8th International Food Safety Congress, Istanbul, Türkiye, May 9-10, 2024

EU ONE HEALTH 2022 ZOONOSES REPORT

Frank Boelaert

efsa
EUROPEAN FOOD SAFETY AUTHORITY

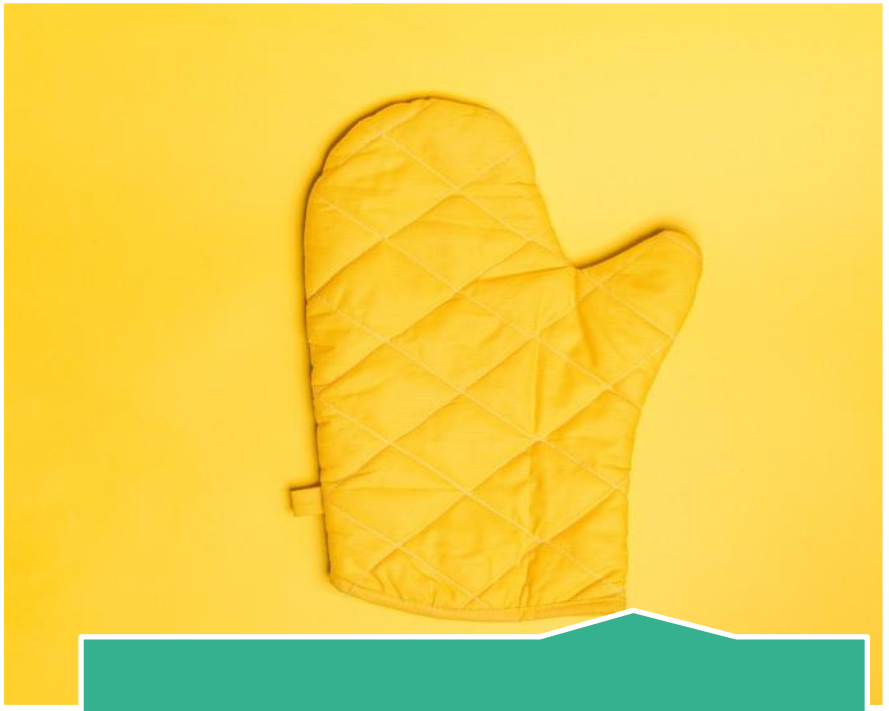
EFSA was established under EU law in 2002 following a series of food crises

TO

- **Improve** the EU food safety system
- **Help ensure** a high level of consumer protection
- **Restore and maintain** confidence in the EU food supply
- **Clearly separate** risk assessment and risk management functions

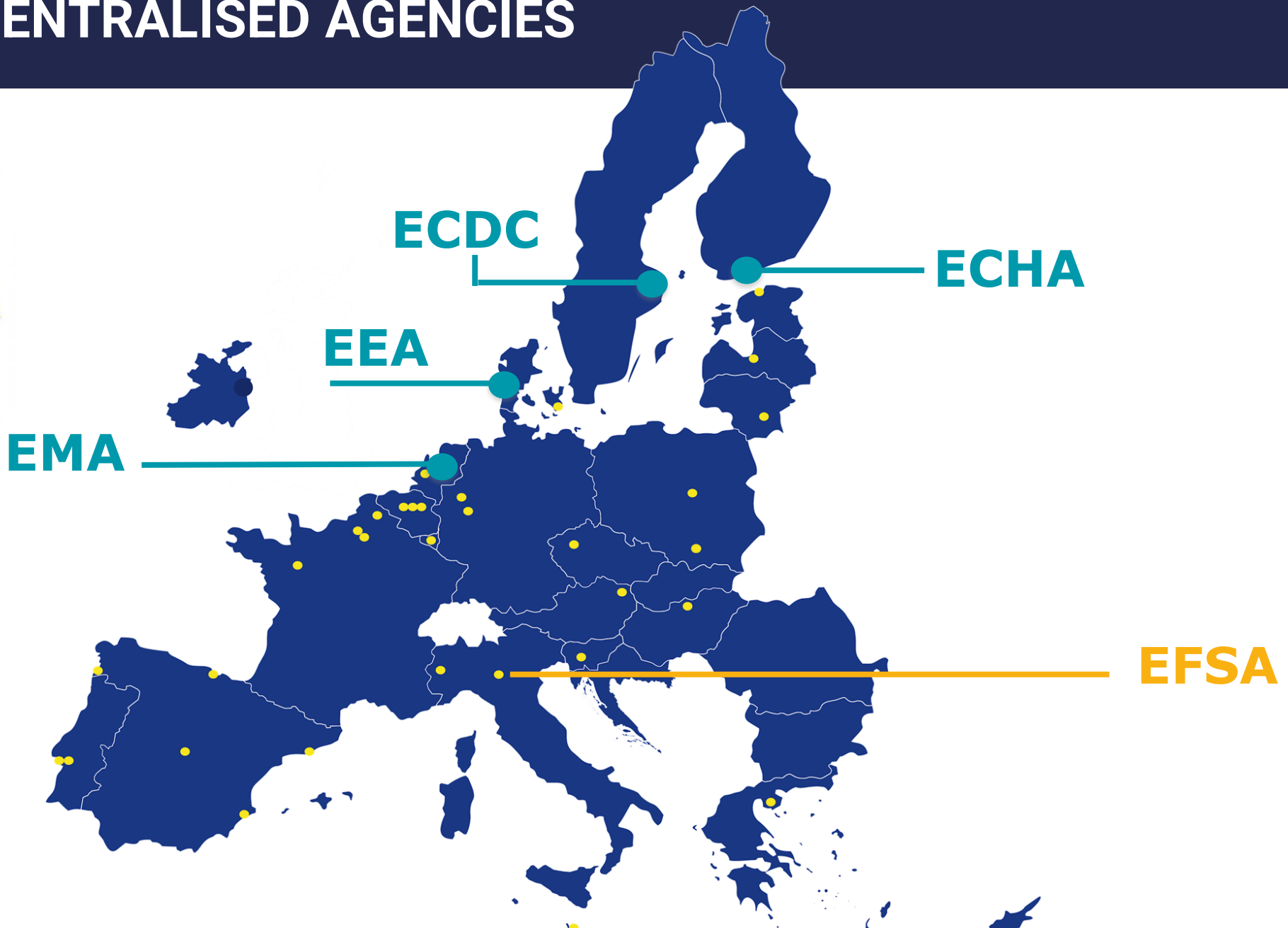
EFSA IS

The **reference body for risk assessment** of food and feed in the European Union. Its work covers the entire food chain – from field to fork

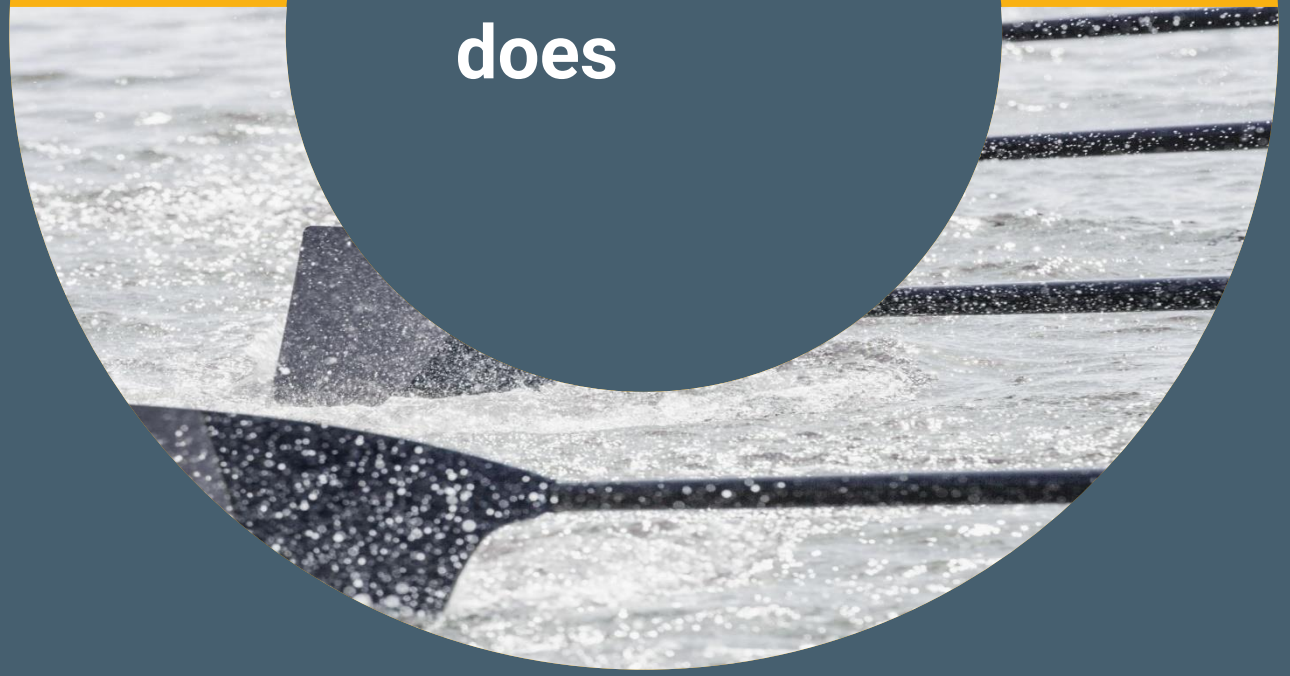


One of a number of bodies that are **responsible for food safety in Europe**

EU DECENTRALISED AGENCIES



What EFSA does



- Provides independent scientific advice and support for EU risk managers and policy makers on food and feed safety
- Provides independent, timely risk communication
- Promotes scientific cooperation

