14th Workshop for Rabies 21-22 June 2023, Ljubljana, Slovenia

EFSA ACTIVITIES ON RABIES

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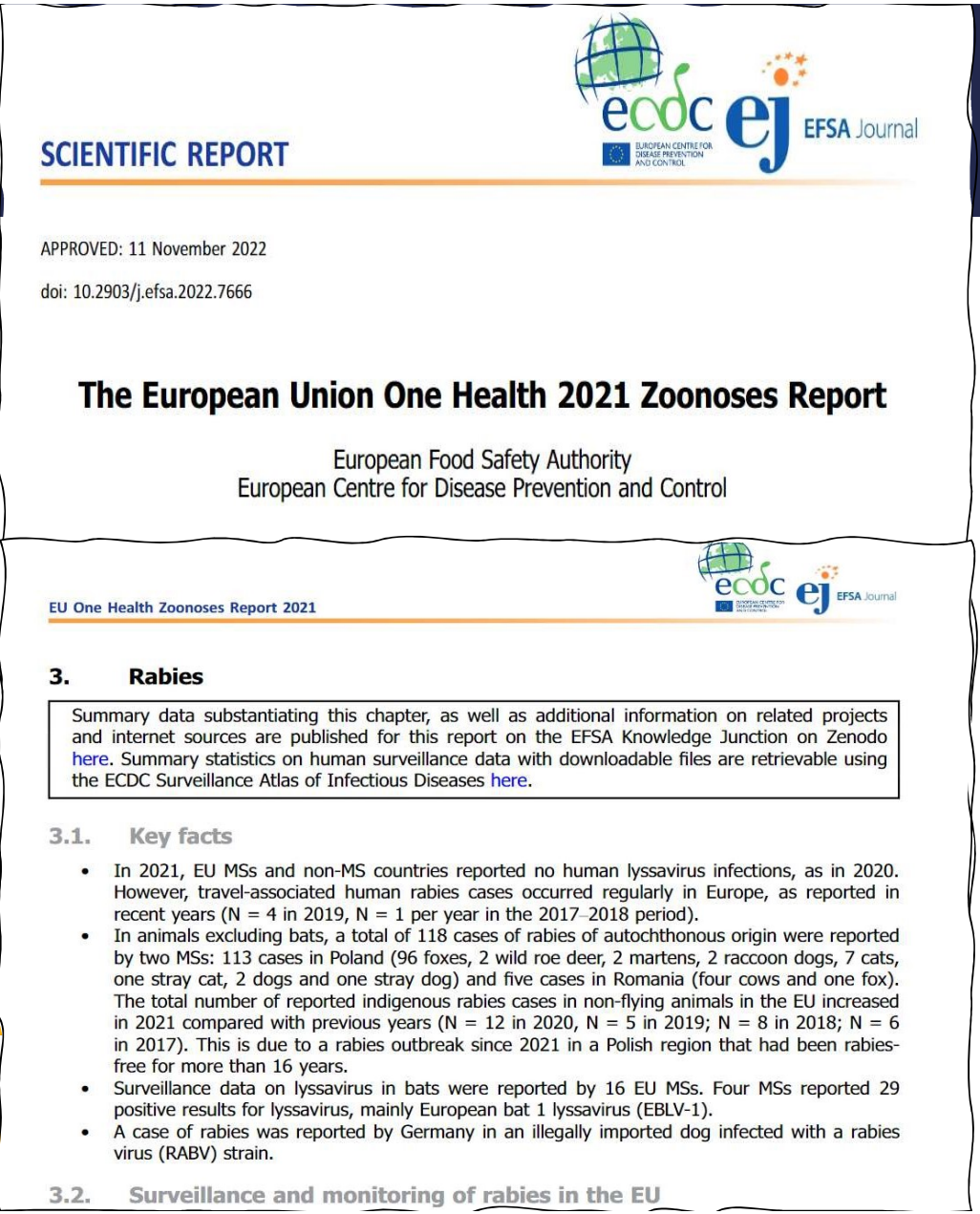
CURRENT ACTIVITIES OF EFSA ON RABIES

- Rabies chapter in the 2021 EU One Health Zoonoses Report
- Syndromic Surveillance project: pilot project on rabies Early Warning System (ongoing)



SCIENTIFIC REPORT

EFSA Journal

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The European Union One Health 2021 Zoonoses Report

European Food Safety Authority
European Centre for Disease Prevention and Control

3. Rabies

Summary data substantiating this chapter, as well as additional information on related projects and internet sources are published for this report on the EFSA Knowledge Junction on Zenodo here. Summary statistics on human surveillance data with downloadable files are retrievable using the ECDC Surveillance Atlas of Infectious Diseases here.

