ECDC Update

More than 10,000 cases reported.

Increasing trend in the post pandemic years

Awareness

Culture independent PCR panels

Top 5 (but O111) plus typical eae-negative O91 and O113, most reported

stx2a, stx1a, stx1b more represented stx subtypes, but stx2a most represented in HUS, followed by stx2d

16 Epipulse events launched in 2023

EURL PH active in Q3/Q4 2025

Cecilia Jenberg

EFSA Update

2023 data to be published by the end of this year

Dashboards and storymaps published since 2023

71 STEC outbreaks reported in 2022. Only one with strong evidence (bovine meat)

Cheeses, meat, cereals and meals, and bakery product the most contaminated

Virulence gnens profiles (Stx) overlapping those from human cases of infections.

WGS *E. coli* still scanty most data from two MS

Data mainly submitted in case of events (outbreaks)

Mirko Rossi

JEMRA outcomes on STEC

Transition from phenotypic to genotypic typing changed risk assessment and is crucial for STEC

Burden of disease (at 2010)

A high proportion of cases not attributed to a source.

OR of the contribution of food commodities to STEC disease lower for produce than beef, but large events mostly caused by veggies (??)

There are many studies on STEC control in the vehicles of infections mostly pointing at STEC O157

Jeff Lejeune

Inter EURL WG on NGS update

New ZENODO page for the inter EURL WG on NGS documents

Almost all the guidance documents, tools and protocols updated regularly

Webinars (next on reference WGS)

joint trainings (next in Paris 2025 at ANSES)…

Valeria Michelacci

Keynotes

1997-2023 surveillance of STEC infections

E. coli taxonomy >>complexity

All diarrhoea cases tested for pathogenic *E. coli* since 2005

Diffusion of gastrointestinal panels (PCR) causing less isolates

HUSEC vs low risk HUS based on virulotyping

Virulence genes databases expanding continuously, expanding at the same time the ability to track specific pathogenic *E. coli* populations and hybrid strains

Need to learn more!!!

ETEC: Large variation among the est and elt toxins genes (can you believe it?)

WGS provide a mean to characterize and track the different types (and to make a bit of order into the nomenclature)

ETEC database is coming

Irrigation water: a new (not this much) issue?

Flemmming Scheutz

Capacity building: Revision ISO 13136

The process is at an advanced stage

Many comments raised but the WG is working to reply

Validation possibly in 2025

Publication??

Rosangela Tozzoli

Capacity building:
Proficiency tests on pathogenic *E. coli*

PT37 (sprouts): 33 labs (24MS+3 EFTA). 94.9% success rate in the screening 92.4% success rate in isolation. High sensitivity and specificity of the method (97% and 100%)

PT39 (Cheese): 30 labs (22MS + 3 EFTA). >90% success rate in both screening and isolation. One lab unsatisfactory performance. Follow up. High sensitivity and specificity of the method (100% and 96.7%).

PT38 (strain characterisation): 32 labs (23MS+3 EFTA). 84% of the labs using WGS. Two labs underperformant only one for true errors (93.75% rate of success). Two labs did not identify the two strains part of the cluster.

Paola Chiani, Valeria Michelacci, Margherita Montalbano

Capacity building: Training at the EURL for *E. coli*

2024: STEC detection in food matrices NRLs **12** staff.

Pathogenic *E. coli* characterisation **seven** NRLs staff.

Joint training on NGS (Uppsala) **three** participants from *E. coli* network

NGS for outbreak investigation (Next December).

Theodora Socheri

Scientific communications I

hybrid strains and pathogenicity

2024: Cluster of infections by a Hybrid STEC-ExPEC O174: WGS effective in spotting cross-pathotype strains.

Zoonotic and foodborne

Persistent (25 years)

HUS-related (but *eae* negative)

Norway 2022-2023:

One outbreak of STEC O26 linked to hamburgers (9 HUS)

One outbreak of STEC O157 linked to hamburgers (or minced meat) (no HUS)

Again, WGS permitted to unravel the links, and a good investigation structure did the rest in solving the event.
Good example of collaboration and cooperation

Rosangela Tozzoli, Gro Johannessen

Scientific communications II

Strain characterisation and WGS

Stx-subtyping in STEC from food animal monitoring in the Netherlands.

Almost all subtypes represented in the different matrices

Some types correlate with sample origin: stx2a and beef, stxf and pigeon, stx2b sheep, srtx2e pigs stx2b deer and in some cases with serogroup

4% of isolates in the collections WSFR are indole-negative, mostly O146

Ralph Litjens

Scientific communications III

Impact of environment and human practices on safety of agrifood productions

Wildlife crop damage and STEC.

Role of non-domestic ruminants and the environment in introducing STEC in the food chain.

O187:H28 and O146:H28 in wild animals and wheat flour in different countries. Not found in livestock

Wild animals damage the wheat crops

Circular economy and pathogenic *E. coli*.

Soil ammendants and reclaimed water as source of pathogenic *E. coli* (and other foodborne pathogens)

Effective treatments yet to be consolidated

Completing the risk assessment is crucial

Robert Soderlund, Giorgia Barbieri

Have a safe journey
back home
and see you in 2025
For the 20th edition!!