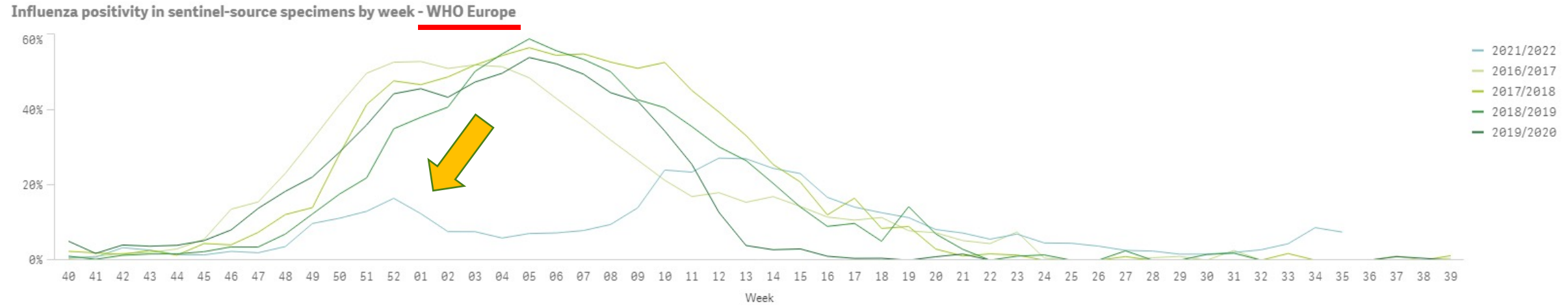
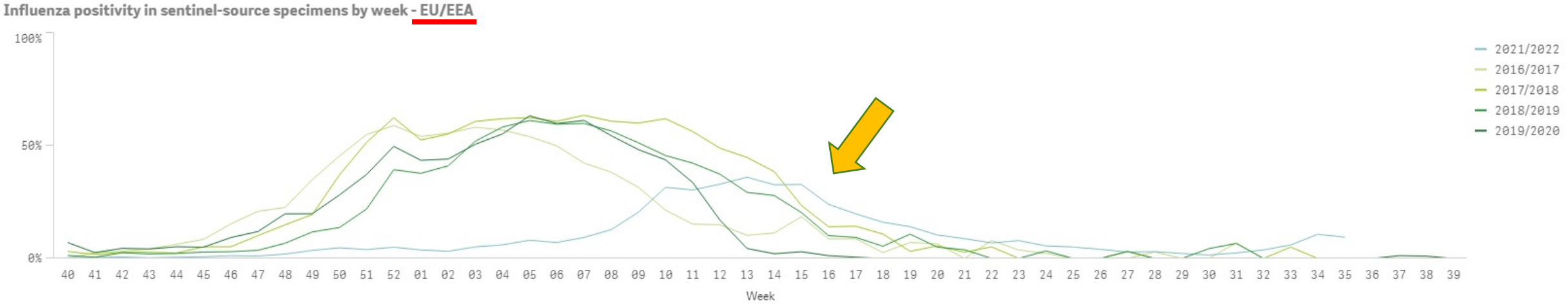
Update on seasonal influenza and human/mammal infections with avian influenza

Dr. Cornelia Adlhoch

Verona, 20 September 2022

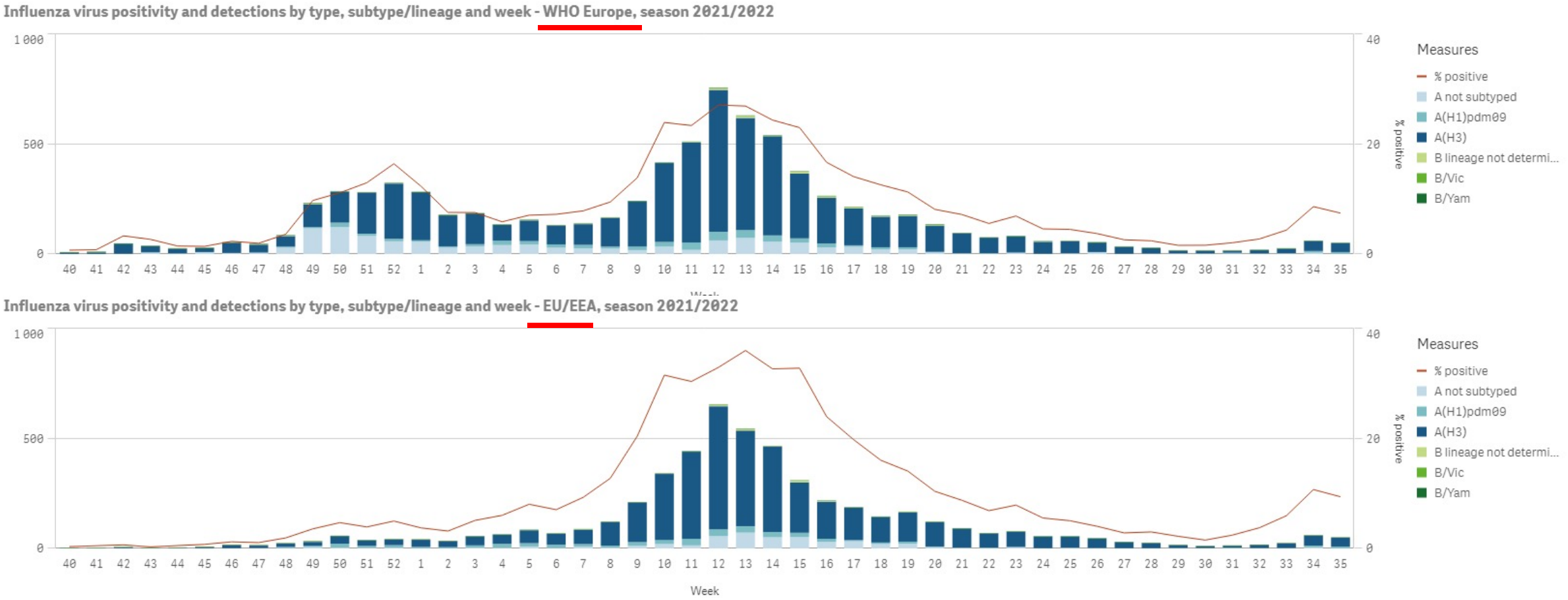
Flu positivity in sentinel specimens, 2016/17-2021/22