MONITORING AND REPORTING OF ZOONOSES AND FOOD-BORNE OUTBREAKS IN THE EU

Zoonoses Directive 2003/99 on the monitoring of zoonoses and zoonotic agents

EU MEMBER STATES AND OTHER REPORTING COUNTRIES

Animal, food and feed monitoring

Foodborne outbreaks

Communicable human diseases

efsa EUROPEAN FOOD SAFETY AUTHORITY

ecdc EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL

Joint EFSA-ECDC annual EU One Health Zoonoses report

Verification of national control and eradication programmes

Support to risk assessment in the biological hazards area

Support to risk managers for new legislation

Communication to different stakeholders

ZOONOSES REPORTING LEGAL FRAMEWORK

Directive on the monitoring of zoonoses and zoonotic agents (2003/99/EC)

Publication of the annual EU One Health Reports

MS have an obligation to report each year

Mandatory data collection and reporting

8 zoonotic agents

- *Salmonella*
- *Campylobacter*
- *Brucella*
- Verotoxigenic *Escherichia coli*
- *Listeria monocytogenes*
- *Trichinella*
- *Echinococcus*
- Tuberculosis due to *Mycobacterium bovis* and *M. caprae*

food-borne outbreaks

susceptible animal populations

EU Member States data providers

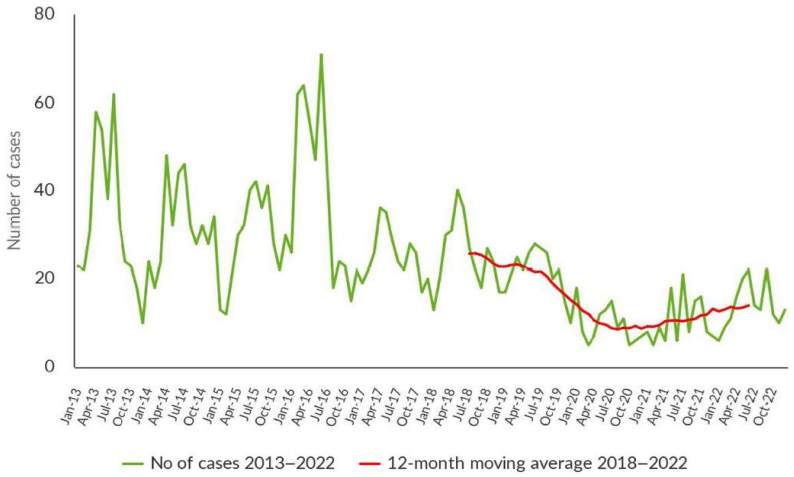
REPORTED NUMBERS AND NOTIFICATION RATES OF CONFIRMED HUMAN ZOONOSES IN THE EU, 2022

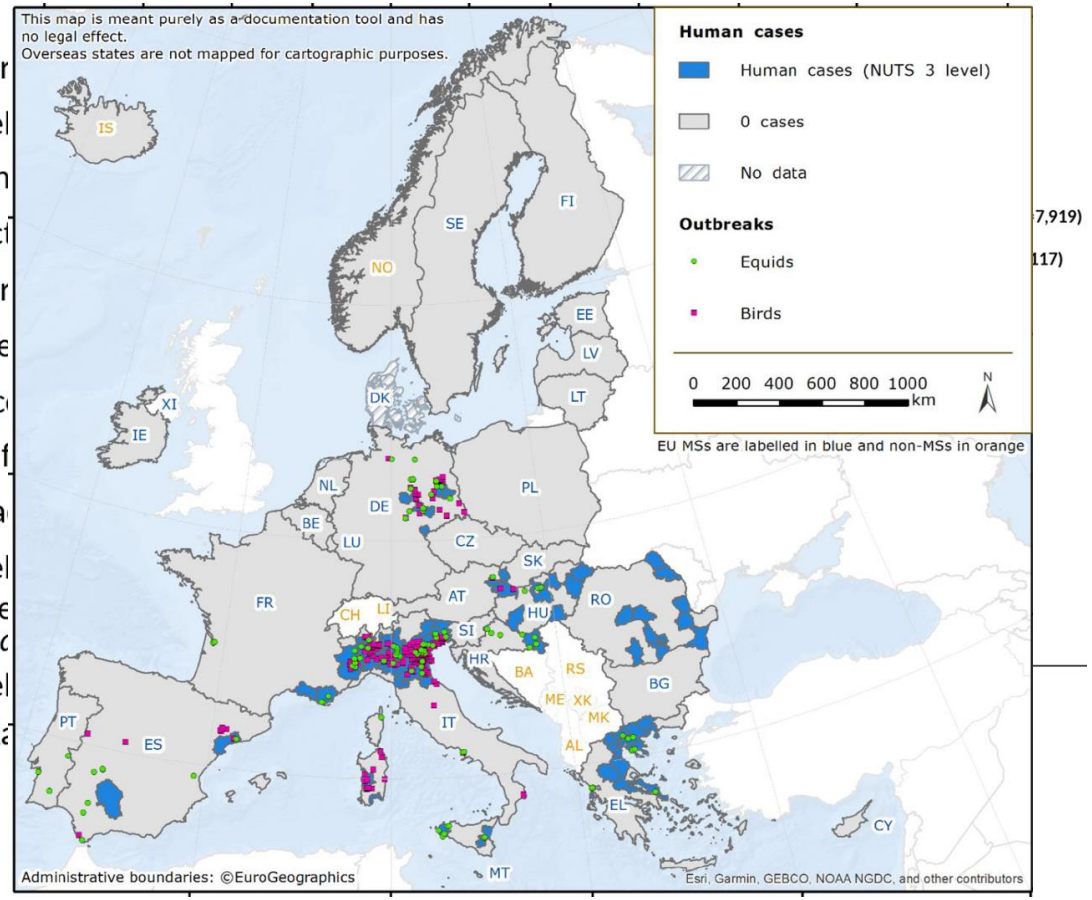
EU trends 2018 - 2022 period ?

No significant increase or decrease for number of zoonoses cases in humans, except:

"Campylobacteriosis and salmonellosis still below pre-pandemic levels; West Nile virus infections on the rise"

Brucella ↓





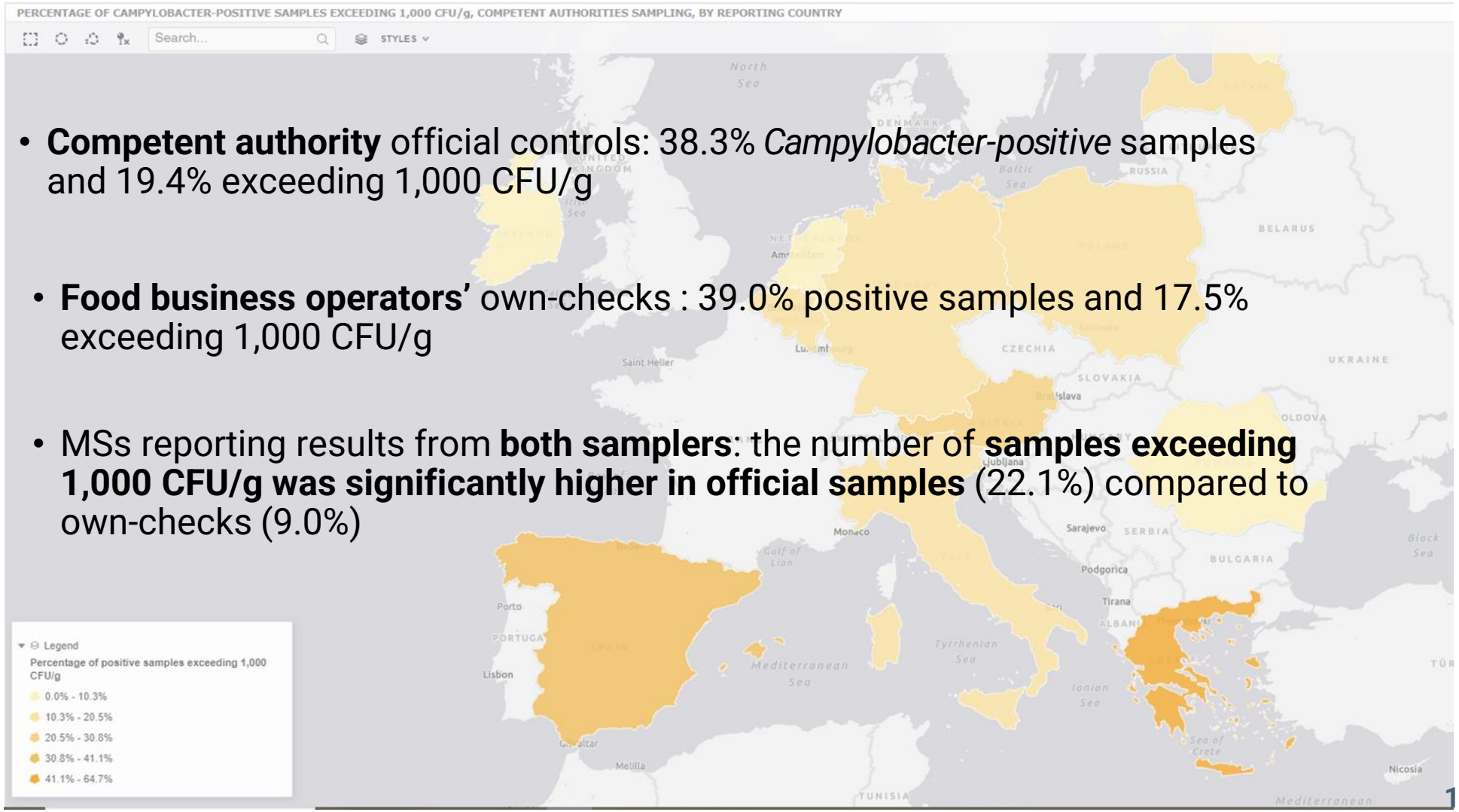
EFS… d European Centre for Disease Prevention and Control). (2023). The Eur… EFSA Journal, 21(12), e8442