3.1. Key facts

- In 2021, EU MSs and non-MS countries reported no human lyssavirus infections, as in 2020. However, travel-associated human rabies cases occurred regularly in Europe, as reported in recent years (N = 4 in 2019, N = 1 per year in the 2017–2018 period).
- In animals excluding bats, a total of 118 cases of rabies of autochthonous origin were reported by two MSs: 113 cases in Poland (96 foxes, 2 wild roe deer, 2 martens, 2 raccoon dogs, 7 cats, one stray cat, 2 dogs and one stray dog) and five cases in Romania (four cows and one fox). The total number of reported indigenous rabies cases in non-flying animals in the EU increased in 2021 compared with previous years (N = 12 in 2020, N = 5 in 2019; N = 8 in 2018; N = 6 in 2017). This is due to a rabies outbreak since 2021 in a Polish region that had been rabies-free for more than 16 years.
- Surveillance data on lyssavirus in bats were reported by 16 EU MSs. Four MSs reported 29 positive results for lyssavirus, mainly European bat 1 lyssavirus (EBLV-1).
- A case of rabies was reported by Germany in an illegally imported dog infected with a rabies virus (RABV) strain.

3.2. Surveillance and monitoring of rabies in the EU

EU One Health 2021 Zoonoses Report Rabies Chapter

EU ONE HEALTH 2021 ZOONOSES REPORT

- EFSA and ECDC in One Health report of zoonoses and zoonotic agents, surveillance and monitoring activities.
- Rabies is a mandatory notifiable disease at the EU level for both humans and animals.
- EFSA collects, validates and analyses the data on surveillance and monitoring activities in animals from data providers in EU MS and some non-EU countries.

ONE HEALTH ZOONOSES REPORT: 2021 RESULTS

- Results of rabies surveillance and monitoring activities carried out in 2021 in 26 EU MS
- As for 2020, 2021 was the second year without reported human Lyssavirus infection in EU
- The cases in animals have increased compared to previous years (N=118 in 2021, N = 12 in 2020, N = 5 in 2019; N = 8 in 2018; and N = 6 in 2017)
- Animals tested: Red foxes (*Vulpes vulpes*)
  Raccoon dogs (*Nyctereutes procyonoides*)
  Jackals(*Canis aureus*)
  Dogs (*Canis lupus familiaris*)
  Cats (*Felis catus*)
  Bats (order Chiroptera)
  Farmed mammals

ONE HEALTH ZOONOSES REPORT: 2021 RESULTS

- non-flying terrestrial animals

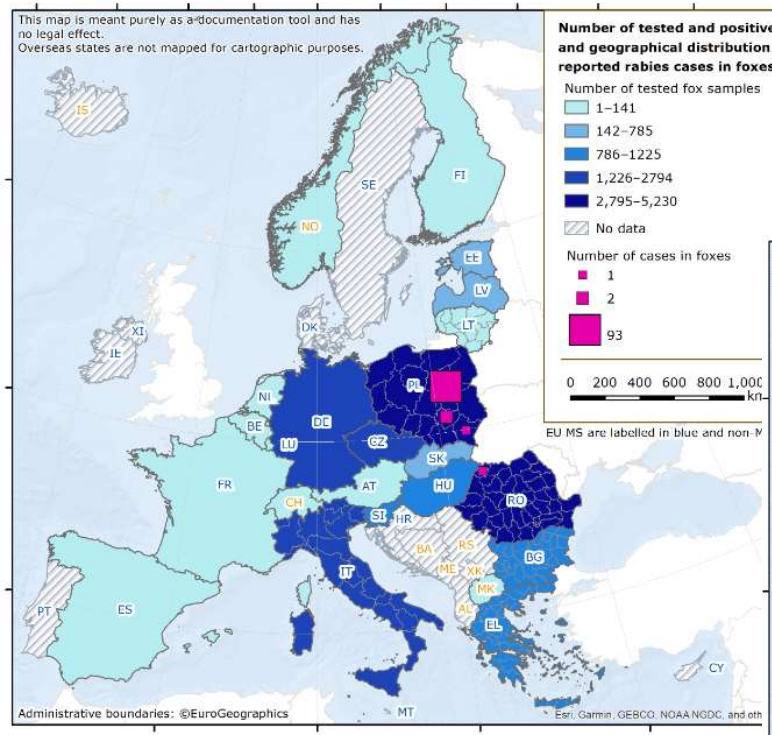
autochthonous origin:118 cases reported, by 2 MSs