Source: www.flunewseurope.org

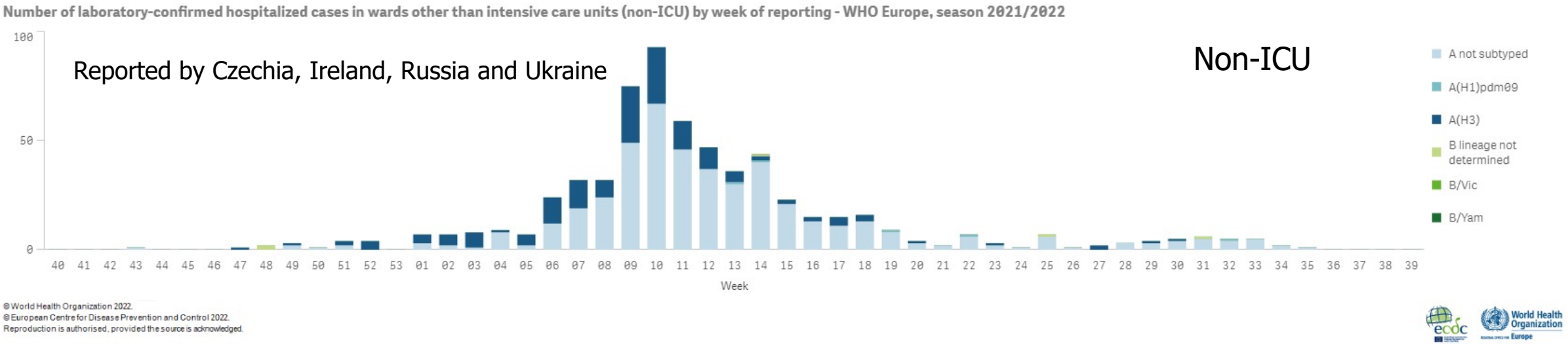
Sentinel specimens by subtype/lineage, 2021/22