REPORTED HOSPITALISATIONS AND DEATHS DUE TO ZOONOSES IN CONFIRMED HUMAN CASES AND AMONG FOODBORNE OUTBREAK CASES IN THE EU, 2022

	Surveillance data on human cases (source: ECDC)											Foodborne outbreaks (source: EFSA)					
	Confirmed human cases	Hospitalisations					Deaths										
		Status available		Reporting MSs[a]	Cases and proportion of hospitalised cases		Outcome available		Reporting MSs[a]	Deaths and Case fatality		Outbreaks	Cases	Hospitalisations and proportion of hospitalised cases		Deaths and case fatality	
Disease	*N*	*N*	%	*N*	*N*	%	*N*	%	*N*	*N*	%	*N*	*N*	*N*	%	*N*	%
Campylobacteriosis	137,107	44,876	327	16	10,551	23.5	84,425	61.6	17	34	0.04	255	1097	83	7.6	0	0
Salmonellosis	65,208	29,003	44.5	17	11,287	38.9	36,856	56.5	17	81	0.22	1014	6632	1406	21.2	8	0.12
Yersiniosis	7919	2113	26.7	17	636	30.1	3765	47.5	17	0	0	14	96	4	4.2	0	0
STEC infections	7117	2933	41.2	17	1130	38.5	4824	67.8	21	28	0.58	71	408	63	15.4	1	0.25
Listeriosis	2738	1386	50.6	19	1330	96.0	1578	57.6	21	286	18.1	35	296	242	81.8	28	9.5
West Nile virus infection[b]	1111	366	32.9	8	318	86.9	1111	100.0	11	92	8.3	NA	NA	NA	NA	NA	NA
Echinococcosis	722	277	38.4	15	128	46.2	405	56.1	15	1	0.25	0	0	0	–	0	–
Q fever	719	NA	NA	NA	NA	NA	445	61.9	14	4	0.90	0	0	0	–	0	–
Tularaemia	620	151	24.4	10	91	60.3	227	36.6	11	2	0.88	0	0	0	–	0	–
Brucellosis	198	79	39.9	10	55	69.6	81	40.9	10	0	0	0	0	0	–	0	–
Tuberculosis caused by *M. bovis*, *M. caprae*	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichinellosis[c]	41	11	26.8	5	7	63.6	11	26.8	5	0	0	7	68	10	14.7	0	0
Rabies	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

CAMPYLOBACTER, PROCESS HYGIENE CRITERION, EU, 2022

- **Competent authority** official controls: 38.3% *Campylobacter-positive* samples and 19.4% exceeding 1,000 CFU/g
- **Food business operators'** own-checks : 39.0% positive samples and 17.5% exceeding 1,000 CFU/g
- MSs reporting results from **both samplers**: the number of **samples exceeding 1,000 CFU/g was significantly higher in official samples** (22.1%) compared to own-checks (9.0%)

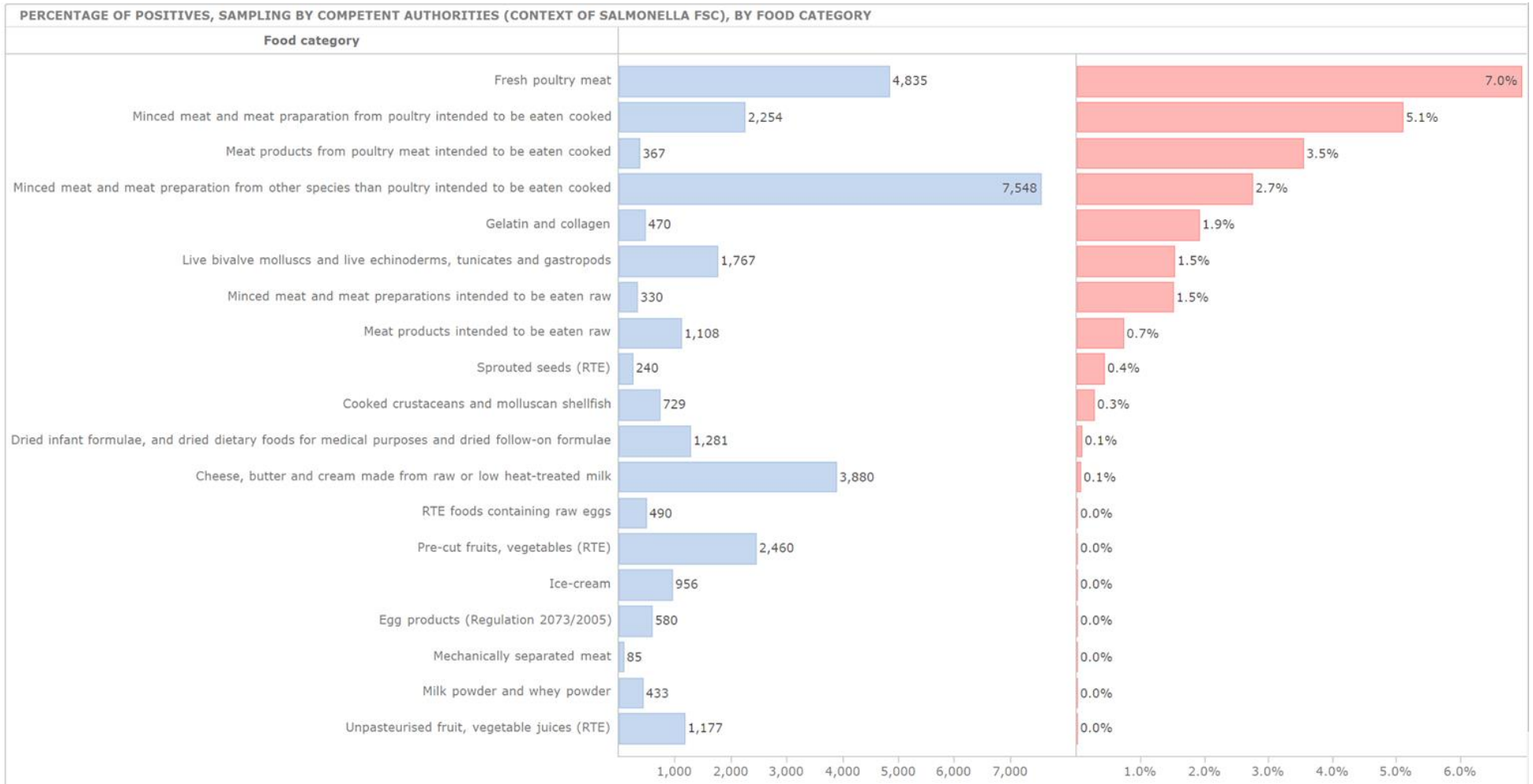


SALMONELLA, EU, 2022

- Second zoonoses in human (no change)
- Monitoring process hygiene criteria on carcases at the slaughterhouse: **proportions of positive samples among official control samples:** turkeys (14.0%), broilers (11.8%), pigs (2.7%), cattle (0.96%), sheep (0.75%) horses (0.63%) and goats (0.59%).
- **Nineteen MSs and the United Kingdom (Northern Ireland) met the reduction targets** for all poultry populations, which was an improvement compared with the previous years.
- **Prevalence of target *Salmonella* serovars-positive broiler** and **fattening turkey flocks:** from **competent authorities** was significantly higher than that from food business operators.
- Estimated **flock prevalence trends for target *Salmonella* serovars, and for *Salmonella* spp.** was fairly **stable** over the last few years, for all poultry populations.
- A significant increase in the estimated breeding turkey *Salmonella* flock-prevalence was noted in 2022 compared with 2016.

SALMONELLA, REGULATION (CE) NO 2073/2005, FSC, DISTRIBUTION STAGE, SINGLE OFFICIAL SAMPLES, EU, 2022

Number of countries	Number of samples tested	Percentage of positive samples
14	30,990	2.35%