imported cases : 1 dog in Germany illegally imported

	Poland	Romania
Foxes	96	1
Wild roe deer	2	-
Martens	2	-
Racoon dogs	2	-
Cats	8	-
Dogs	3	-
Cows	-	4

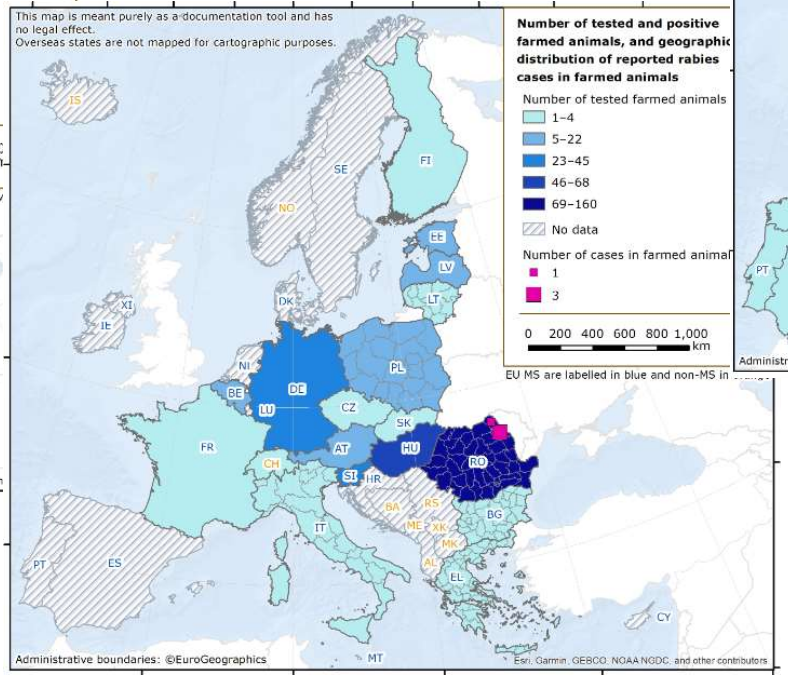
ONE HEALTH ZOONOSES REPORT: 2021 RESULTS

