

Source Attribution of *Campylobacter* Contamination in the Poultry Value Chains of the UK and Kenya



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Aims, Overarching Hypothesis and Research Questions

Aims

- To improve the understanding of *Campylobacter* contamination of meat (UK)
- To assess the importance of *Campylobacter* in the poultry value chain (Kenya)

Overarching Hypothesis

- The UK and Kenyan poultry systems for meat production differ in terms of microbiological risk, people behaviour and economics

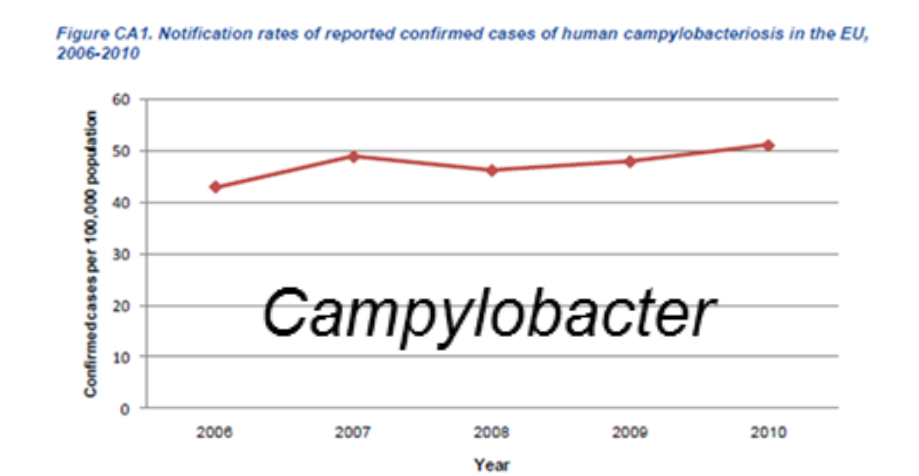
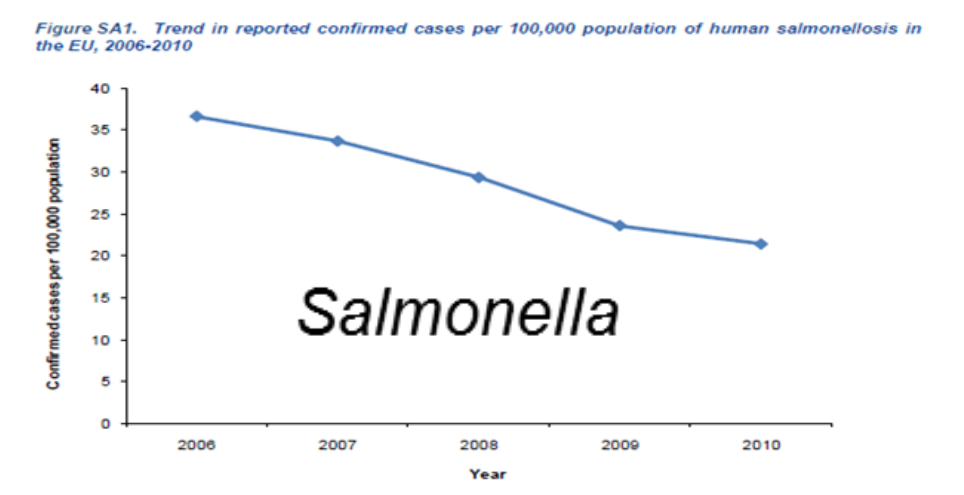
Research Questions

- What are the main points of risk for *Campylobacter* contamination in the UK and Kenyan poultry value chains?
- How do people's behaviours interfere with potential control measures applied to manage live poultry infection and poultry meat contamination?
- What would be the economic outcomes of possible changes implemented to prevent livestock and meat *Campylobacter* contaminations?
- What comparative generic and specific conclusions can be drawn that would best inform future policy making strategies in both countries?