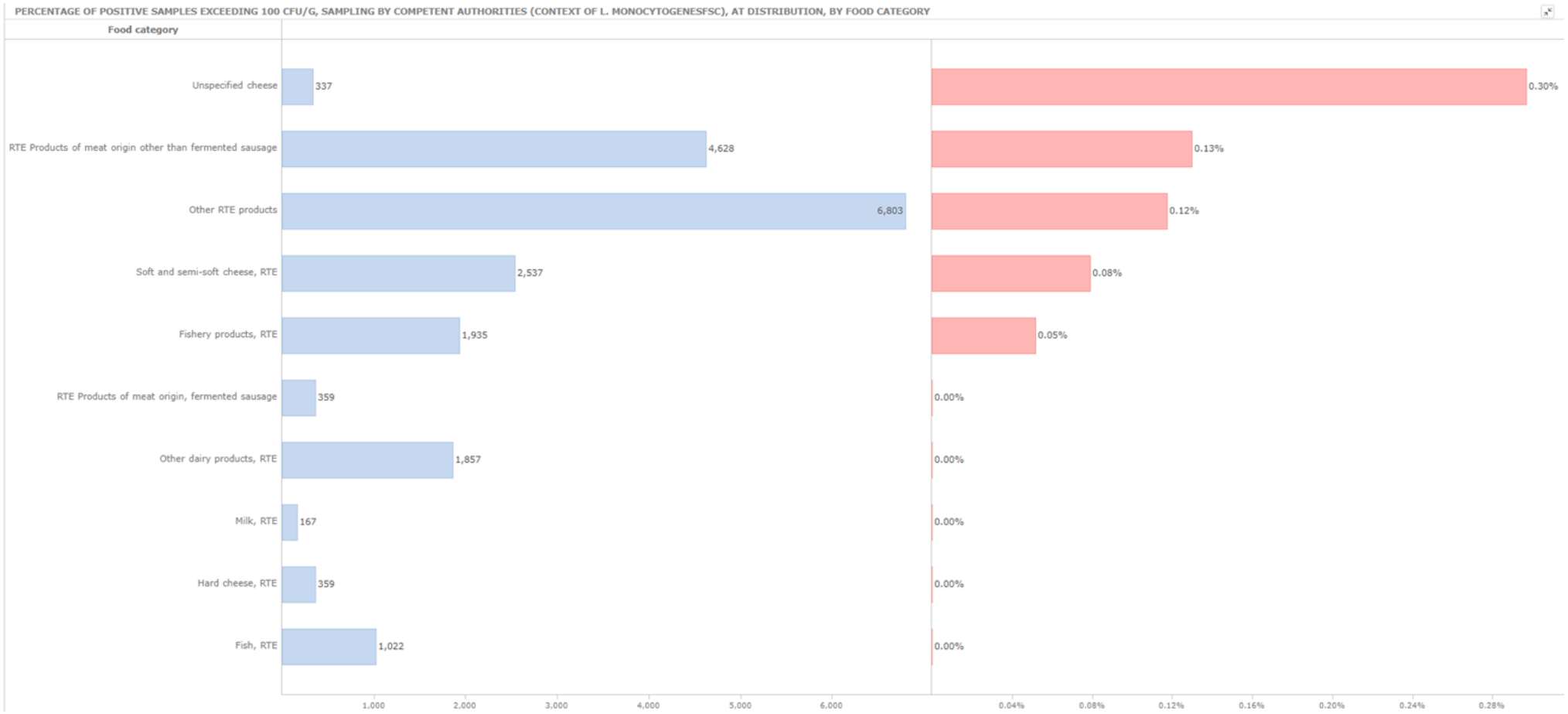


LISTERIA, EU, 2022

- Overall, listeriosis trend remained stable from 2018 to 2022.
- In 2022, the EU notification rate increased by 15.9% compared to 2021, reaching 0.62 cases per 100,000 population, the highest since 2007.
- The EU's case fatality rate was 18.1%, higher than in 2021 and 2020.
- **Sampling of 'ready-to-eat' foods**: occurrence varied by food category, sampling stage, and testing scope. Generally (objective sampling), occurrences ranged from rare to low, with 'fish', 'fishery products', 'cheese from sheep milk' and 'fruit and vegetable' having the highest values (2% to 7%).
- **Distribution vs. Manufacturing**: Distribution showed rare (< 0.1%) to very low (0.1%-1.0%) proportions of positive (single samples, enumeration test) results, with 'fish' highest at 2.3%. Manufacturing had higher proportions (single samples, detection test), and the highest values (from 2% to 7%) were observed for 'fish and fishery products', 'meat products from bovines or pigs', 'fruits and vegetables' and 'cheeses from sheep milk'.

LISTERIA, REGULATION (CE) NO 2073/2005, FOOD SAFETY CRITERIA, DISTRIBUTION STAGE, SINGLE OFFICIAL SAMPLES, EU, 2022

Number of countries	Number of samples tested	Percentage of positive samples	Percentage of positive samples for enumerat...
18	20,004	0.41%	0.09%



SHIGA TOXIN-PRODUCING *E. COLI* (STEC), EU, 2022

- Fourth most reported gastrointestinal foodborne illnesses in the EU. No significant change from 2018 to 2022
- Incidence in 2022: 7117 confirmed cases, with a notification rate of 2.1 per 100,000 population, an 8.8% increase from 2021.
- 'Sprouted Seeds' (EC 2073/2005): Nine Member States found no positive results in 472 official control samples.
- 1.1% of 'ready-to-eat' samples (15 MS) and 2.5% of 'non-ready-to-eat' samples (18 MS) were positive. Highest contamination in 'meat and meat products' (6.1% from 'fresh meat from sheep').
- STEC Detection in Animals: Detected in five categories, most units sampled were 'goats and sheep' (1.3% positive). Highest positivity in 'cattle' (41.5%).

TRICHINELLA, EU, 2024

- Human trichinellosis cases in 2022 numbered 41, with a notification rate of 0.01 per 100,000 population, marking a 51.9% decrease from 2021. No significant change in trend from 2018 to 2022.
- No *Trichinella* infections reported in controlled housing conditions for fattening and breeding pigs (33.7 million and 0.47 million, respectively).
- In other domestic pigs, only 0.00004% (71 out of 175 million) tested positive, with Romania having the highest cases (59).
- No *Trichinella* infections found in domestic solipeds in 2022, consistent with 2018–2021.
- *Trichinella*-positive rates in hunted wild boar and foxes were 0.08% and 0.95%, respectively, compared to 0.07% and 1.6% in 2021.

ECHINOCOCCUS, EU, 2022

	2022[a]	2021[a]	2020	2019[b]	2018[b]	Data source
Humans						
Total number of confirmed cases	722	589	547	779	815	ECDC
Total number of confirmed cases/100,000 population (notification rates)	0.19	0.17	0.16	0.17	0.18	ECDC

EFSA Journal, Volume: 16, Issue: 12, First published: 04 December 2018, DOI: (10.2903/j.efsa.2018.5495)

- In 2022, there were **722 confirmed cases of human echinococcosis**, corresponding to an EU notification rate of 0.19 per 100,000 population and an increase of 13.8% compared with 2021 (0.17 per 100,000 population). The overall rate and number of reported echinococcosis cases reached similar levels to the 2018–2019 period, before the COVID-19 pandemic. ***Echinococcus granulosus sensu lato* (*s.l.*)** accounted for **62.4%** of human cases reported with species information while ***Echinococcus multilocularis*** accounted for **37.6%**.
- ***E. multilocularis*** was detected by eight MSs and one non-MS in six different animal categories. Most units that tested positive in the EU were from **foxes** (6,710), and the proportion of positives was **12.5%**. Czechia, Germany, Poland and Slovenia reported the largest proportions of infected foxes among those tested, accounting for 20.5%, 21.6%, 39.4% and 22.7% of positive findings, respectively.
- Data from **Finland**, **Ireland**, **Malta**, the **United Kingdom (Northern Ireland)** and **mainland Norway** confirmed the free status of these countries for *E. multilocularis* in 2022, in accordance with Commission Delegated Regulation (EU) No 2018/772.

ECHINOCOCCUS, EU, 2022

- ***E. granulosus s.l.*** was detected by 10 Member States and 2 non-Member States in 13 different animal categories. Most of the units tested in the EU were from **sheep and goats** (12,337,176), **cattle** (7,185,526) and **pigs** (58,254,973), and the proportion of positives was **0.81%**, **0.32**% and **< 0.01%**, respectively. Italy and Spain accounted for most sheep and goats (50.7% and 41.9%), cattle (21.9% and 68.2%) and pigs (6.4% and 91.7%) that tested positive, respectively.

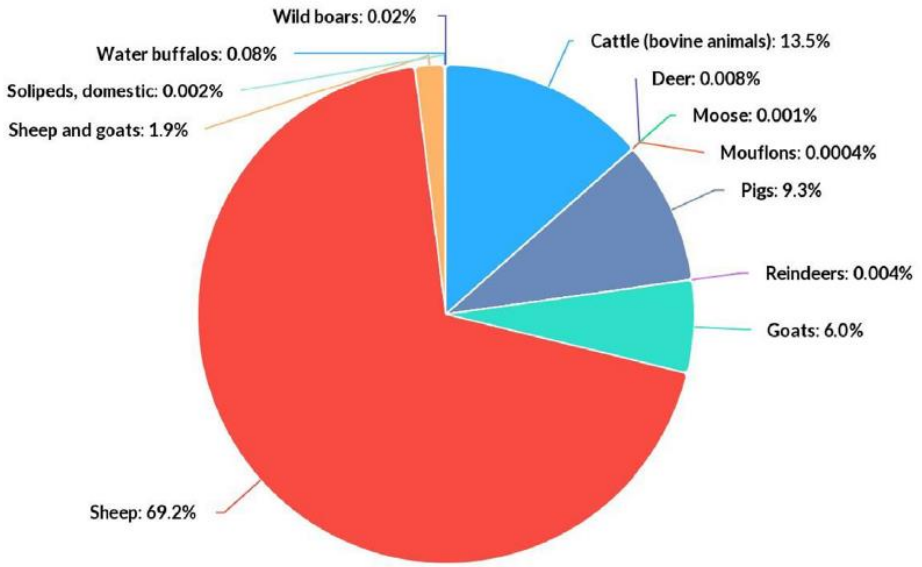
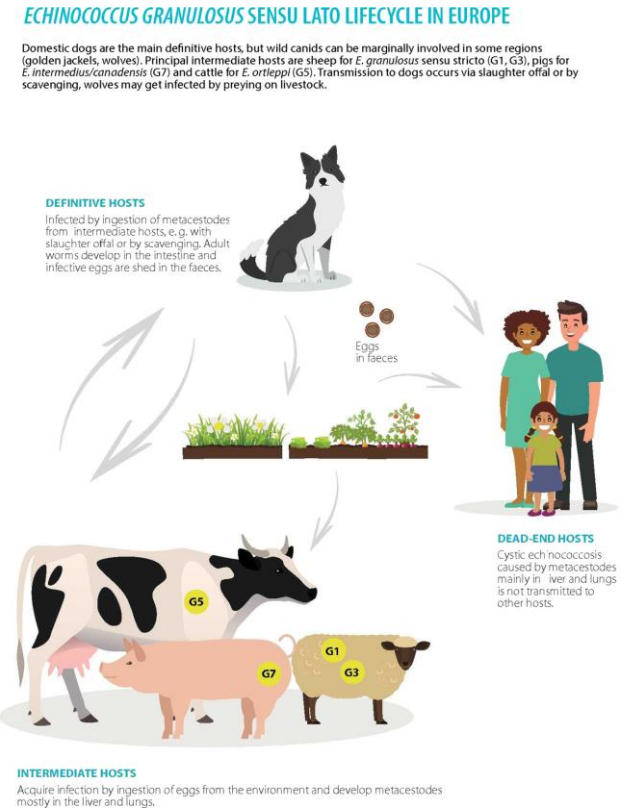


FIGURE 19 Cumulative proportion (%) of test-positive animals for *Echinococcus granulosus sensu lato*, by intermediate host species, in EU MSs and non-MSs, 2018–2022.