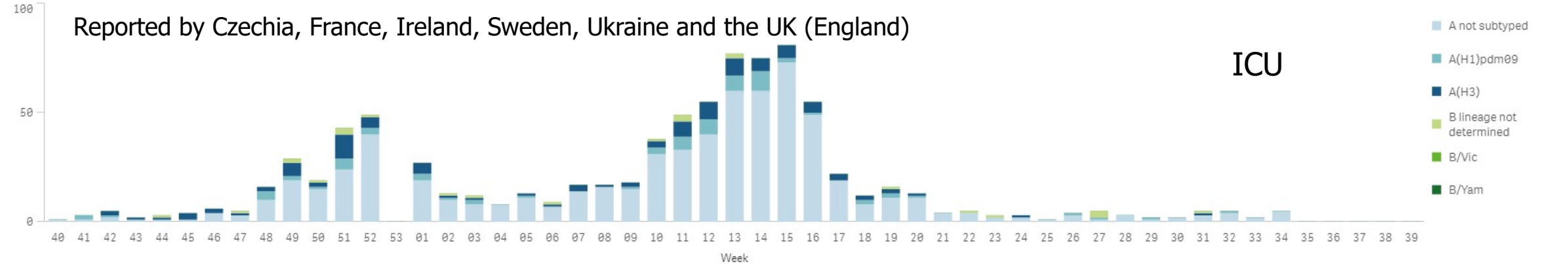


Late H3N2 dominated flu season in EU/EEA countries

Source: www.flunewseurope.org

Hospitalised flu cases, 2021/22



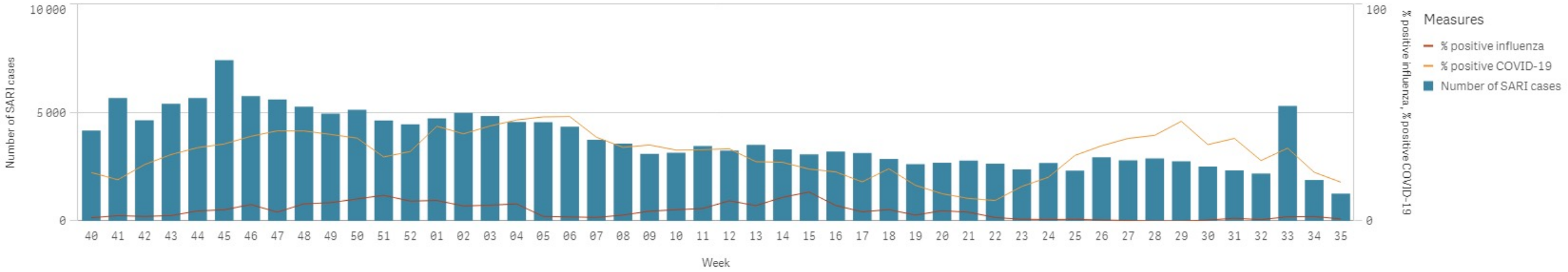


Despite COVID-19, also patients with flu in hospitals

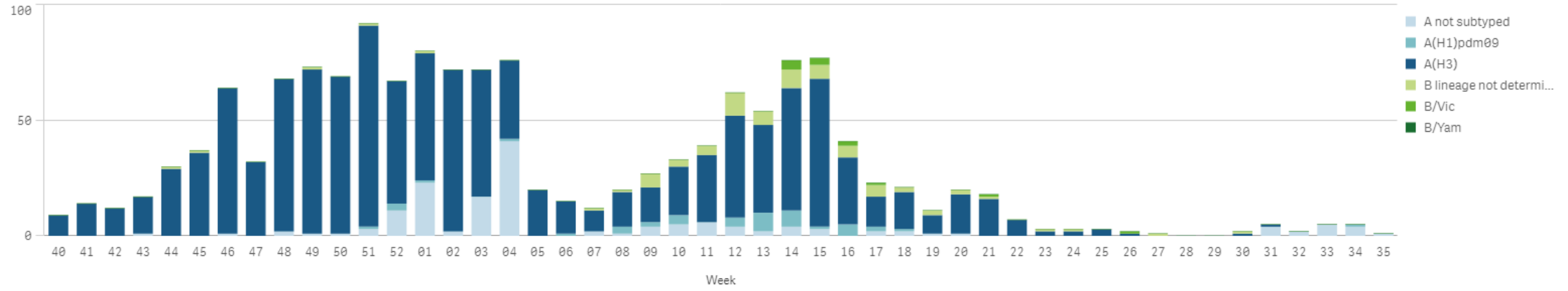
Source: www.flunewseurope.org

SARI surveillance – flu and COVID-19, 2021/22

Number of severe acute respiratory infection (SARI) cases (bar) and positivity for influenza and COVID-19 (line) by week of reporting - WHO Europe, season 2021/2022



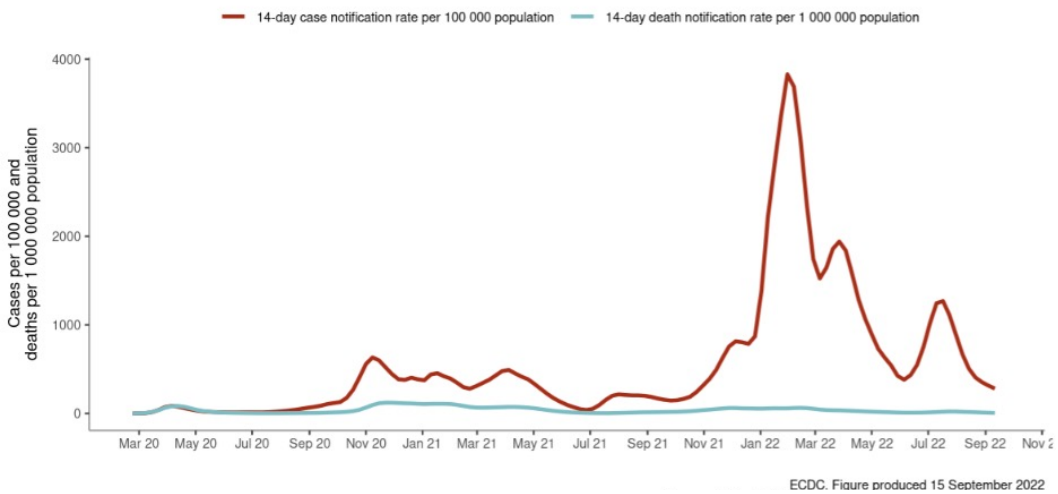
Influenza detections by virus type, subtype/lineage from severe acute respiratory infection (SARI) surveillance in hospitals - WHO Europe, season 2021/2022



