



1 Background

- *Salmonella* is a highly pathogenic zoonotic agent. As such, it has significant human health consequences
- The EU has enacted a number of legislative initiatives aimed at decreasing incidence of human salmonellosis. E.g., National Control Plans (NCPs) targeting five serovars in poultry from 2007¹
- National Reference Laboratories play a key role in meeting this legislative requirement by detecting, confirming and monitoring important pathogen surveillance data

2 Objective

To assess patterns in *Salmonella* records from the National Reference Laboratory for primary production animals in Northern Ireland (NI) for *i)* *Salmonella* serovars currently controlled for by NCPs, and *ii)* serovars outside current legislation

3 Materials and Methods

Temporal trends were explored for the five NCP serovars; *Salmonella enterica* ser. Enteritidis (*S. Enteritidis*), *S. Typhimurium*, *S. Infantis*, *S. Virchow* and *S. Hadar*, as well as serovars outside this legislation

4 Results

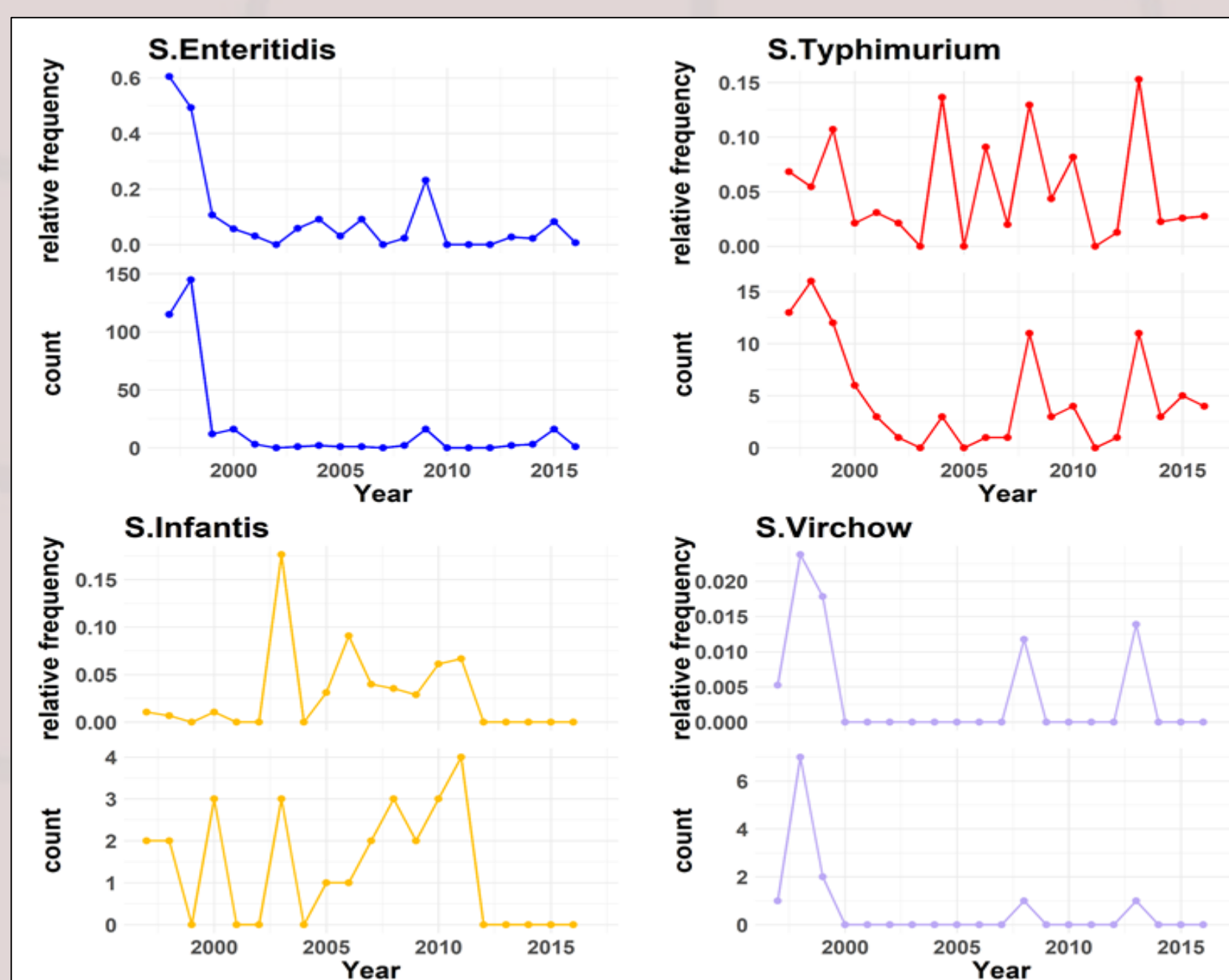


Figure 1. Relative proportional frequency and count of four *Salmonella* serovars covered under NCP legislation. *S. Hadar* was not recorded during this period

