

References

- Arnold ME, Jones EM, Lawes JR, Vidal AB, Clifton-Hadley FA, Rodgers JD and Powell LF, 2015. Bayesian analysis of culture and PCR methods for detection of *Campylobacter* spp. in broiler caecal samples. *Epidemiol Infect.* 143 :298-307.
- Babacan O, Harris SA, Pinho RM, Hedges A, Jørgensen F and Corry JEL, 2020. Factors affecting the species of *Campylobacter* colonizing chickens reared for meat. *J Appl Microbiol.* 129:1071-1078. doi: 10.1111/jam.14651.
- British Poultry Council (BPC), 2017. What is free-range and organic? [Type of chicken rearing explained \(BPC\)](#)
- British Poultry Council (BPC), 2021. British Poultry Council Antibiotics Stewardship Report 2021. [Final report](#)
- Castanon JIR, 2007. History of the Use of Antibiotic as Growth Promoters in European Poultry Feeds. *Poultry Science* 86:2466–2471. doi:10.3382/ps.2007-00249
- CLASSP Project Team (CLASSP), 2010. LACORS/HPA Coordinated Local Authority Sentinel Surveillance of Pathogens (CLASSP) Final Report.
- Cody AJ, Clarke L, Bowler IC and Dingle KE, 2010. Ciprofloxacin-resistant campylobacteriosis in the UK. *Lancet.* 376:1987.
- Cody AJ, McCarthy NM, Wimalaratna HL, Colles FM, Clark L, Bowler ICJW, Maiden MCJ, Dingle KE, 2012. A longitudinal 6-year study of the molecular epidemiology of clinical campylobacter isolates in Oxfordshire, United Kingdom. *J Clin Microbiol* 50:3193-201. doi: 10.1128/JCM.01086-12.
- Danis K, Di Renzi M, O'Neill W, Smyth B, McKeown P, Foley B, Tohani V., Devine M, 2009. Risk factors for sporadic *Campylobacter* infection: an all-Ireland case-control study. *Euro Surveill.* 14. pii: 19123. <https://doi.org/10.2807/ese.14.07.19123-en>
- EFSA (European Food Safety Authority) and ECDC (European Centre for Disease Prevention and Control), 2015. EU Summary Report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2013. *EFSA Journal*, 13:4036, 178 pp. <https://doi.org/10.2903/j.efsa.2015.4036>
- EFSA (European Food Safety Authority) and ECDC (European Centre for Disease Prevention and Control), 2016. The European Union summary report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2014. *EFSA Journal*, 14:4380, 207 pp. doi:10.2903/j.efsa.2016.4380
- EFSA (European Food Safety Authority) and ECDC (European Centre for Disease Prevention and Control), 2018. The European Union summary report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2016. *EFSA Journal*, 16:5182, 270 pp. <https://doi.org/10.2903/j.efsa.2018.5182>
- EFSA (European Food Safety Authority) and ECDC (European Centre for Disease Prevention and Control), 2020. The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2017/2018. *EFSA Journal* 18:6007. <https://doi.org/10.2903/j.efsa.2020.6007>
- EFSA and ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control), 2021. The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2018/2019. *EFSA Journal* 19:6490. <https://doi.org/10.2903/j.efsa.2021.6490>
- EFSA and ECDC (European Food Safety Authority and European Centre for Disease Prevention and Control), 2021. The European Union One Health 2019 Zoonoses Report. *EFSA Journal*; 19:6406. <https://doi.org/10.2903/j.efsa.2021.6406>
- [EFSA \(European Food Safety Authority\), 2009. Scientific Opinion on Quantification of the risk posed by broiler meat to human campylobacteriosis in the EU](#) (adopted 9 December

2009).