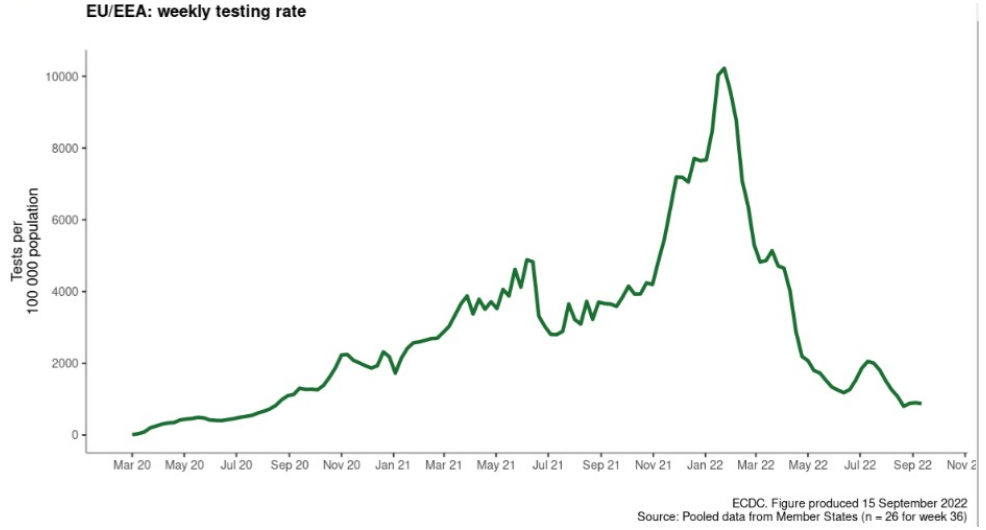
Source: www.flunewseurope.org

COVID-19 situation as of week 36/2022

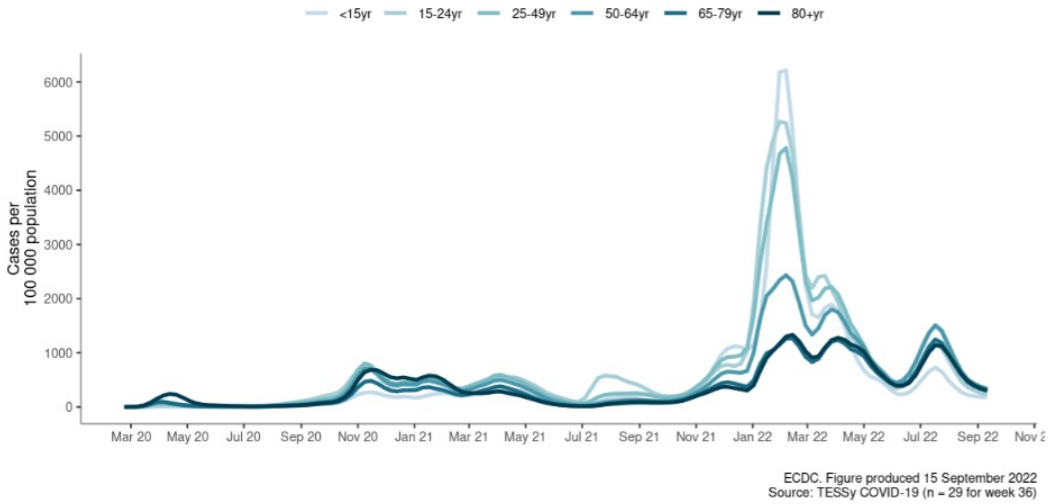
EU/EEA: 14-day COVID-19 case notification rate



EU/EEA: weekly testing rate



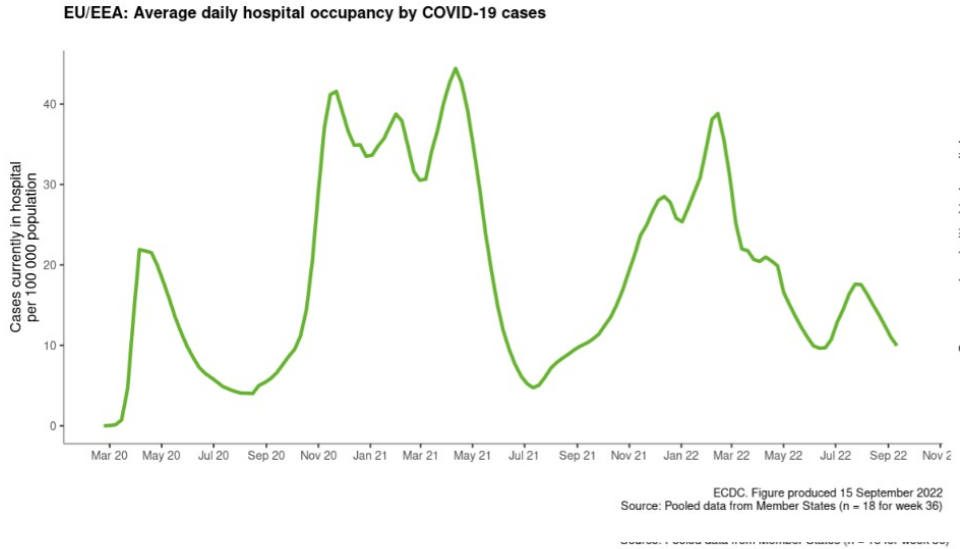
EU/EEA: 14-day age-specific COVID-19 case notification rate