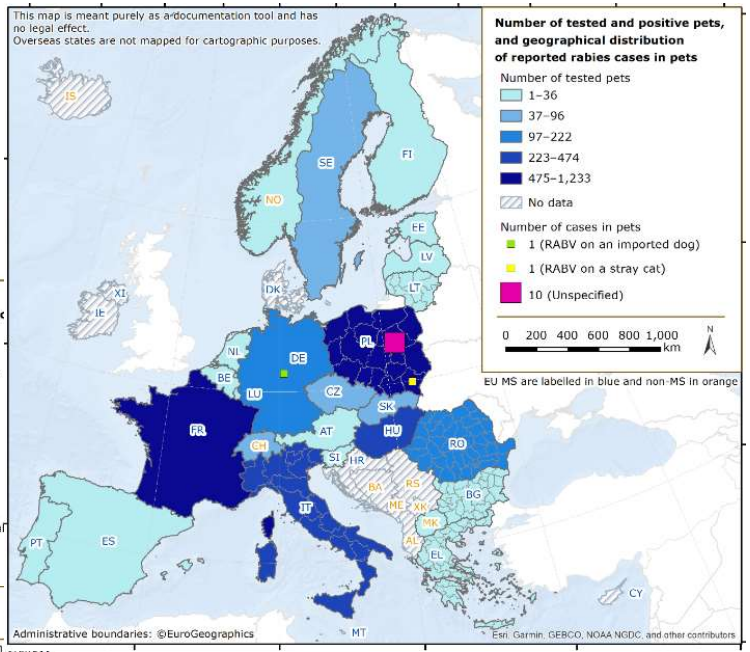
Geographical distribution of the cases



foxes

farmed animals





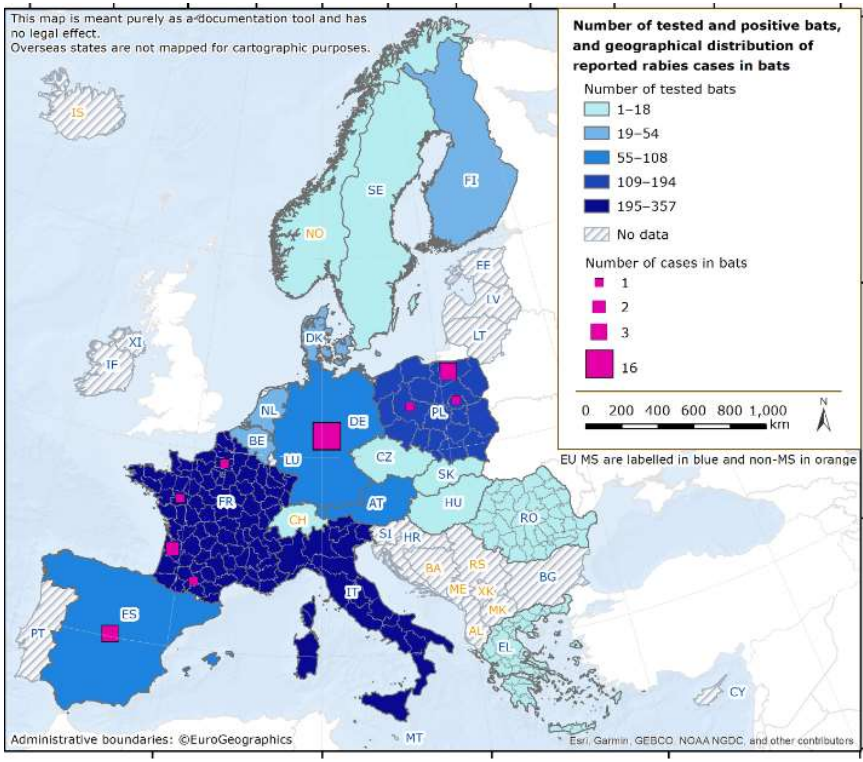
pets

ONE HEALTH ZOONOSES REPORT: 2021 RESULTS

- *Lyssavirus* in bats

Data on surveillance from 16 MS

29 cases reported in 4 MS (positive results for lyssavirus, mainly European bat 1 lyssavirus (EBLV-1)



FROM 2024 ONWARDS VISUALISATION TOOLS COMPLEMENTING THE EUOHZ REPORT

- **EFSA-ECDC Outsourcing** : 4-year Framework Contract for report preparation and production of visualisation tools