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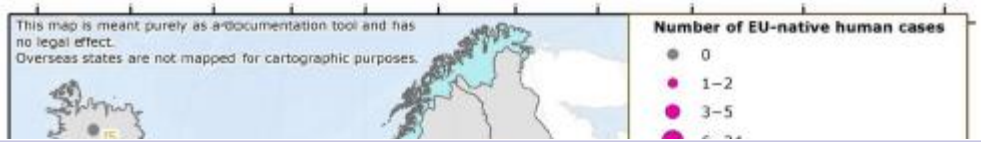
INFECTION WITH *MYCOBACTERIUM TUBERCULOSIS* COMPLEX (FOCUSING ON *M. BOVIS* AND *M. CAPRAE*, EU, 2022

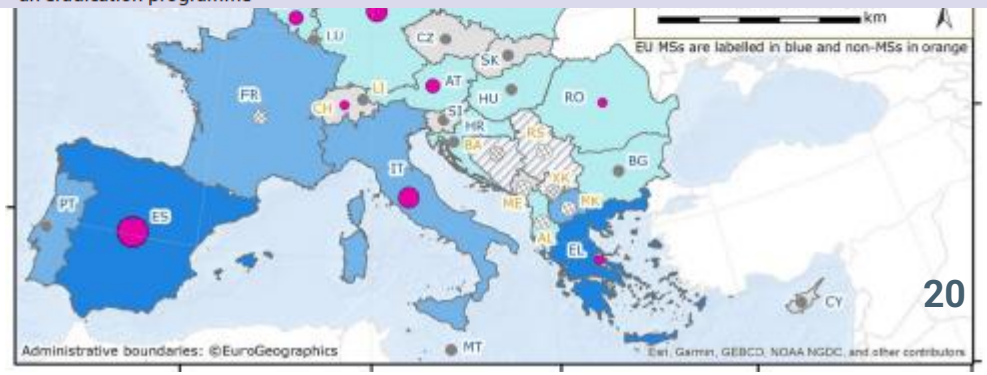
- In 2022, there were **130 confirmed cases** of human tuberculosis due to *M. bovis* or *M. caprae*, corresponding to and EU notification rate of 0.03 cases per 100,000 population. This resulted in a notification increase of 13.2% compared with 2021.
- The *M. bovis* and *M. caprae* case notification rate was 0.03 cases per 100,000 among EU MSs with disease-free status and 0.04 per 100,000 in EU MSs with non-disease-free status for the bovine population.

- In the **zones under an eradication programme** within 10 Member States and the United Kingdom (Northern Ireland), 9,696 cattle herds (1.5% of total herds) were positive for the *M. tuberculosis* complex in 2022. The **United Kingdom (Northern Ireland)** (12.2%), **Ireland** (4.6%) and **Spain** (2.5% in zones under an eradication programme) were the countries that reported a prevalence higher than 1%.

	2022[a]	2021[a]	2020	2019[b]	2018[b]	Data source
Humans						
Number of confirmed *M. bovis* cases	125	106	95	141	168	ECDC
Number of confirmed *M. caprae* cases	5	9	4	11	13	ECDC
Total number of confirmed cases	130	115	99	152	181	ECDC
Total number of confirmed cases/100,000 population (notification rates)	0.03	0.03	0.03	0.03	0.04	ECDC



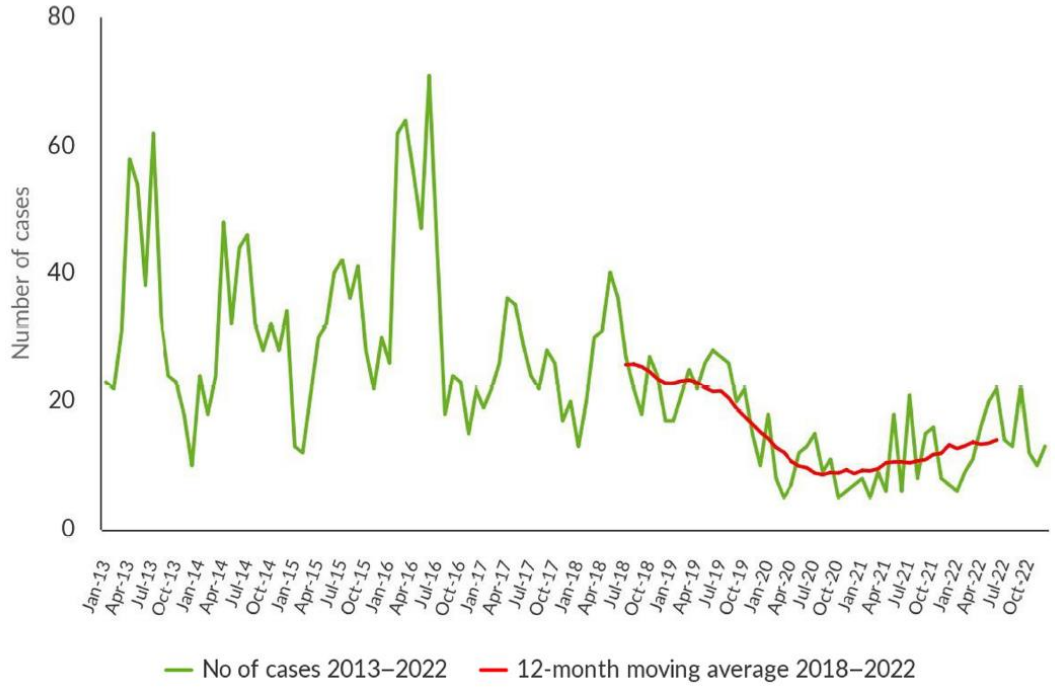
	2022[a]	2021[a]	2020	2019[b]	2018[b]	Data source
Animals						
Bovine animals						
Number of infected herds in disease-free status zones[c]	149	135	139	143	172	EFSA
Number of reporting disease-free status MSs[c]	17	17	17	17	17	EFSA
Number of infected herds in zones under an eradication programme	9696	9255	7233	16,277	18,801	EFSA
Number of reporting MSs with zones under an eradication programme[d]	10	10	9[e]	11	11	EFSA



