



Public Health
England

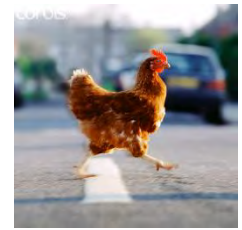
Salmonellosis and Polish Eggs

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Eggs and salmonellosis



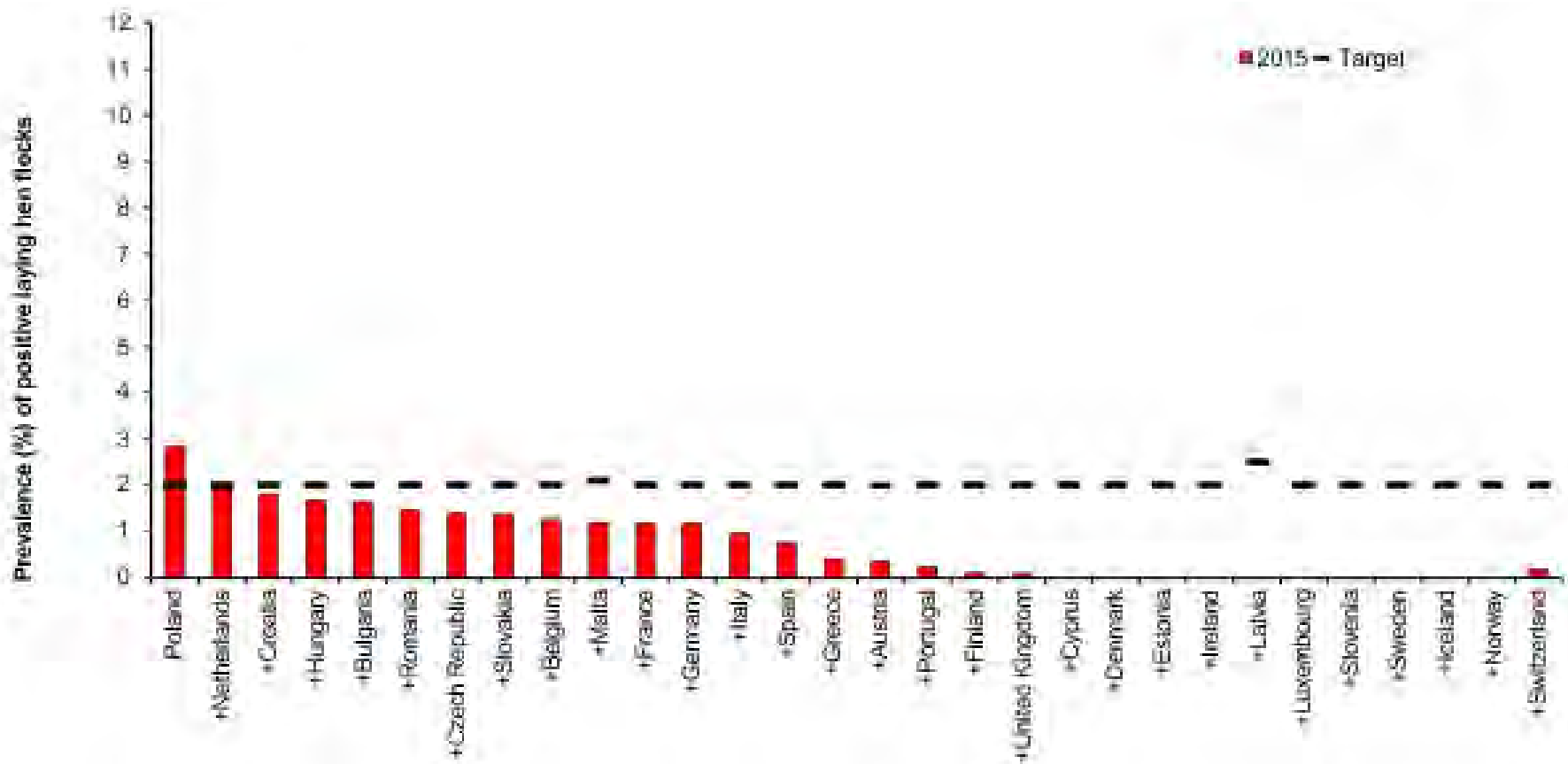
- Salmonella Enteritidis most common serovar of *Salmonellosis* in most industrialised countries

Rate per 100k English Population





EU monitoring: *S.Enteritidis* and *S.Typhimurium* in laying hens, 2015



The European Union summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in 2015. EFSA Journal 2016;14(12):4634,231 pp. doi:10.2903/j.efsa.2016.4634: <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2016.4634>.