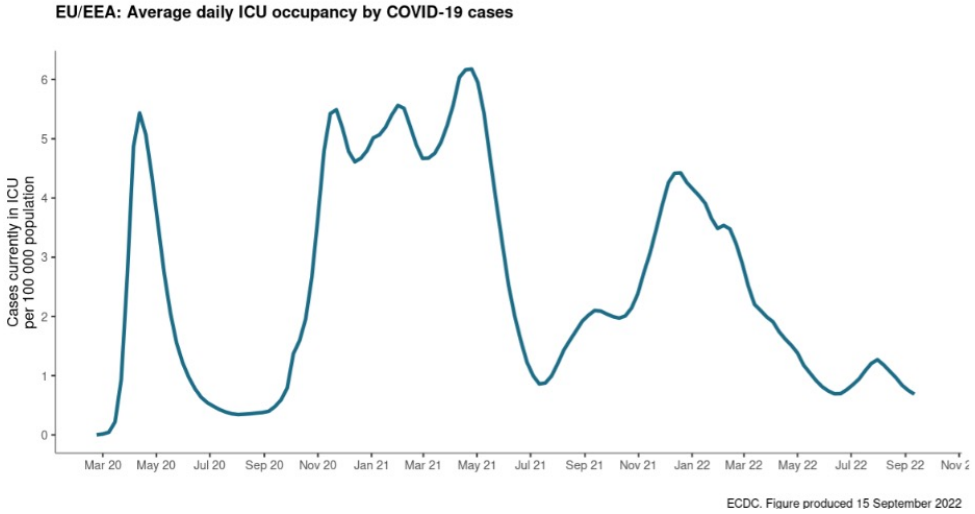


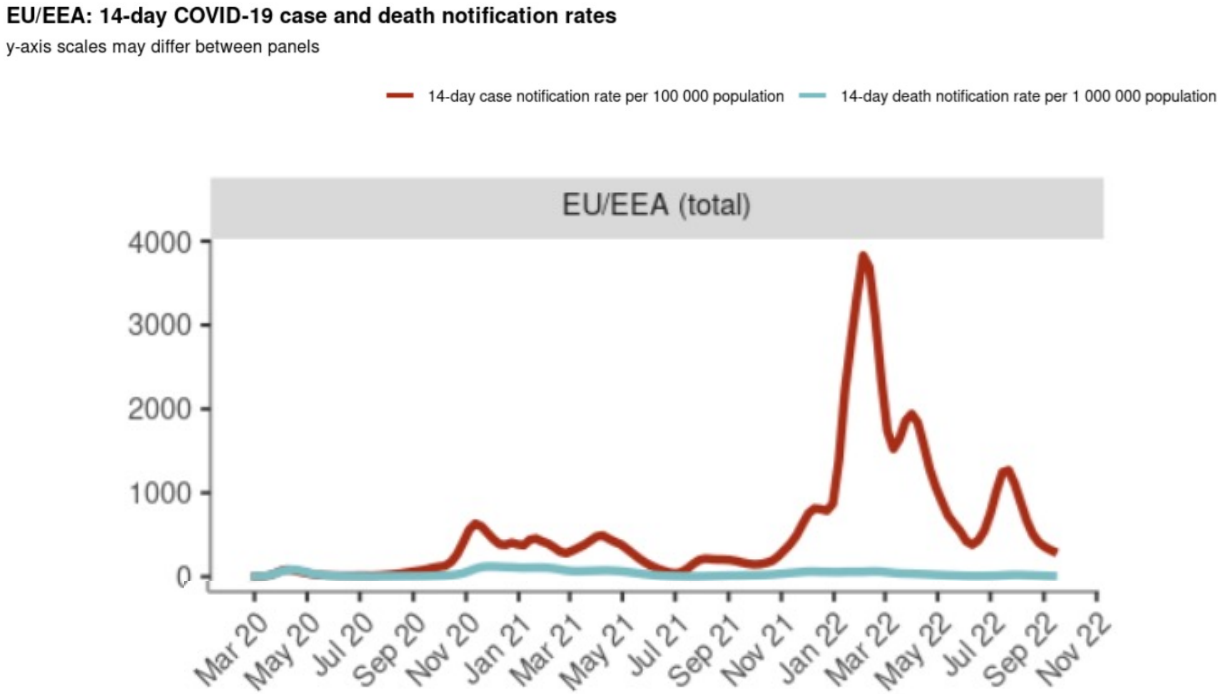
EU/EEA: weekly test positivity

[Country overview report: week 36 2022 (europa.eu)]

COVID-19 hospital & ICU occupancy & deaths, as of week 36/2022







Country overview report: week 36 2022 (europa.eu)

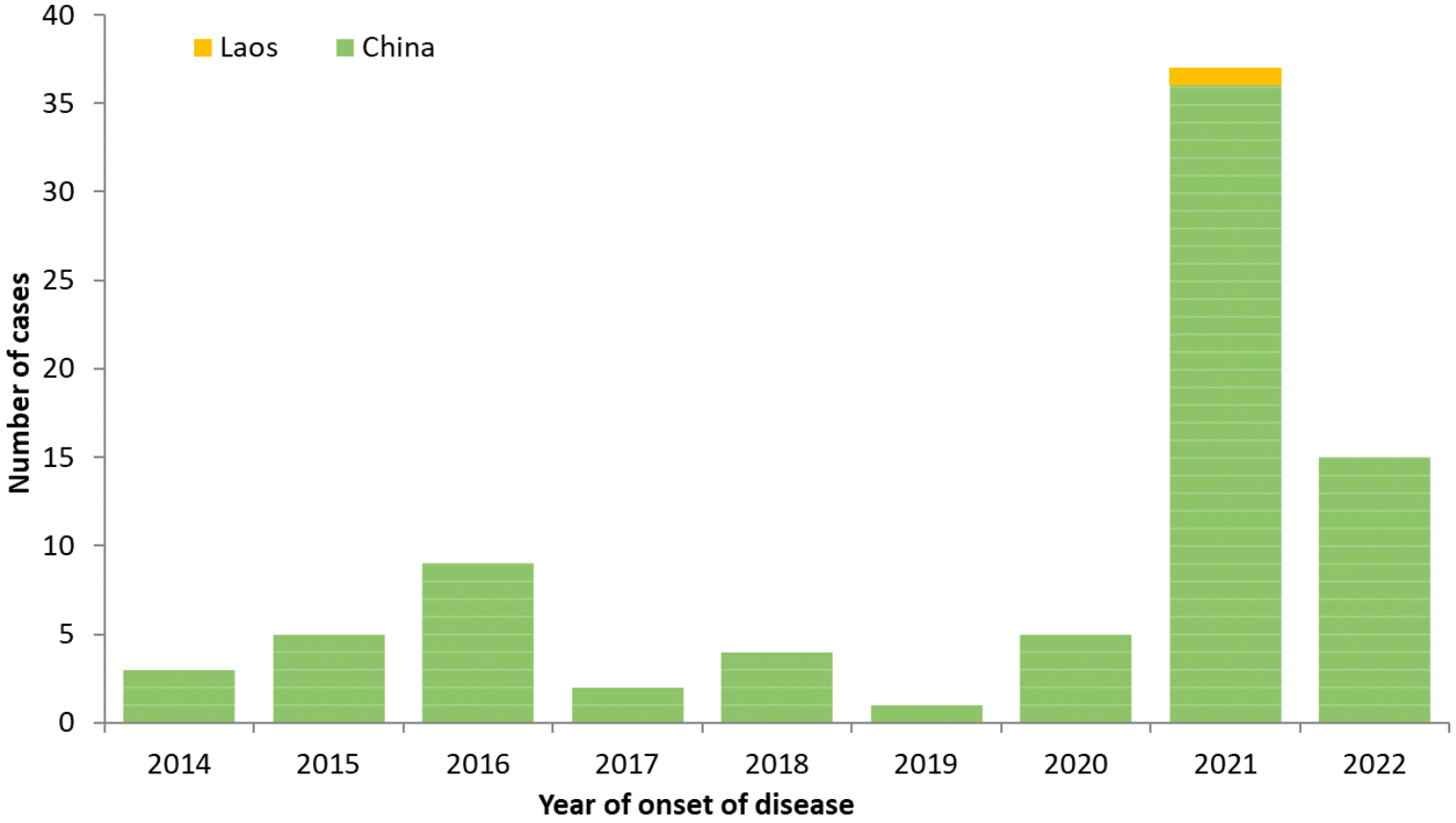
Integrated respiratory virus surveillance