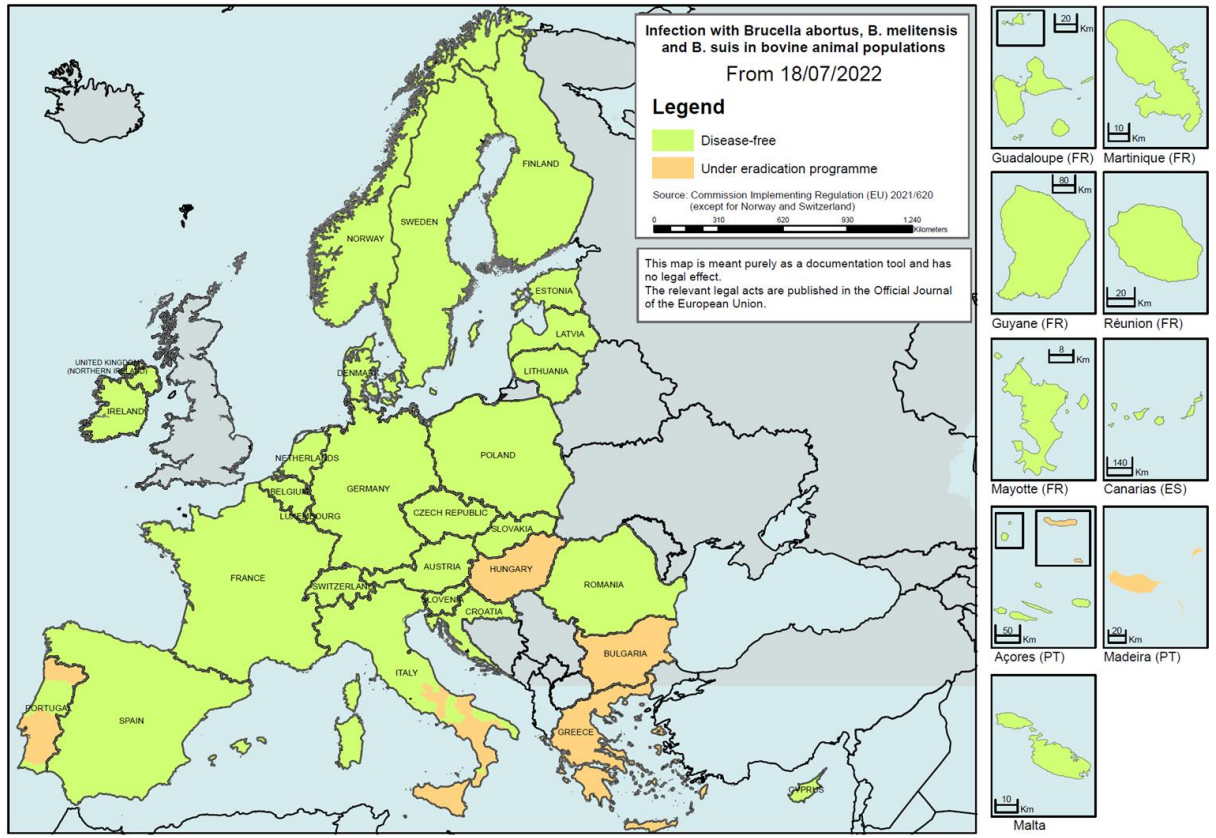
BRUCELLA, EU, 2022

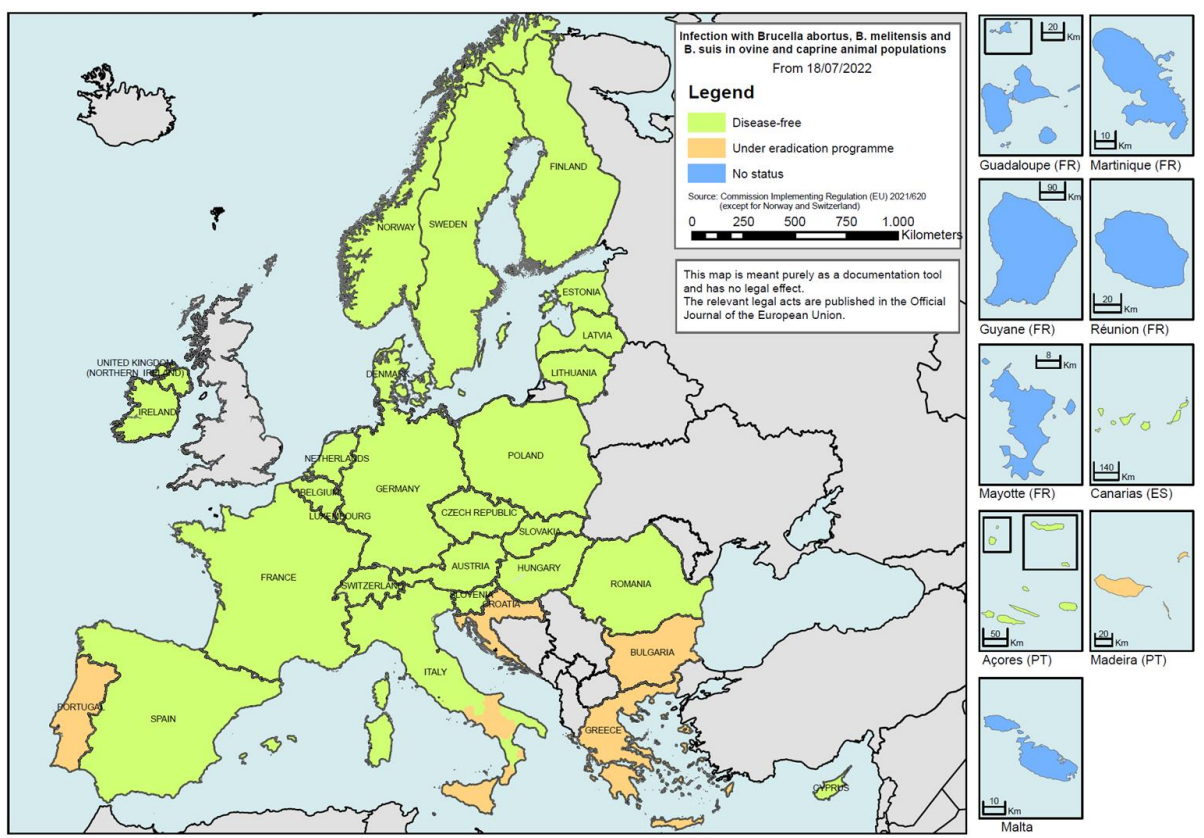
From 2018 to 2022 there has been a **significantly declining trend** of confirmed human cases of brucellosis in the EU.

	2022[a]	2021[a]	2020	2019[b]	2018[b]	Data source
Humans						
Total number of confirmed cases	198	162	132	309	332	ECDC
Total number of confirmed cases/100,000 population (notification rates)	0.04	0.03	0.03	0.06	0.08	ECDC



STATUS OF COUNTRIES AS REGARDS BRUCELLOSIS, EU, 2022





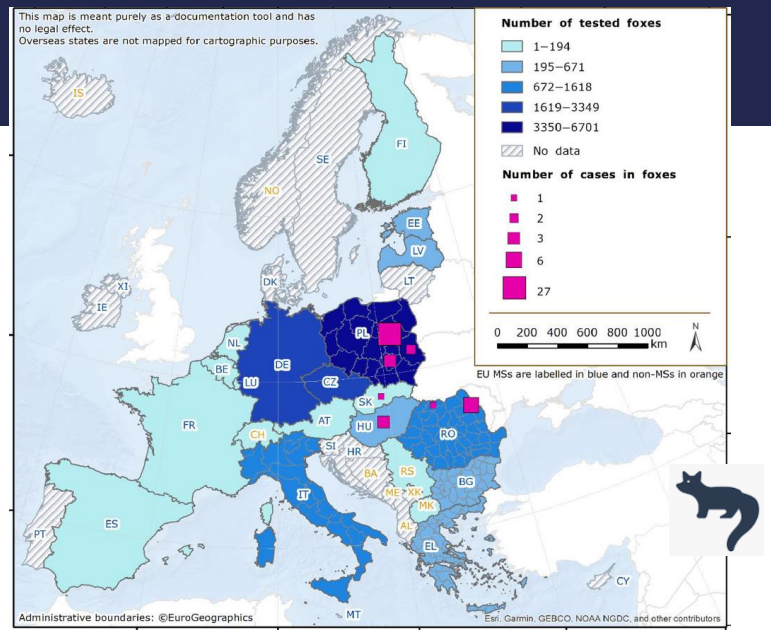
SUMMARY OF *BRUCELLA* STATISTICS RELATING TO ANIMAL SPECIES, EU, 2018–2022

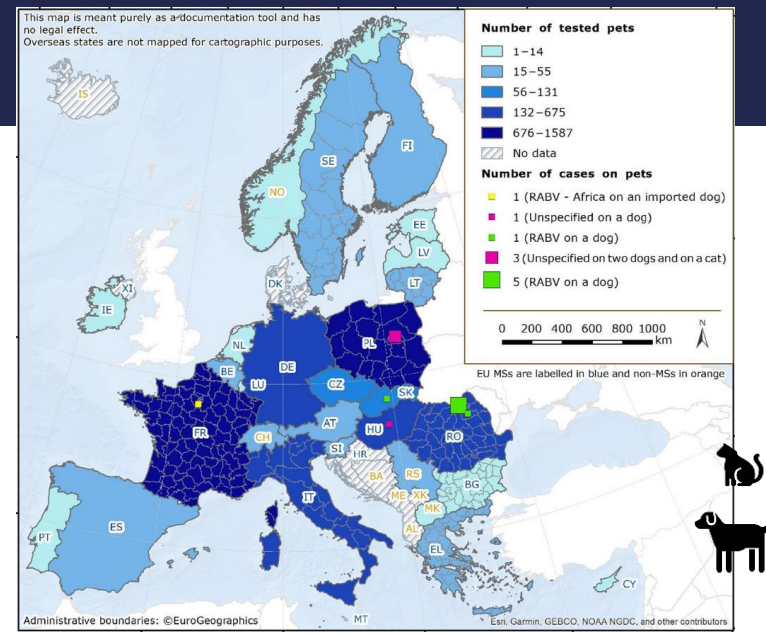
	2022[a]	2021[a]	2020	2019[b]	2018[b]	Data source
Animals						
Cattle (bovine animals)						
Number of infected herds in disease-free status zones[c]	13	8	6	4	3	EFSA
Number of reporting disease-free status MSs[c]	22	21	20	20	20	EFSA
Number of positive herds in zones under an eradication programme	411	546	603	485	563	EFSA
Number of reporting MSs with zones under an eradication programme	5	6	6[d]	8	8	EFSA
Sheep and goats						
Number of infected flocks in disease-free zones[d]	2	15	3	1	0	EFSA
Number of reporting disease-free status MSs[d]	20	20	19	20	20	EFSA
Number of positive herds in zones under an eradication programme	234	331	349	451	620	EFSA
Number of reporting MSs with zones under an eradication programme	7[e]	6	7[f]	8	8	EFSA

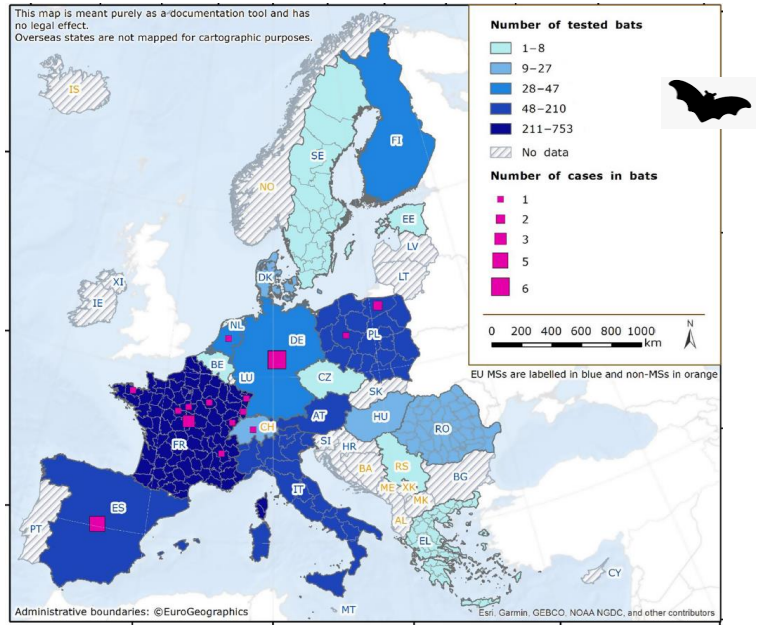
Brucellosis is still an animal health concern with public health relevance in southern European countries that are not disease-free for brucellosis.