2021

- foodborne outbreaks

2022

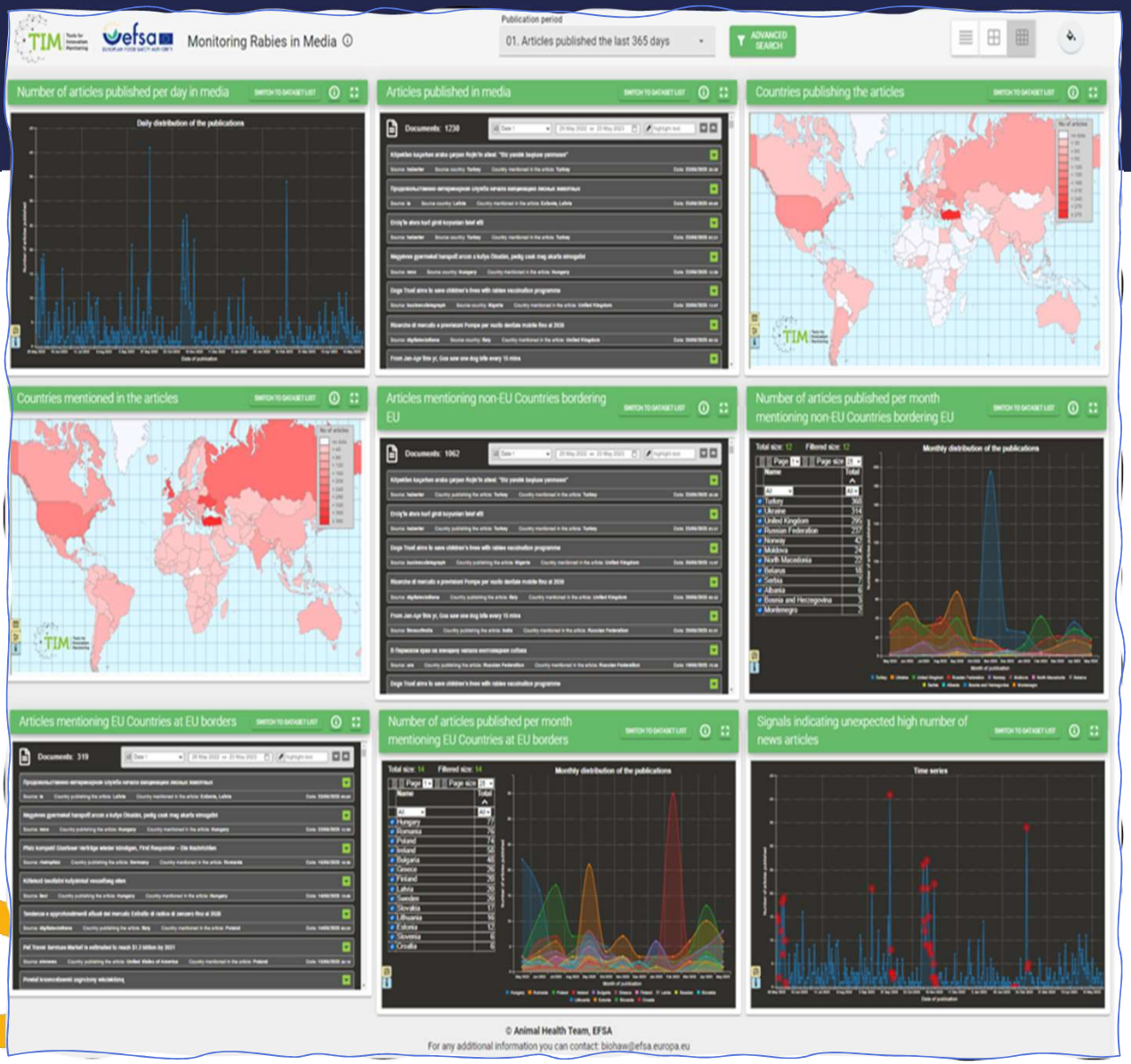
- *Campylobacter*
- *Salmonella*
- *Listeria monocytogenes*

2023

- STEC
- MTBC
- *Brucella*

2024

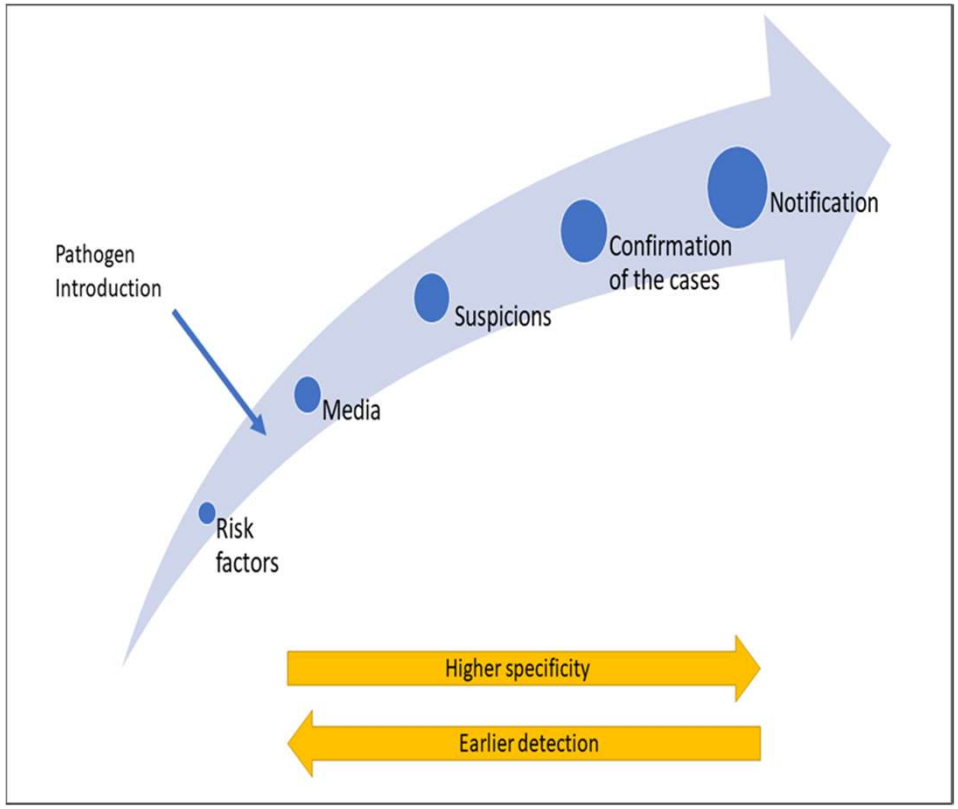
- *Trichinella*
- *Echinococcus*
- rabies
- WNV
- *Yersinia*
- *Toxoplasma*
- Q fever
- tularaemia