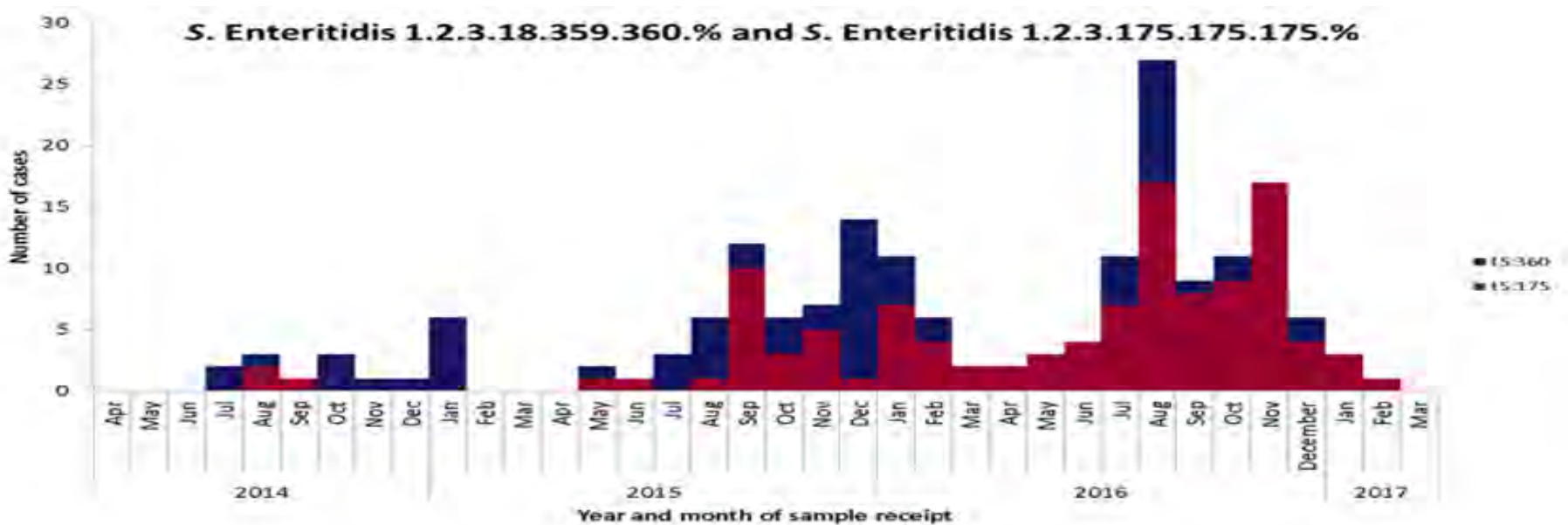
National investigations 2015/2016

- December 2015: cluster of 17 *Salmonella* Enteritidis MLVA 2-9-7-3-2 cases first detected by Scotland
- January 2016: confirmed same strains present in England and Wales = 57 cases since mid 2014
- Food chain investigations lead to identification of an egg distributor in France but no further – then case reports stopped
- Re-emerged in August 2016 → notified the EU



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Distribution of *S. Enteritidis* 1.2.3.18.359.360.%
and 1.2.3.18.175.175.% cases by month of
sample receipt 2014 – 2017 (n = 185)



Trace back from restaurant exposure in UK identified eggs
from Polish packing center as commonality.
Tested 1000 eggs on import - all negative



