

Workshop:  
***Campylobacter* in slaughterhouses and cutting plants:  
risks and opportunities for better control**  
28 January 2016, Brussels



## ***Campylobacter* spp.**

Family Campylobacteriaceae

0.2-0.9  $\mu\text{m}$  wide and 0.2-5.0  $\mu\text{m}$  long

Spiral formed

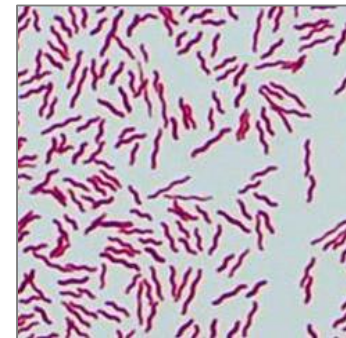
Gram-negative

Microaerophilic (< 10%  $\text{O}_2$ )

Species pathogenic for humans

mainly ***C. jejuni*** (93 %) and ***C. coli*** (5 %)

classified as thermophilic; opt. growth temp. 41.5°C



## Campylobacteriosis

Usually self-limiting symptoms

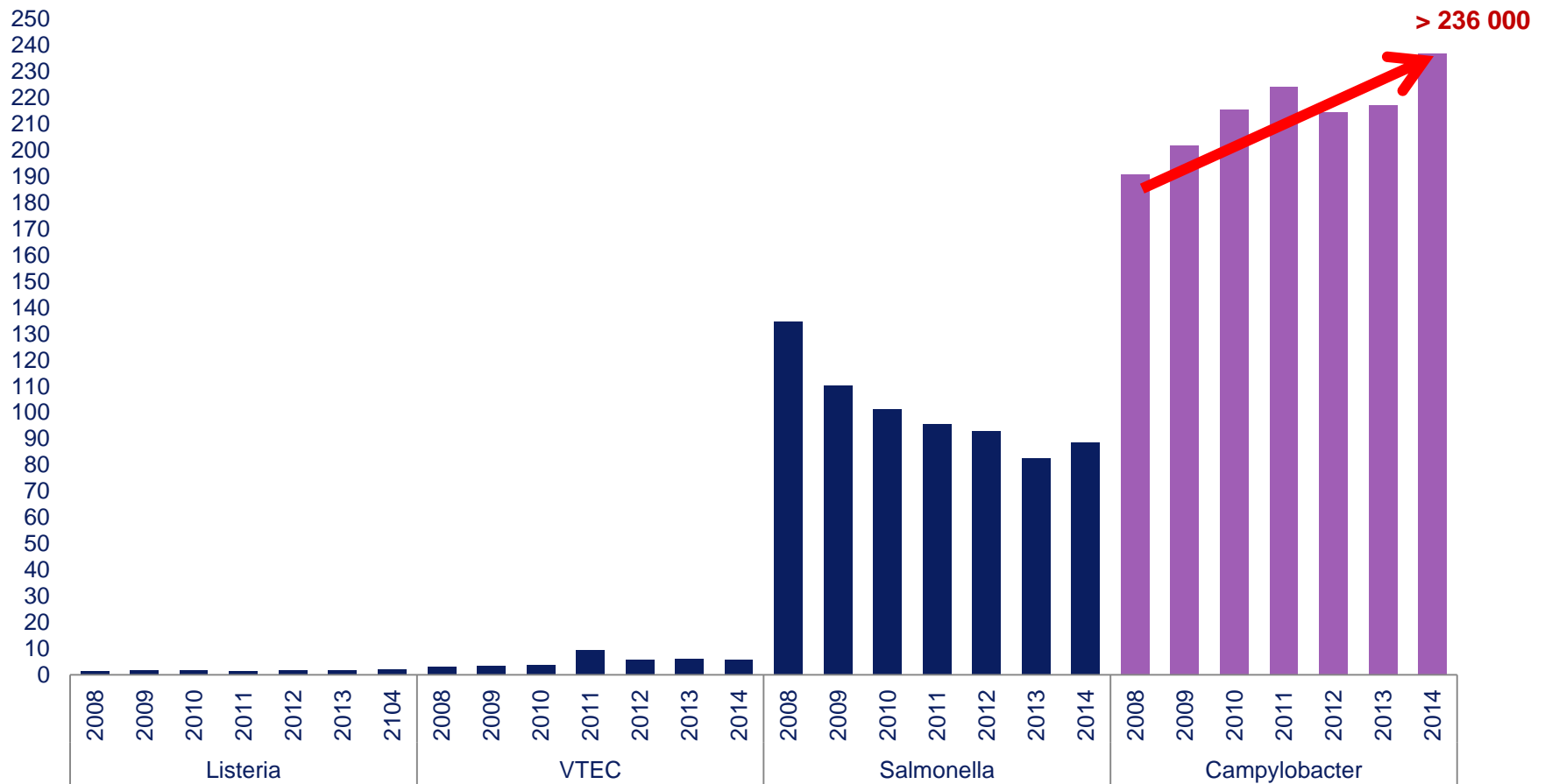
- Abdominal pain
- Diarrhea
- Fever
- Vomiting