Importance and Background

Importance of *Campylobacteriosis*

- Leading food-borne disease in the UK, associated with consumption of poultry meat
- Few data on the source/exposure of *Campylobacter* contamination: only 30% to 40% of human cases can be attributed to meat consumption
- Several control methods are in place but they do not seem very effective – is it because they are overseeing the **human behaviour** component?
- Importance in the poultry value chain in **developing countries** (Kenya) is unknown

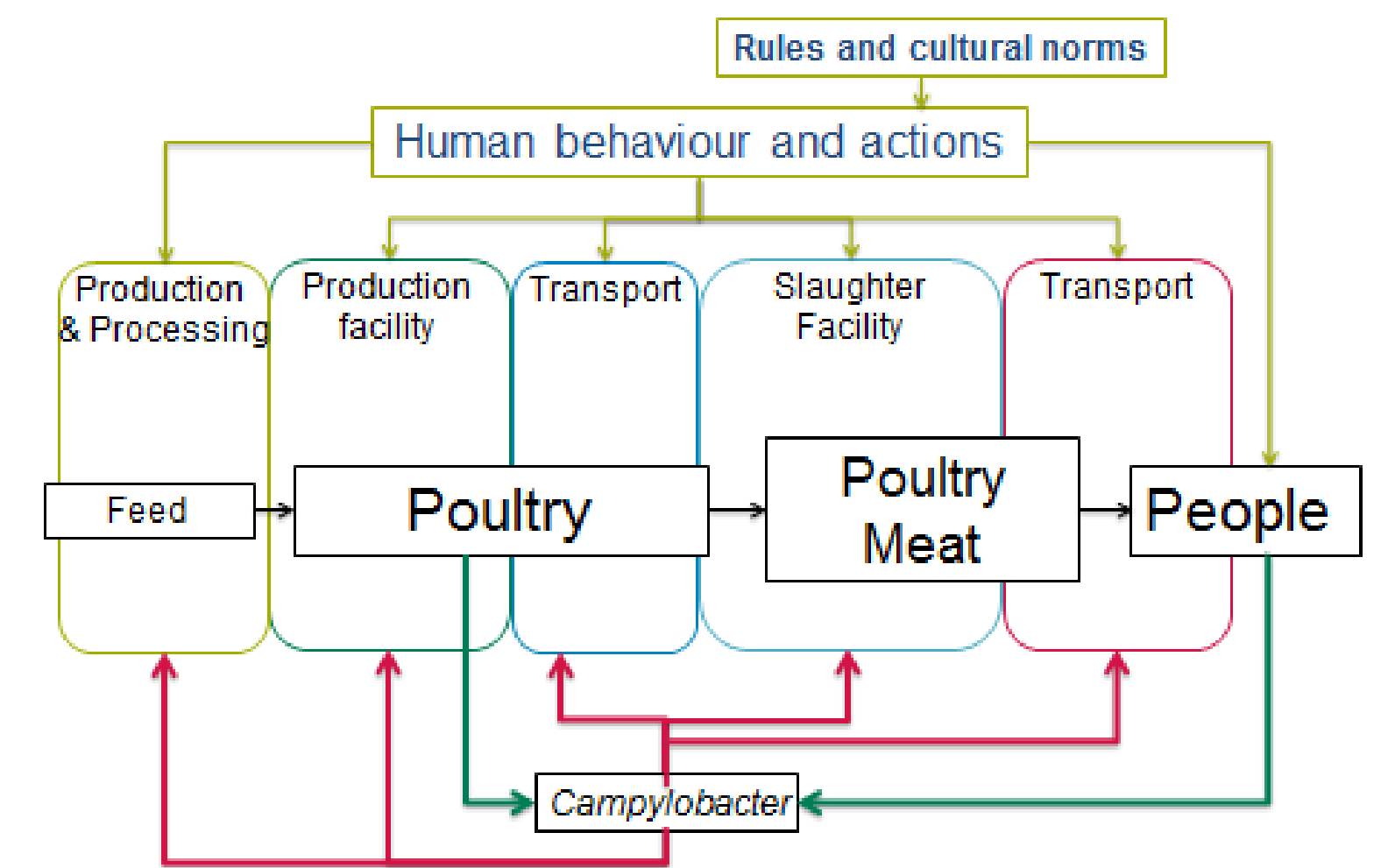


Campylobacter in humans

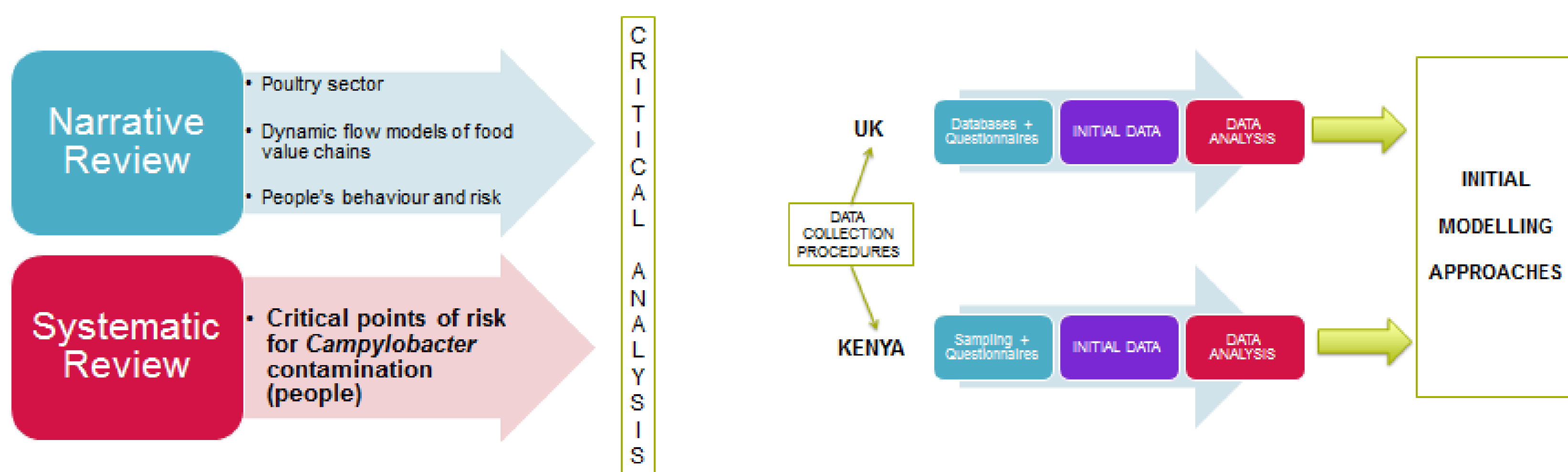
- Mild symptoms:** watery diarrhoea, abdominal pain, fever, headache and nausea
- Severe symptoms:** reactive arthritis, neurological disorders, Guillain-Barré syndrome and death

Poultry value chain: sources of *Campylobacter*

- food producing animals - poultry, cattle, pigs and sheep
- pets - cats and dogs
- wild birds
- environmental water
- foodstuffs - meat, raw milk/dairy products, fish/fishery products, mussels and fresh vegetables