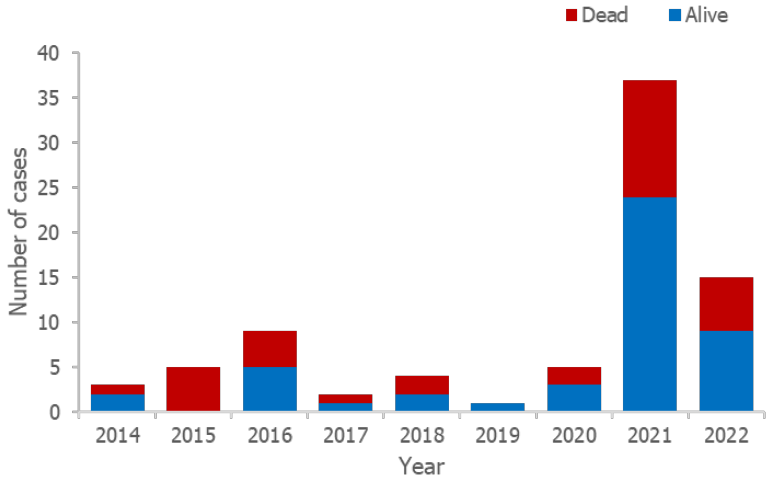
- develop and sustain **resilient** population- based integrated surveillance systems for influenza, COVID-19, and potentially other respiratory virus infections such as RSV or new viral diseases of public health concern
- **well-designed, representative sentinel** surveillance systems in primary and secondary care should remain the central surveillance method for acute respiratory infections.
- provide accurate national and regional level estimates of **indicators of severity** such as hospitalisations, admissions to ICU, and mortality.
- sensitive enough to detect virus **variants**, accurately follow virus-specific disease incidence by level of severity/age/place and to assess **vaccine effectiveness.**

Source: Operational considerations for respiratory virus surveillance in Europe (europa.eu)