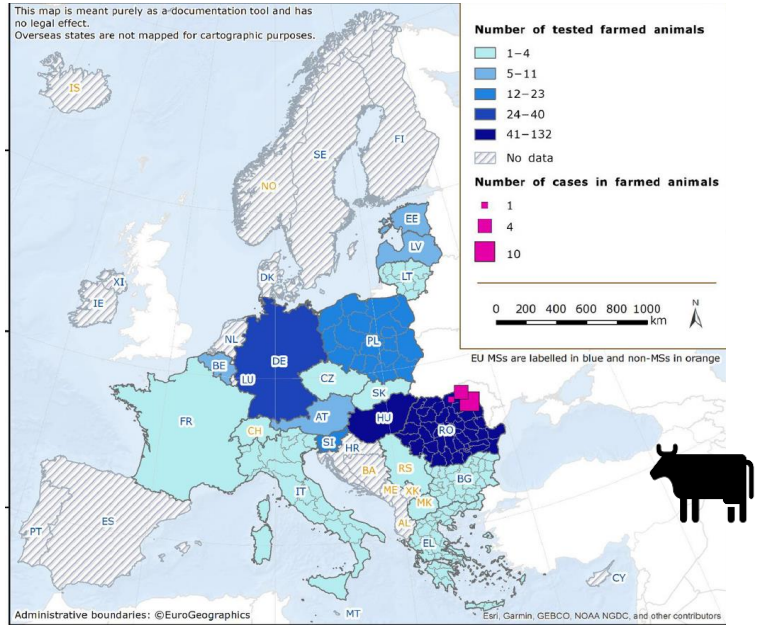
RABIES, EU, 2022

- **No human lyssavirus infections** in EU reported for 2022, 2021, and 2020.
- In **animals excluding bats**, a total of 71 cases of rabies of autochthonous origin were reported by four MSs: **36 cases in Poland** (32 foxes, 1 badger, 2 dogs and 1 cat), **28 cases in Romania** (15 cows, 7 foxes and 6 dogs), **4 cases in Hungary** (three foxes and one dog) and **3 cases in Slovakia** (one fox, one badger and one dog). The total number of reported indigenous rabies cases in non-flying animals in EU decreased in 2022 compared with 2021 (118 cases) but was higher than in 2020 (12 cases) and 2019 (5 cases).
- Five MSs (FR, DE, NL, PL and ES) reported 26 positive results for lyssavirus in **bats**, mainly European bat 1 lyssavirus (EBLV-1).







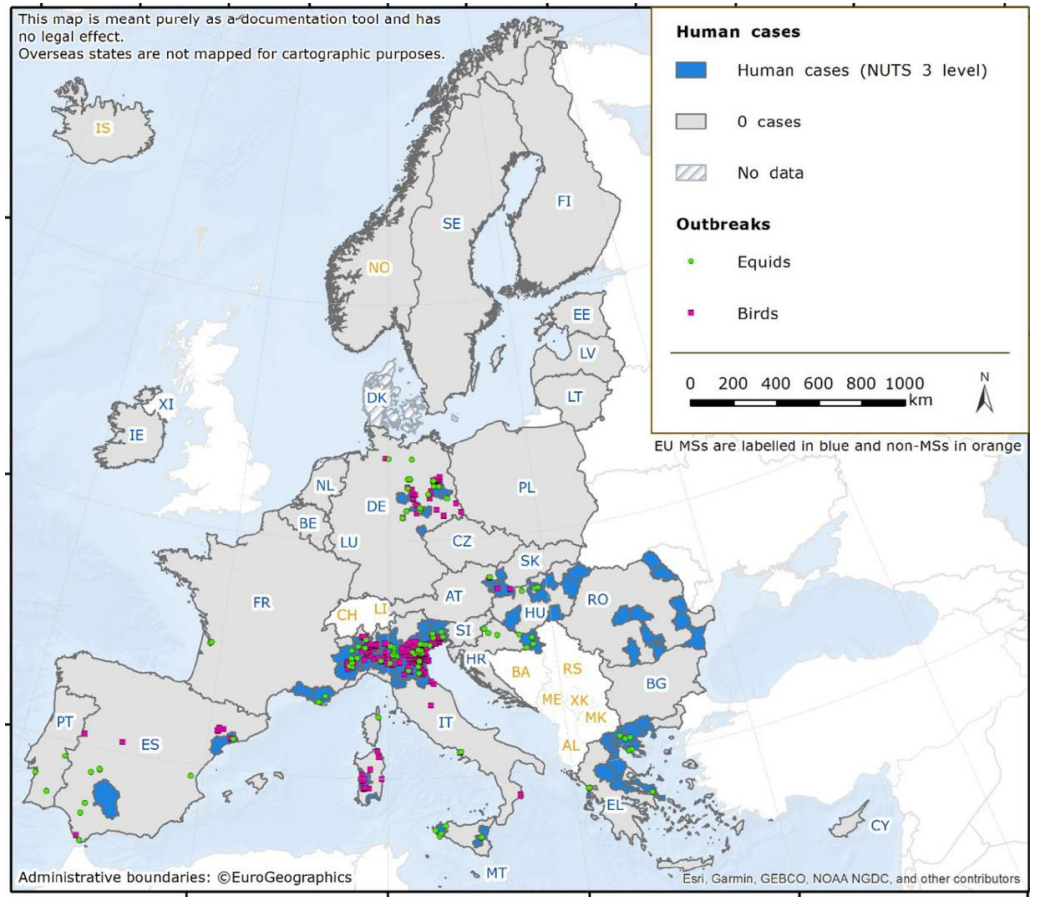


WEST NILE VIRUS INFECTION, EU, 2022

- In 2022, there were **1,133 confirmed and probable cases of human West Nile virus infection**, corresponding to an EU notification rate of 0.26 cases per 100,000 population. This represented an increase of 631.8% in locally acquired cases, compared with 2021.

- During the past 5 years, two unusually intense transmission seasons were documented in 2018 and 2022, but the overall trend for human West Nile virus infections showed no significant increase or decrease during the 2018–2022 period.

- In 2022, 431 **birds** and 166 **equines** tested positive for West Nile virus. This represent an increase of 195.2% and 245.8% respectively compared with 2021. **West Nile virus extended its geographical area**, affecting birds and equines, and emerged during 2022 on the Atlantic coast in France. Its incidence increased in the North of Germany and in the South of Italy.



WEST NILE VIRUS INFECTION, JOINT ANALYSIS OF TRENDS AND SEASONALITY, EU, 2022

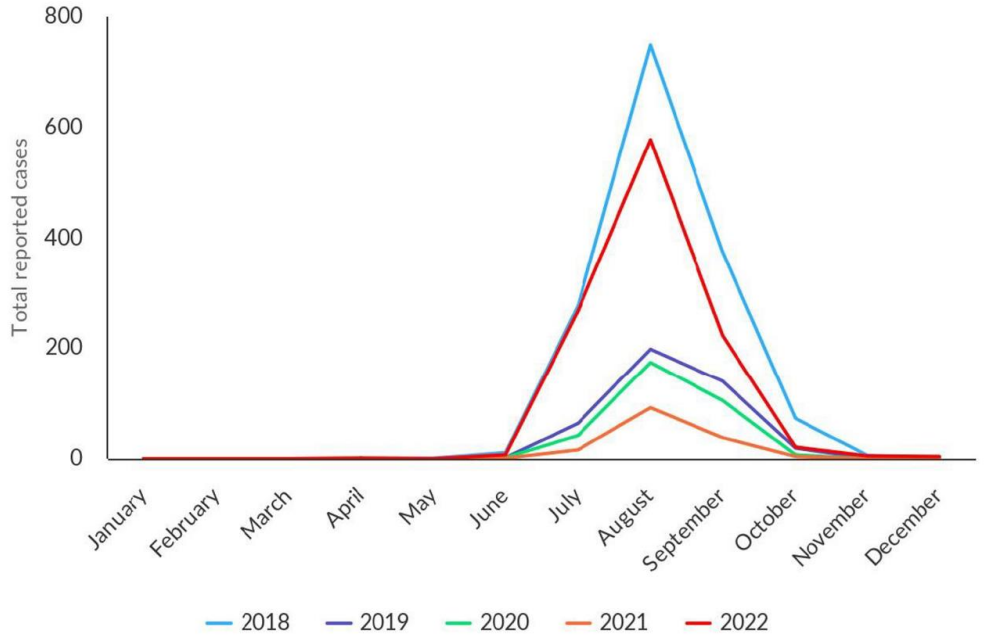


FIGURE 32 Reported human cases of West Nile virus infection in EU MSs, by month, 2018–2022.
Note: The data set includes only locally acquired WNF cases and only countries that consistently reported cases (or reported zero cases) over the whole reporting period (last 5 years) and to the level of detail required for trend analysis (not aggregated).

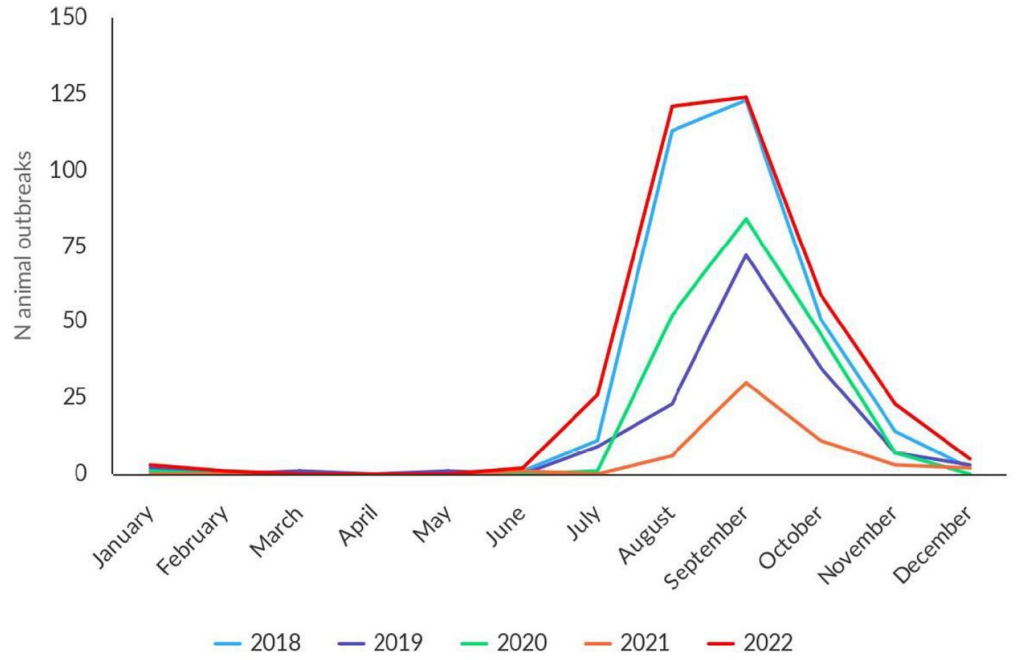


FIGURE 33 Outbreaks of West Nile infection in birds and equids in EU MSs, by month, 2018–2022.
Data source: ADIS for animal outbreaks.