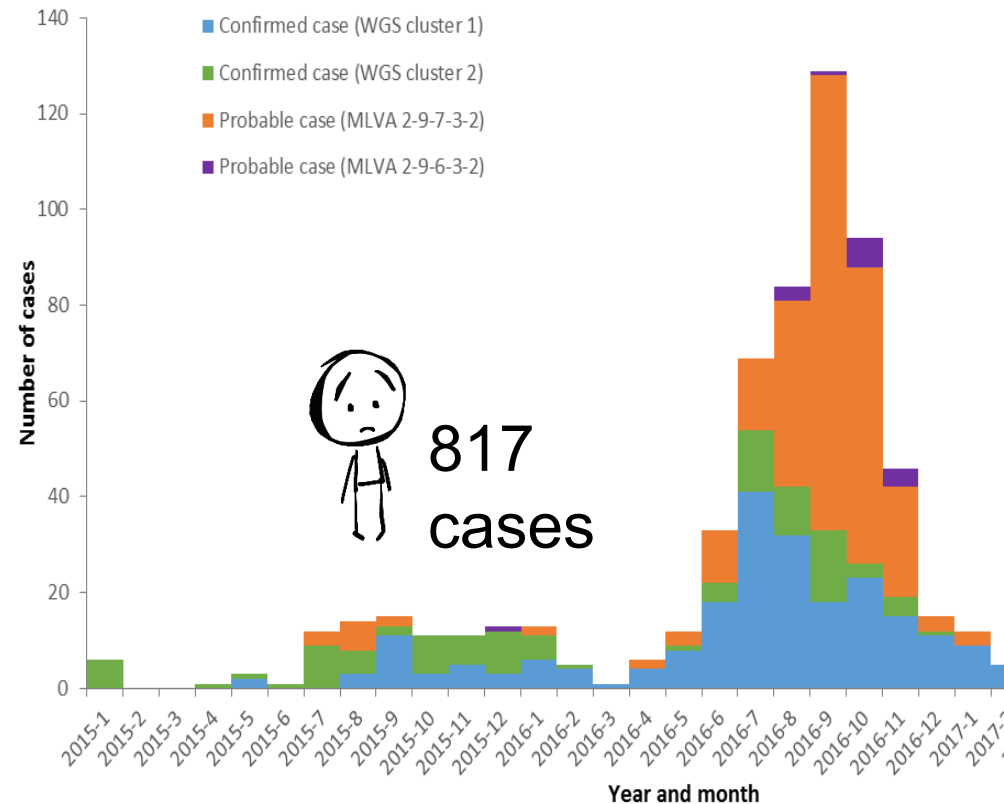
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RAPID RISK ASSESSMENT

Multi-country outbreak of
Salmonella Enteritidis phage types 56 and 62,
MLVA profile 2-11-3-3-2 and 2-12-3-3-2 infections

20 July 2017





EU investigations 2016

- Cases reported from 13 other EU countries & UK.
- 533 confirmed or probable cases reported in EU/EEA countries up to December 2016
- NL case control study → links made to same egg distributor as made in UK investigation
- NL sampled >5000 eggs → matching outbreak strains detected in eggs from Poland

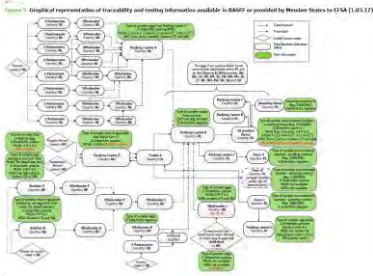
Public Health Action



82 flocks at 18 farms subsequently positive for *Salmonella* Enteritidis – WGS confirms both outbreak strains present

Eggs from *S. Enteritidis* positive farms were withdrawn from the market and restrictive measures introduced

Large numbers of birds (millions) culled
Widespread attempts to improve hygiene of egg production





Outbreak resolution?

- Last date of distribution of contaminated eggs = 12 December 2016
- Outbreak expected to be over ~ end January 2017

But...