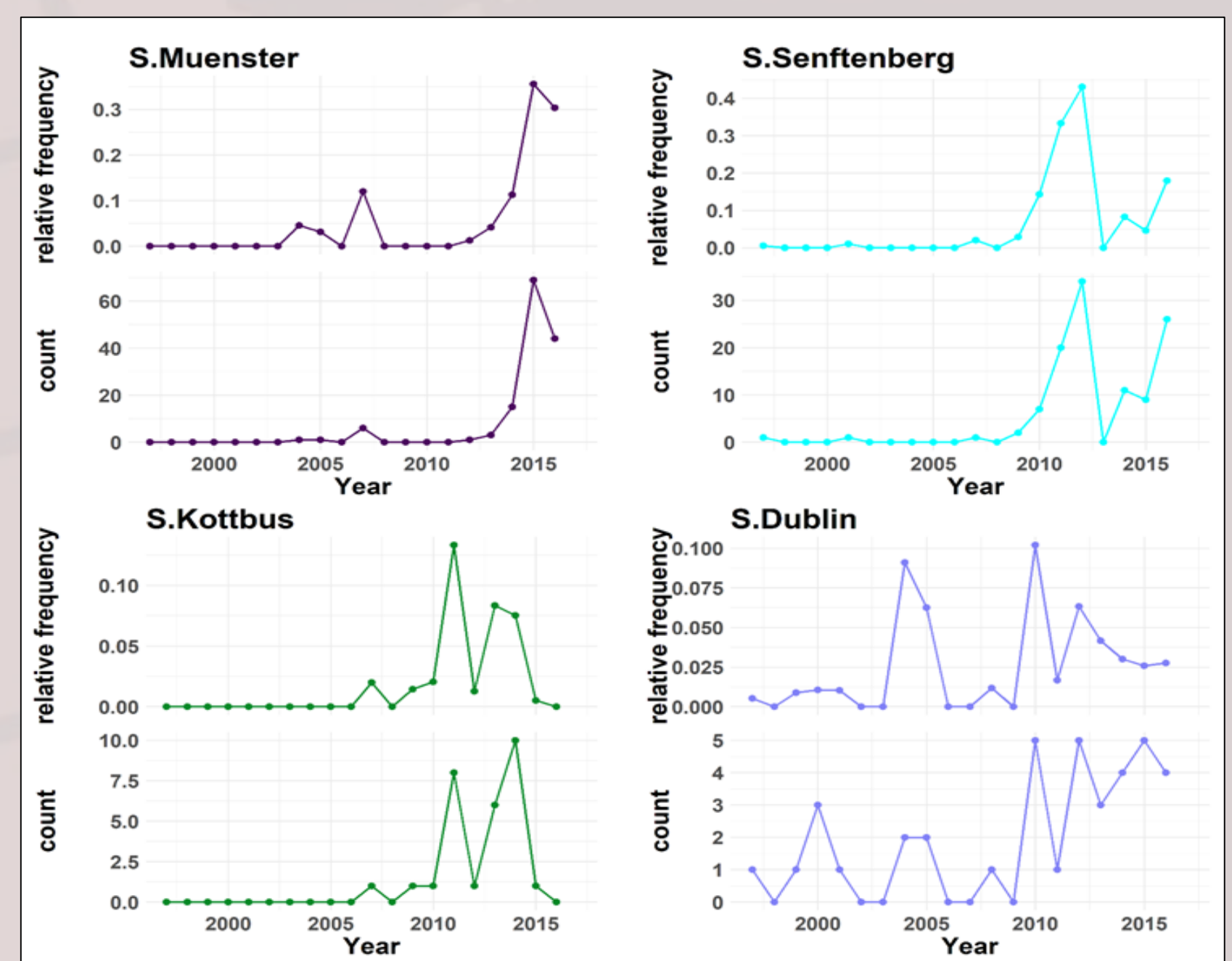


Figure 2. Relative proportional frequency and count of four *Salmonella* serovars not currently legislated for under NCPs

Table 1. Number, and relative proportional frequency of isolates for eight *Salmonella* serovars (four legislated for, and four without control policies) for two ten year time periods; before NCP legislation was introduced (1997-2006), and after (2007-2016)

Salmonella serovar	Number of isolates 1997 – 2006	Relative frequency 1997 – 2006	Number of isolates 2007 – 2016	Relative frequency 2007 – 2016
<i>S. Enteritidis</i>	296	0.2679	40	0.0451
<i>S. Typhimurium</i>	55	0.0498	43	0.0474
<i>S. Infantis</i>	12	0.0109	12	0.0135
<i>S. Virchow</i>	10	0.0090	2	0.0023
<i>S. Muenster</i>	2	0.0018	132	0.1490
<i>S. Senftenberg</i>	2	0.0018	109	0.1230
<i>S. Kottbus</i>	0	0	28	0.0316
<i>S. Dublin</i>	10	0.0090	28	0.0316

5 Conclusions

The success of NCPs

- The success of NCPs has been reflected by a significant reduction in human cases reported to the EU²
- *S. Enteritidis* and *S. Virchow* are less represented in NI NRL data after the introduction of NCPs
- Additionally, NCPs provide a prescriptive and standardised framework for the appropriate response to outbreaks of these serovars

Future considerations

- However, some serovars not controlled by NCPs are becoming more frequently recorded in NI
- *S. Hadar* is included in NCPs, but was not recorded in NI
- Additionally, other significant livestock reservoirs, such as pigs, do not currently have NCPs
- Increased monitoring and surveillance, as well as further research determining emergent reservoirs, is recommended