Human cases due to avian influenza

Human cases with A(H5N6) infection, 2014-2022

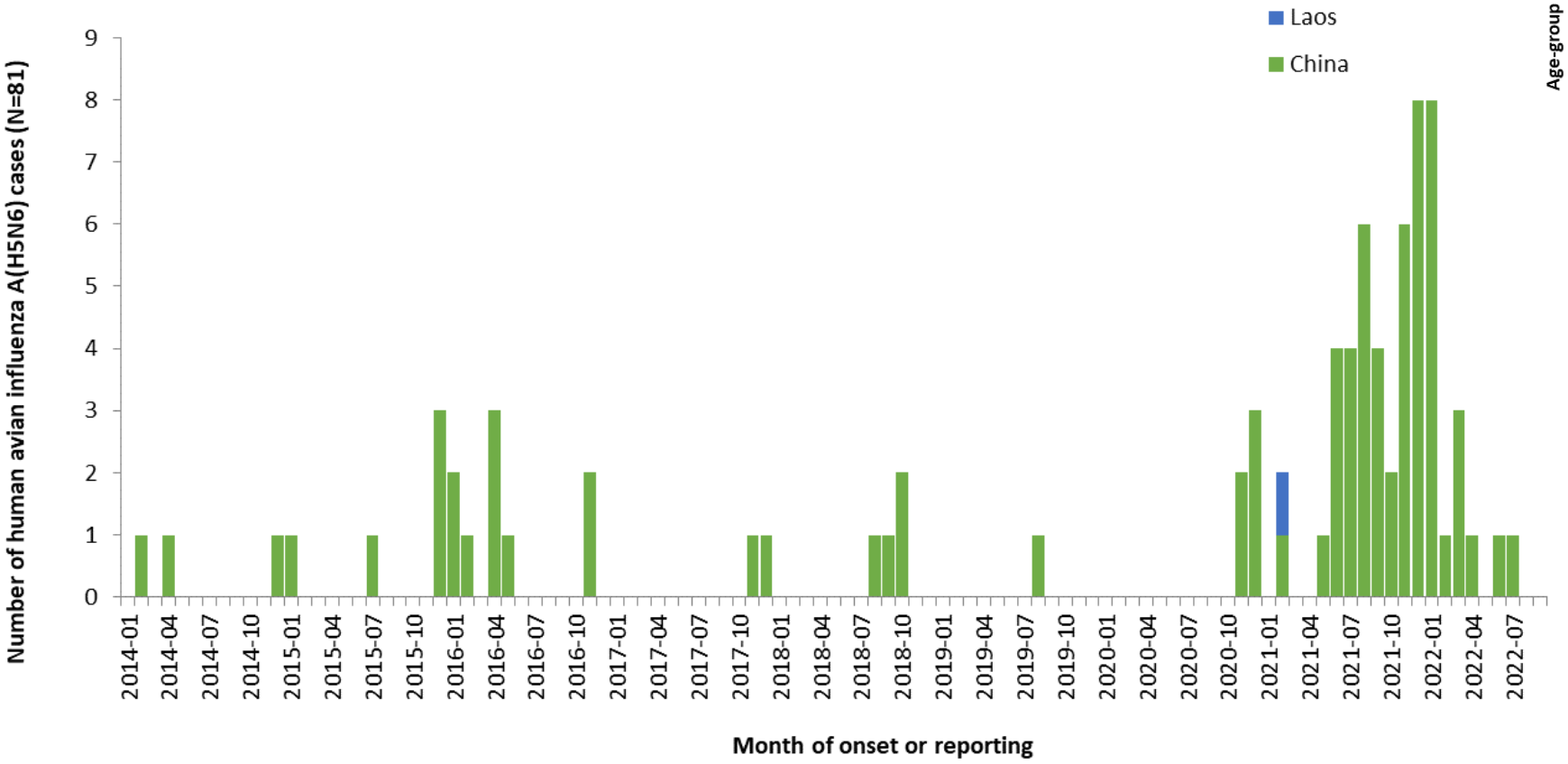


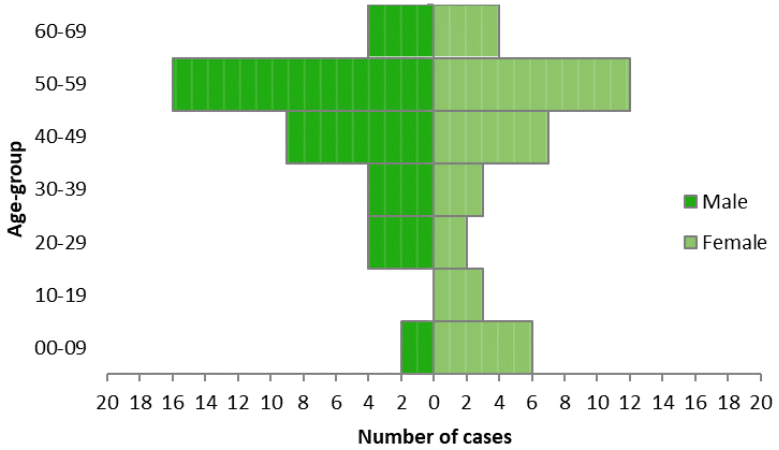


Lower number of H5N6 cases in 2022 compared to 2021 so far
Case fatality ratio: 41% (34/81)