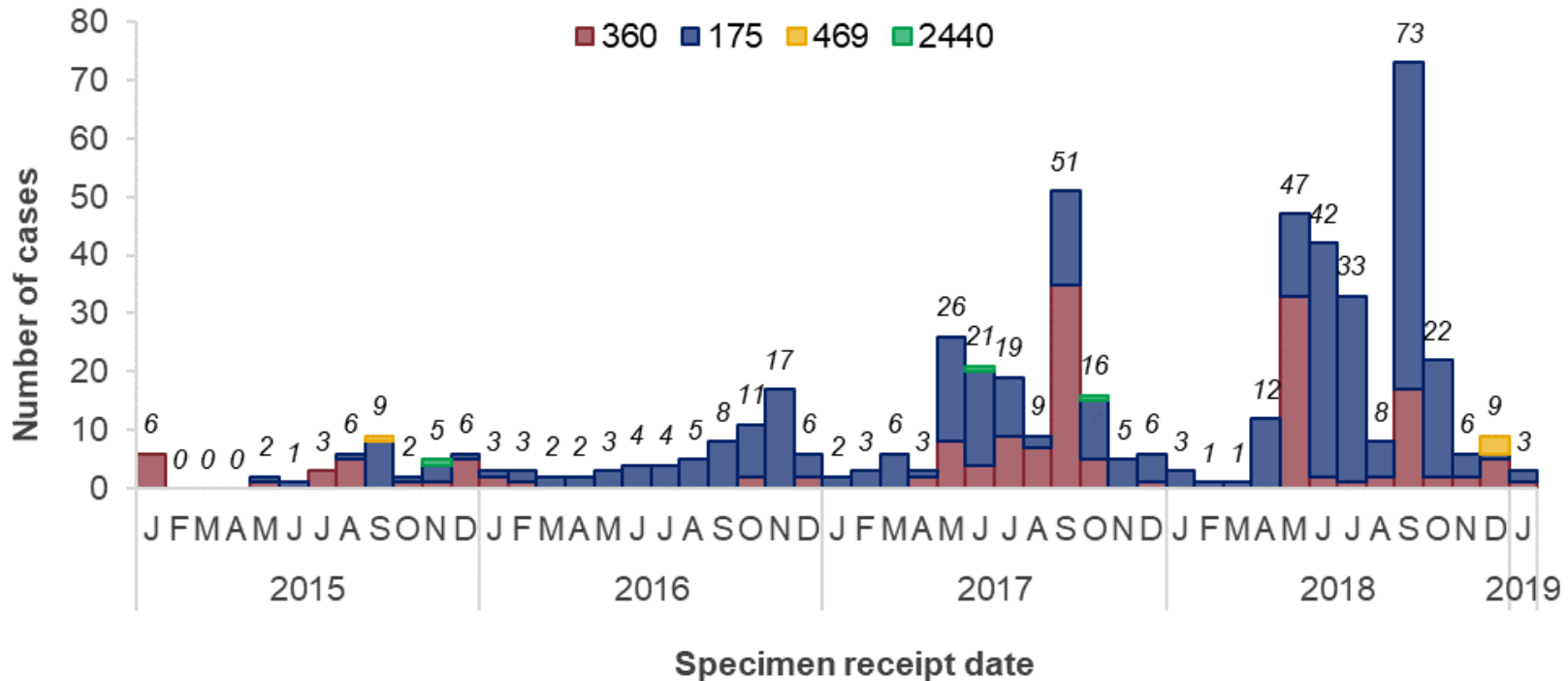
Re-emergence of cases in the UK in March 2017

→ Different source/ food vehicle?

→ Still circulating outbreak strain in table eggs &/or egg products?



UK outbreak 2017 - 2019



- In 2018 – 247 cases reported (total of 547 cases identified in England and Wales since June 2014)
- Temporal pattern - peak of 73 reports in September 2018



Controls



Primary production on farms: vaccination, biosecurity

Legislation: EU microbiological criteria, EU monitoring, slaughter, EU control and withdrawal of product

Retail: EU labelling, shelf-life, assurance schemes

Commercial kitchens: shelf-life, assurance schemes

Surveillance: outbreak investigation and control, EU wide interventions, product recalls, culling of birds, improvement of hygiene at production

Control strategy effective,
only small number of cases identified in 2019