Monitoring Rabies in Media Dashboard

CHALLENGE: EARLY WARNING SYSTEM

- EFSA in 2020 launched the Syndromic Surveillance project (pilot) to investigate the development of an Early Warning System
- Aim : to detect potential threats of rabies incursion at EU borders before the official communication of the cases.
- Early warning systems allow the Authorities to assess the risk, be proactive, prevent, early detect and implement measures early.
- The official notification of rabies cases follows official procedures.
- Media may disseminate the information quicker outside official procedures and provide access to information earlier.



SOLUTION: MONITORING THE NEWS MEDIA

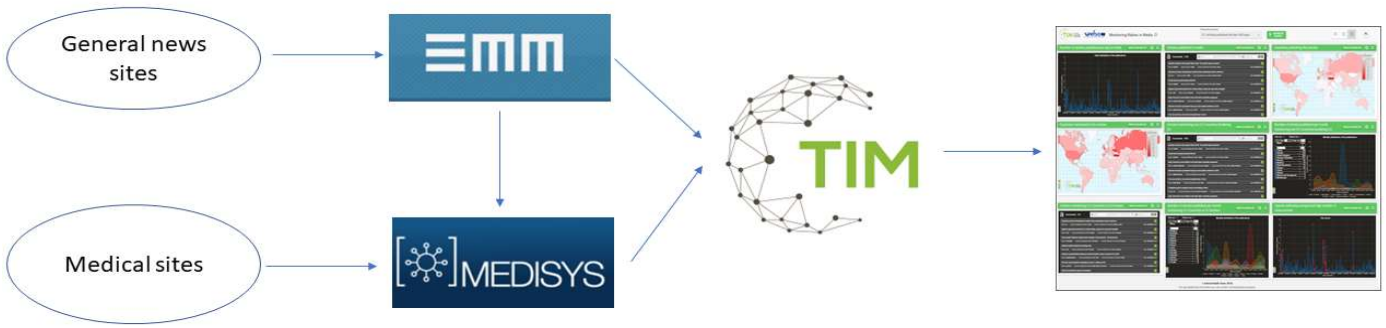
- Monitoring and analysing the Media systematically in real-time may early detect incidents related to rabies in other countries and trigger the early warning

- Searching in Media for article news published worldwide mentioning one of the Countries at EU borders (target countries).