Source: ECDC line list

Human cases with A(H5N6) infection by month, 2014-2022

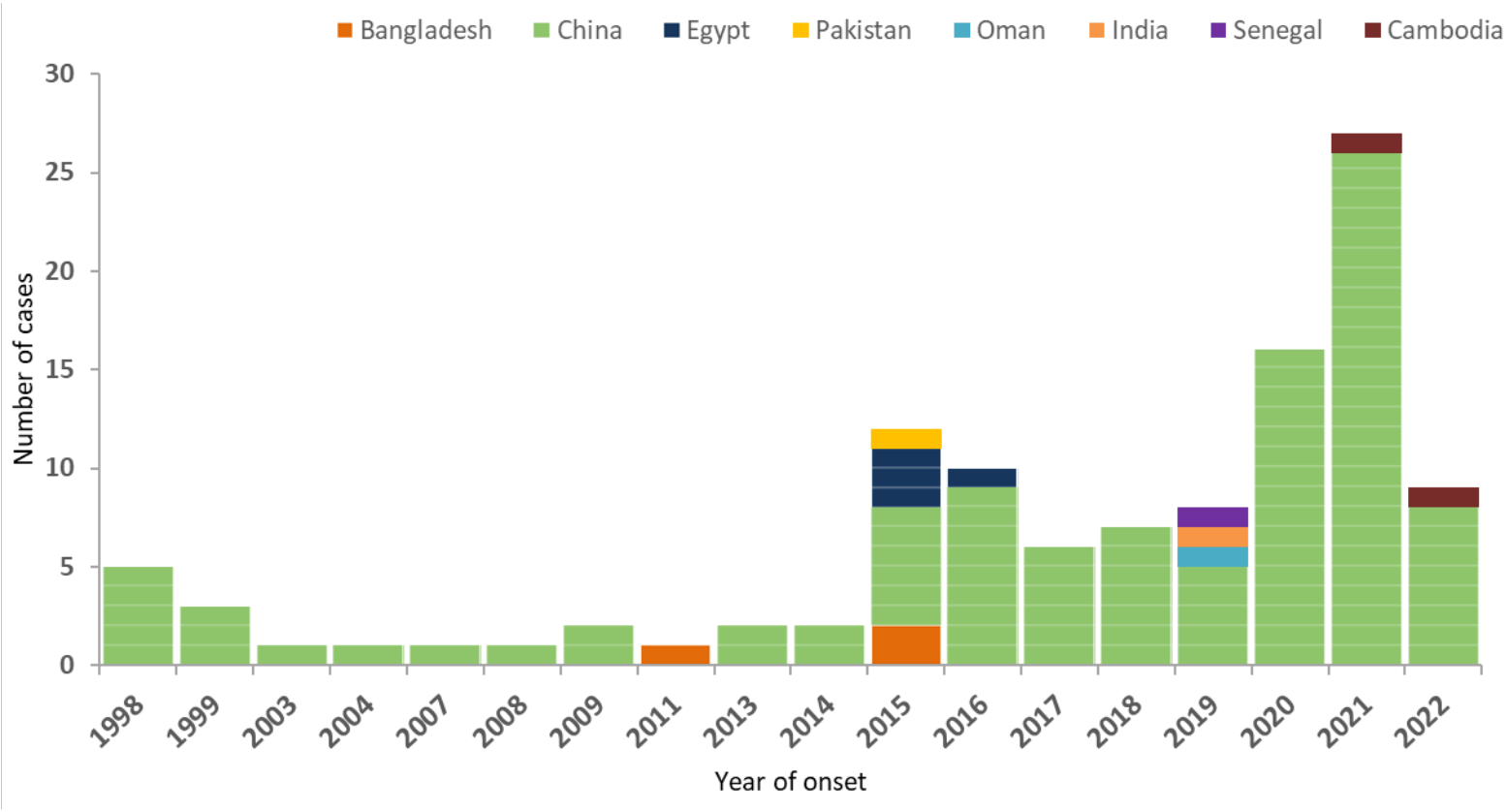


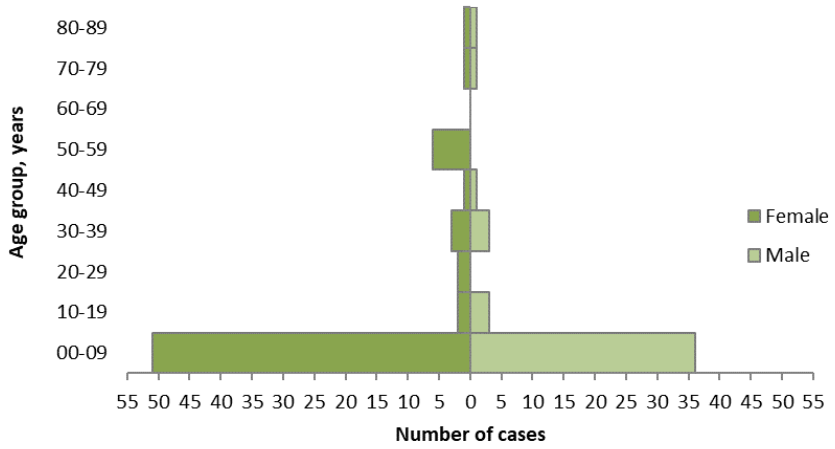


Decreasing number of human H5N6 cases in 2022

Source: ECDC line list

Human cases with A(H9N2) infection, 1998-2022





Lower number of H9N2 cases in 2022 compared to 2021 and 2020 so far
Children mostly affected

Source: ECDC line list

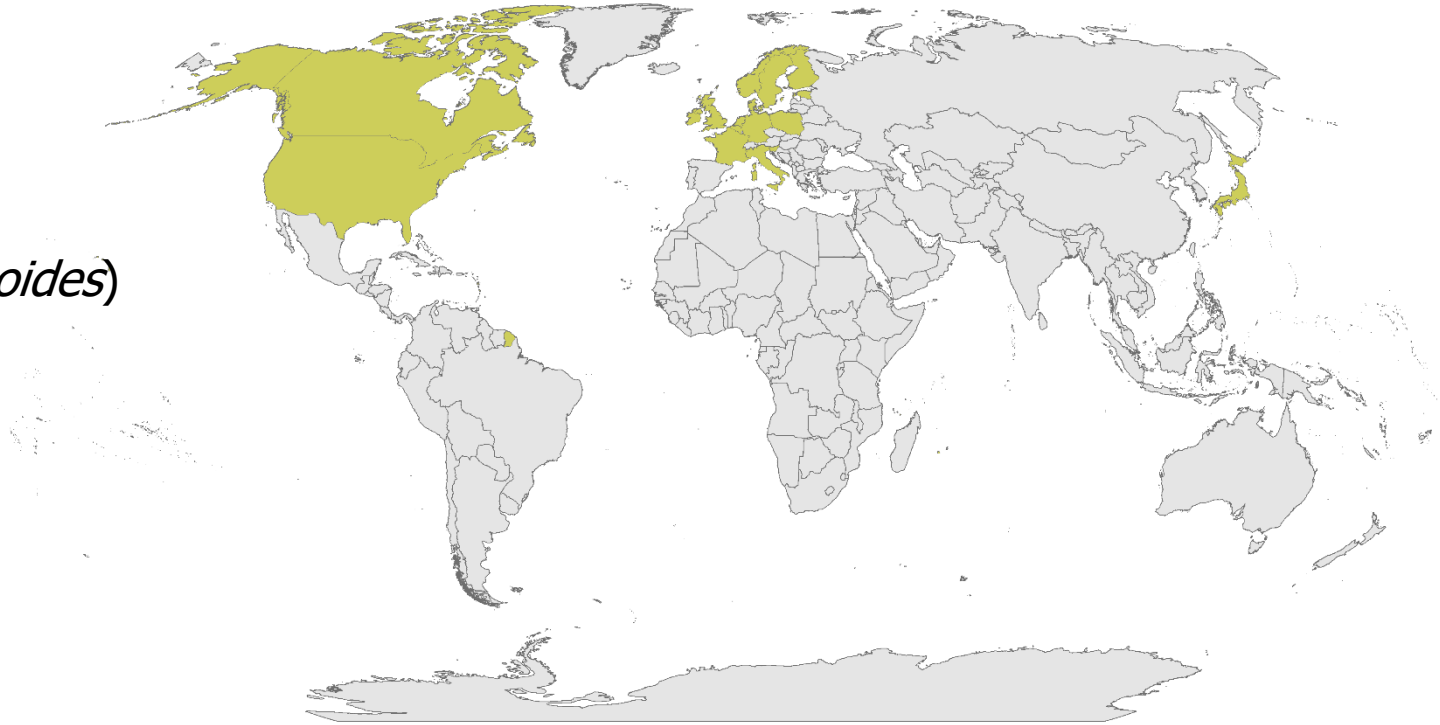
Human cases with “exotic” avian influenza viruses

Virus	Time frame	Number of human infections	Number of fatal cases
A(H3N8)	2022	2	0
A(H6N1)	2013	1	0
A(H7N4)	2017	1	0
A(H10N3)	2021, 2022	2	0
A(H10N8)	2013, 2014	3	0

Source: ECDC line list

H5N1 in mammal species and countries reporting

- Fox (*Vulpes vulpes*)
- Otter (*Lutra lutra*)
- Lynx (*Lynx lynx*)
- Ferret (*Mustela furo*)
- Common raccoon dog (*Nyctereutes procyonoides*)
- European polecat (*Mustela putorius*)
- European badger (*Meles meles)*
- Skunk
- Harbour seal (*Phoca vitulina*)
- Gray seal (*Halichoerus grypus*)
- Domestic pigs (*Sus scrofa*)
- Wild boar *(Sus scrofa)*
- Porpoise *(Phocoena phocoena)*
- Bottlenose dolphin *(Tursiops truncatus)*
- American Black Bear *(Ursus americanus)*



Source: Avian influenza overview: Latest situation update of the avian influenza situation in EU/EEA (europa.eu)

Under preparation: Testing and detection of zoonotic influenza virus infections in humans in the EU/EEA

- Whom to monitor and test for zoonotic flu
- General prevention measures
- Occupational safety and health
- Testing and detection systems
- Reporting of human cases
- Monitoring in animals
- Preparedness planning

Jointly with EU-OSHA, EFSA and EURL

Questions?

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