Post-infectious complications

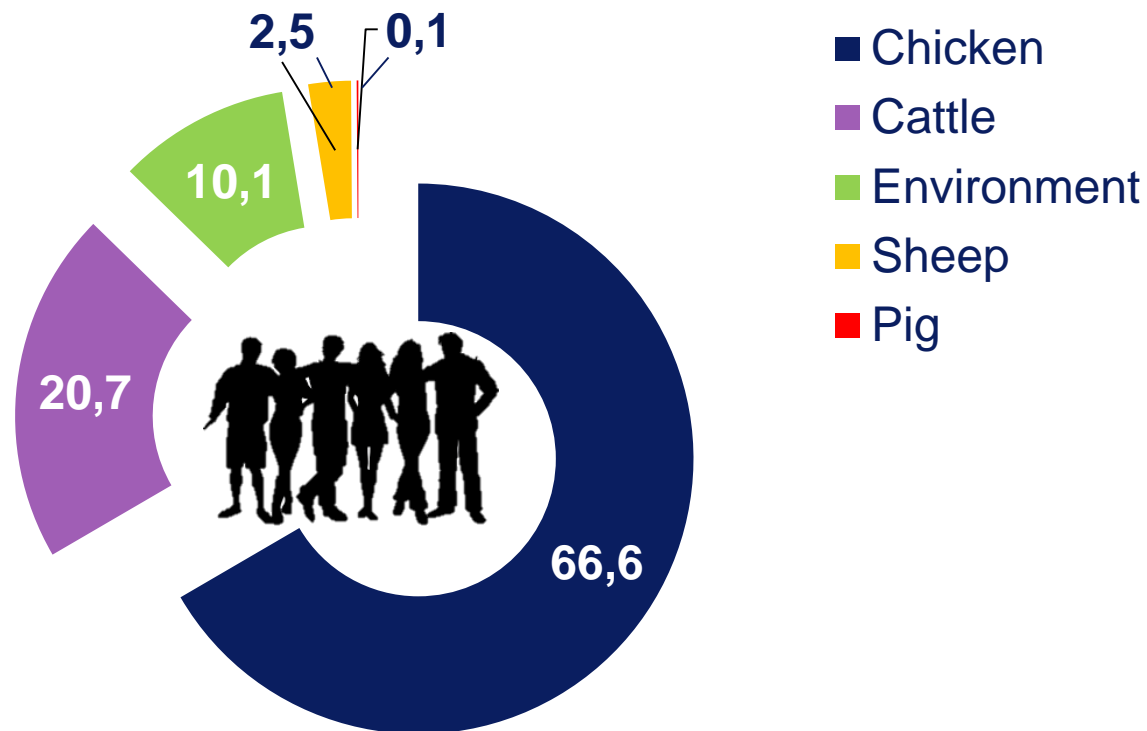
- Guillain-Barré syndrome (1 in 1 000)
- Miller Fisher syndrome
- Reactive arthritis
- Irritable bowel syndrome
- Inflammatory bowel disease
- Death (case-fatality rate of 0.05 %)



## Number of confirmed human cases in EU



## Sources of human campylobacteriosis





## EU baseline study

Carried out in all EU countries (except Greece) + Norway and Switzerland

- prevalence of contaminated broiler carcasses
- enumeration of *Campylobacter* on positive broiler carcasses

Contaminated broiler carcasses (%)			Campylobacter counts on carcasses (cfu/g of neck/breast skin)					
Country	Prevalence	95% CI	< 10	10-39	40-99	100-999	10 <sup>3</sup> -9999	>10 <sup>4</sup>
Denmark	31.4	26.1 - 37.2	76.3	2.5	2.8	9.6	7.3	1.5
France	88.7	84.3 - 91.9	24.2	12.8	11.1	36.5	12.8	2.6
Germany	60.8	53.6 - 67.7	56.9	6.3	4.4	16.9	11.6	3.9
Netherlands	37.6	31.8 - 43.7	67.6	4.9	2.3	14.7	8.2	2.3
Norway	5.1	3.1 - 8.3	98.7	0.5	0.3	0.5	0	0
Poland	80.4	75.8 - 84.3	23.4	3.6	3.8	32.2	29.1	7.9
Sweden	14.6	8.4 - 24.2	91.0	2.2	2.2	3.7	1.0	0
Belgium	52.7	44.8 - 60.5	49.5	5.3	5.0	19.5	17.4	3.4
EU	75.8	73.2 - 78.3	47.0	7.5	4.7	19.3	15.8	5.8

## One of the conclusions from the EU baseline study

“The risks for contamination of carcasses with *Campylobacter* and for higher *Campylobacter* counts on carcasses **varied significantly** between countries and **between slaughterhouses** within countries [...]. These findings indicate that **certain slaughterhouses are more capable** than others in preventing *Campylobacter* contamination and **in controlling** the contamination and/or the ***Campylobacter* counts** on the carcasses.

**This implies that slaughterhouse processing offers an opportunity for *Campylobacter* risk mitigation“**

**...to proof!**

EFSA: Analysis of the baseline survey on the prevalence of *Campylobacter* in broiler batches and of *Campylobacter* and *Salmonella* on broiler carcasses, in the EU, 2008; Part B: Analysis of factors associated with *Campylobacter* colonisation of broiler batches and with *Campylobacter* contamination of broiler carcasses; and investigation of the culture method diagnostic characteristics used to analyse broiler carcass samples. EFSA Journal 2010; 8(8):1522..

## Risk reduction for human health

The main consumer risk is associated with highly contaminated carcasses.

To achieve a high degree of consumer protection, production of *Campylobacter* free poultry meat is **NOT** necessary!

“Theoretically, a public health **risk reduction > 50%** at the EU level could be achieved if all batches that are sold as fresh meat would comply with **microbiological criteria** with a critical limit of **1000 cfu/gram** of neck and breast skin.”

EFSA Panel on Biological Hazards (BIOHAZ); Scientific Opinion on *Campylobacter* in broiler meat production: control options and performance objectives and/or targets at different stages of the food chain. EFSA Journal 2011;9(4):2105.