During the past 5 years, two unusually intense transmission seasons were documented in 2018 and 2022.

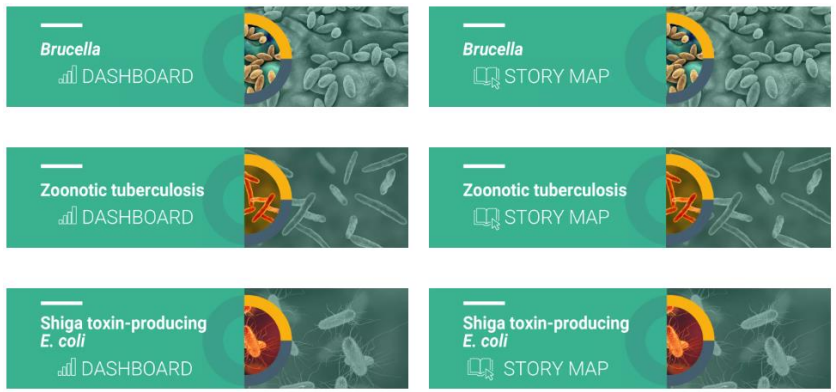
FOODBORNE OUTBREAKS

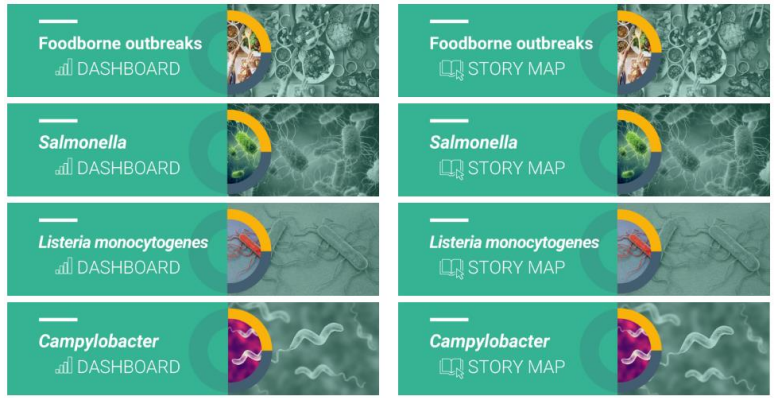
- Compared to 2021, foodborne outbreaks increased by 43.9%, with a notable rise in human cases (49.4%) and deaths (106.5%).
- The EU's foodborne outbreak reporting rate rose by 32.8% and the case reporting rate increased by 35.3% compared to the 2018–2021 average.
- *Listeria monocytogenes* was responsible for the majority of deaths (43.8%), underlining its severe impact, particularly on vulnerable groups like the elderly.
- *Salmonella* caused the most outbreaks (1,014), hospitalizations (50.5%), and was associated with 13.6% of cases and 12.5% of deaths, with *S. Enteritidis* as the predominant serovar. *Salmonella* was also responsible for several multi-country outbreaks in 2022.
- Norovirus led to the highest number of cases (7,305), with a notable increase compared to 2021, causing large outbreaks in multiple Member States.

EUOHZ REPORT COMMUNICATION TOOLS

- EUOHZ is a multi-story

- Interactive **communication tools** :





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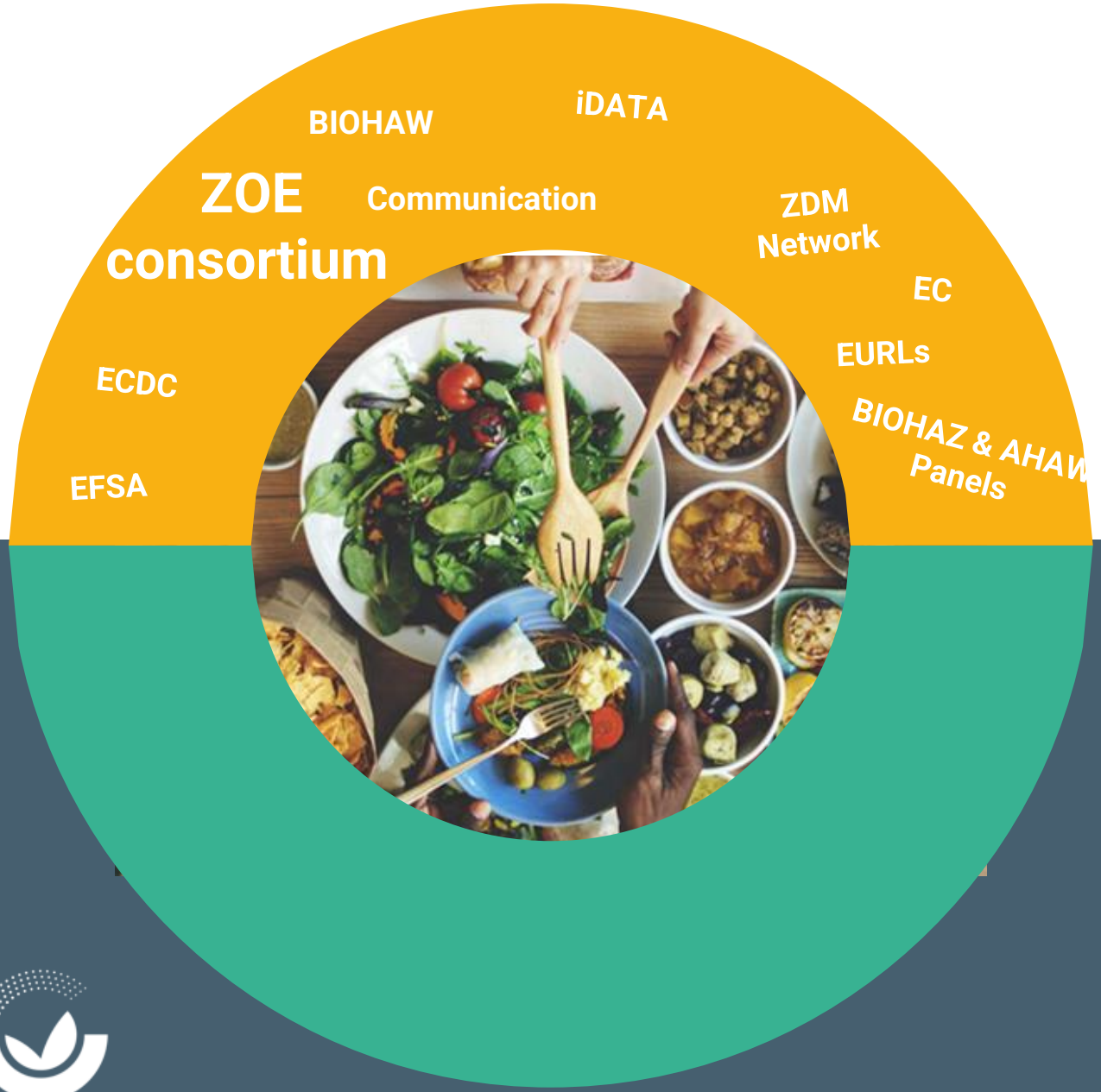
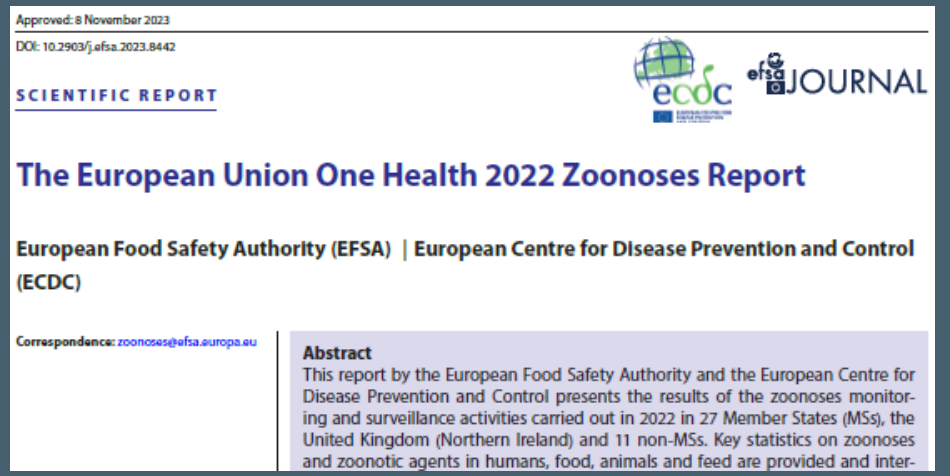


Thank you for your attention



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SCIENTIFIC REPORT

ecdc efsa JOURNAL

The European Union One Health 2022 Zoonoses Report

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Abstract

This report by the European Food Safety Authority and the European Centre for Disease Prevention and Control presents the results of the zoonoses monitoring and surveillance activities carried out in 2022 in 27 Member States (MSs), the United Kingdom (Northern Ireland) and 11 non-MSs. Key statistics on zoonoses and zoonotic agents in humans, food, animals and feed are provided and inter-