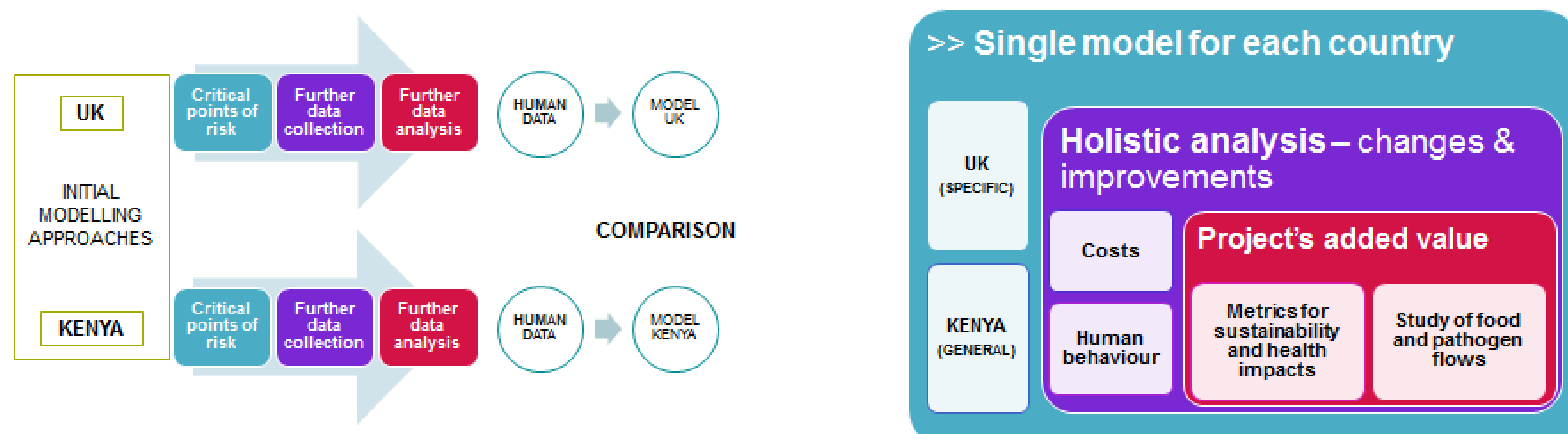


Methodology



2013

2013/14



2014/15

2015

Expected Outcomes and Impact

Source attribution model

- Improved understanding of the role of poultry value chains in food-borne illness caused by *Campylobacter* in the UK and Kenya
- Improved understanding of people's behaviour in the contamination of chickens and poultry meat

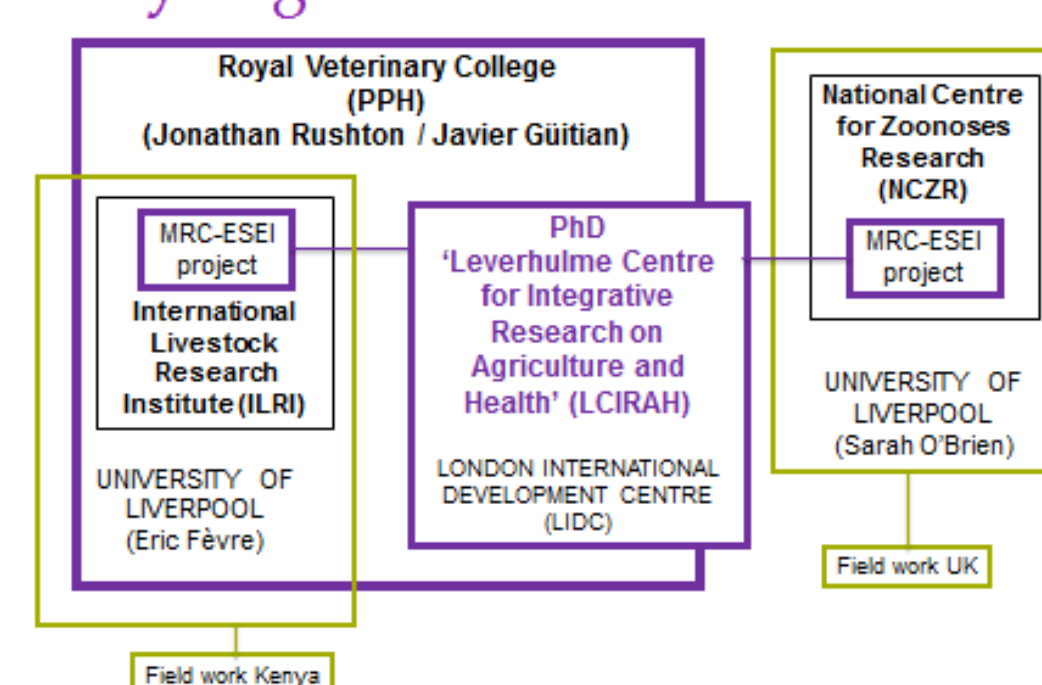
Data sharing between institutions for the preparation of future models

Results can be used for further interdisciplinary research

IMPACT

- Poultry products are central to protein demands in diets worldwide
- Campylobacter* is a leading cause of food-borne disease in developed countries with paucity of data in developing countries
- Results can be disseminated to policy makers with the purpose of updating existing laws

Synergies between institutions



Synergies between Collaborating Institutions

References

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