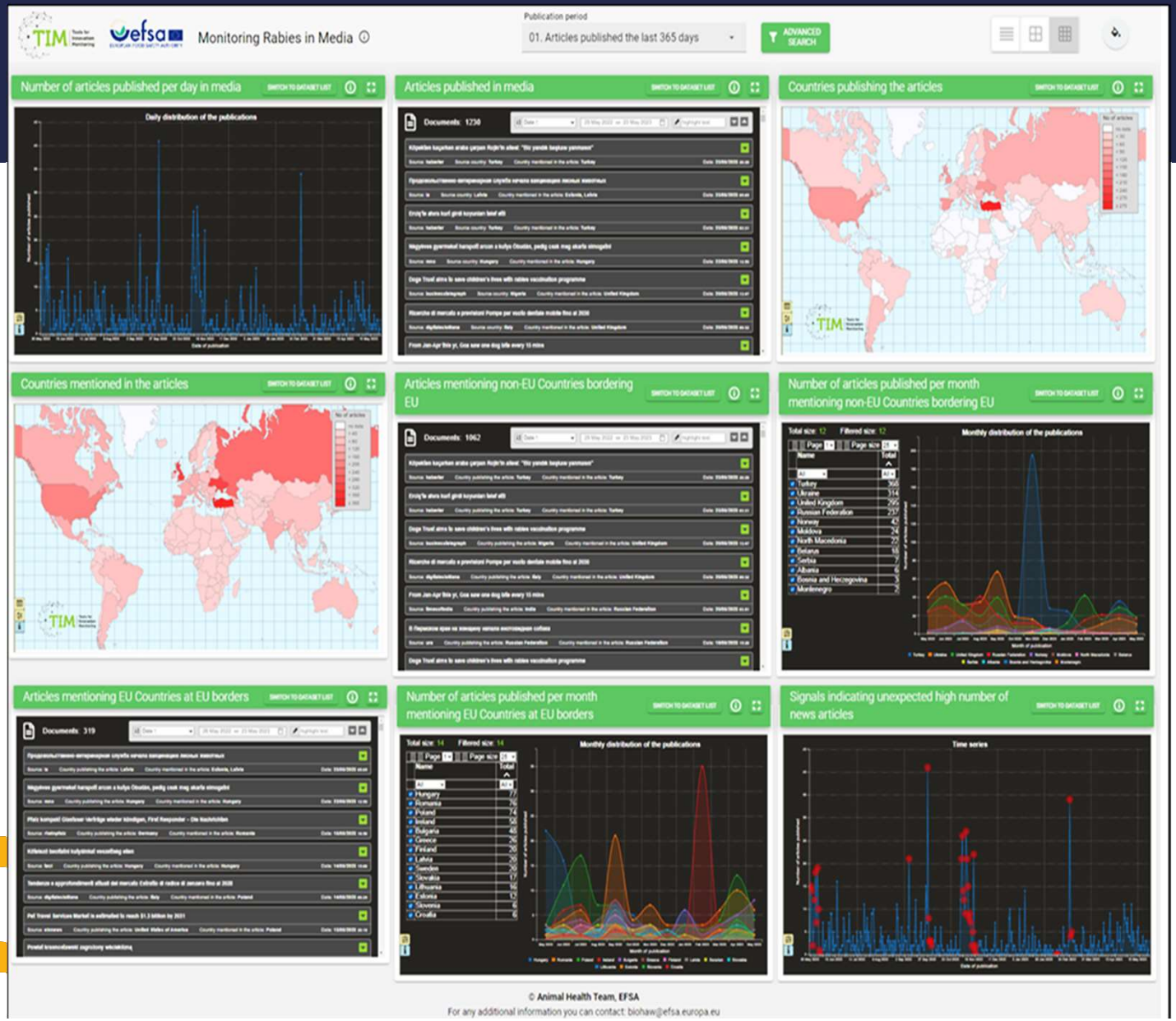
- European Commission's Joint Research Centre (JRC) : Text Mining and Analysis Competence Centre (JRC.T.5) has developed and maintained application to support media screening and analysis

- TIM NEWS application which analyses articles in media collected by the Europe Media Monitor (EMM) system, and particularly MEDISYS application, and visualises the results. In EMM already a category for rabies

APPLICATIONS USED TO MONITOR MEDIA



Development of the Dashboard Monitoring Rabies in Media as an interface of TIM NEWS application to visualise the results of the analysis.



- Maps
  - Geographical distribution
- Time series
  - Temporal distribution
  - Alert signals
- Lists
  - Direct access to articles

Link to the dashboard: https://www.timanalytics.eu/TimNewsPublic/dashboard/index.jsp#/space/s_56

STRENGTHS AND WEAKNESSES

Strengths

Speed and Real time analyses and visualization

Free access to the public through web, no need of specific software or apps

Incorporation of R scripts allows further statistical analysis

Weaknesses

Automatic searching and data extraction may have an impact in sensitivity and specificity of the tool

Key words in different languages

Noise from false positive articles

FUTURE

- Improvement of the Dashboard:

  Reduce the noise of false positive articles

  Improvement of some functions

  Validation of the performance

- Implementation of the Dashboard in the field

- Expand the Dashboard to other diseases

EXPLORE THE DASHBOARD

- You can have access to the Dashboard via this link: https://www.timanalytics.eu/TimNewsPublic/dashboard/index.jsp#/space/s_56

Thank you very much for you attention !

- Any comment or suggestion is more than welcome (Sotiria-Eleni.ANTONIOU@efsa.europa.eu)

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