- [Commission Implementing Decision \(EU\) 2020/1729 of 17 November 2020 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria and repealing Implementing Decision 2013/652/EU.](#)
- Engberg J, Neimann J, Nielsen EM, Aarestrup FM, Fussing V, 2004. Quinolone-resistant Campylobacter infections: risk factors and clinical consequences. *Emerg Infect Dis.* 10:1056-63.
- Endtz HP, GJ Ruijs, B van Klingeren, W H Jansen, T van der Reyden, Mouton RP., 1991. Quinolone resistance in campylobacter isolated from man and poultry following the introduction of fluoroquinolones in veterinary medicine. *J Antimicrob Chemother.* 27:199-208. doi: 10.1093/jac/27.2.199.
- Evans MR, Northey G, Sarvotham TS, Rigby CJ, Hopkins AL, Thomas DR, 2009. Short-term and medium-term clinical outcomes of quinolone-resistant Campylobacter infection. *Clin Infect Dis.* 48:1500-1506.
- Food Standards Agency, 2003. UK-wide Survey of Salmonella and Campylobacter Contamination of Fresh and Frozen Chicken on Retail Sale. Available at: [2003 FSA survey report](#)
- Food Standards Agency, 2009. [FSA report for the UK survey of Campylobacter and Salmonella contamination of fresh chicken at retail sale \(PDF\)](#). FSA Project B18025.
- ECDC (European Centre for Disease Prevention and Control), EFSA (European Food Safety Authority), EMA (European Medicines Agency), 2017. Second joint report on the integrated analysis of the consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals – Joint Interagency Antimicrobial Consumption and Resistance Analysis (JIACRA) Report. *EFSA Journal*; 15:4872, doi:10.2903/j.efsa.2017.4872.
- Food Standards Agency (FSA), 2010. [The joint government and industry target to reduce Campylobacter in UK produced chickens by 2015 \(PDF\)](#).
- Food Standards Agency, 2013. Open Board – 11 September 2013 [A refreshed strategy to reduce campylobacteriosis from poultry \(PDF\)](#).
- Food Standards Agency, 2015a. [ACT: Acting on Campylobacter Together](#)
- Food Standards Agency, 2015b. [FSA Board meeting 15 July 2015: Update on the Campylobacter Campaign \(PDF\)](#).
- Food Standards Agency, 2016. [A UK wide microbiological survey of Campylobacter contamination in fresh whole chilled chickens at retail sale \(Year 3/ 4\): Survey protocol. \(PDF\)](#)
- Food Standards Scotland (FSS), 2015. Board Meeting 15 June 2015 FSS 15/06/04. [The Role of Food Standards Scotland in reducing the public health risks associated with Campylobacter.](#)
- Friedman CR, Hoekstra, RM, Samuel M., Marcus R., Bender J., Shiferaw B., Reddy S., Ahuja S.D., Helfrick D.L., Hardnett F., Carter M., Anderson B., Tauxe R.V., Emerging Infections Program FoodNet Working Group, 2004. Risk factors for sporadic Campylobacter infection in the United States: A case-control study in FoodNet sites. *Clin. Infect. Dis.* 38 Suppl 3:S285-96. doi.org/10.1086/381598
- Hutchison M.L., Walters L.D., Allen V.M., Mead G.C., Howell M., 2006. Measurement of Campylobacter numbers on carcasses in British poultry slaughterhouses. *J. Food Prot* 69:421-424. doi.org/10.4315/0362-028X-69.2.421
- International Organisation for Standardisation (ISO), 2017. International Organisation for Standardisation ISO/TS 10272-2. Microbiology of food and animal feeding stuffs - horizontal method for the detection and enumeration of Campylobacter - Part 2: colony count technique. International Organisation for Standardisation, Geneva
- Jorgensen F, Bailey R, Williams S, Henderson P, Wareing DR, Bolton FJ, Frost JA, Ward L., Humphrey TJ, 2002. Prevalence and numbers of Salmonella and Campylobacter spp. on raw, whole chickens in relation to sampling methods. *Int. J. Food Microbiol.* 76:151-64. doi.org/10.1016/S0168-1605(02)00027-2

- Lawes JR, Vidal A, Clifton-Hadley FA, Sayers R, Rodgers J, Snow L, Evans SJ, Powell LF., 2012. Investigation of prevalence and risk factors for Campylobacter in broiler flocks at slaughter: results from a UK survey. *Epidemiol Infect.* 140:1725-37.
- Lawes, 2017 (APHA) Descriptive analysis of the results of the monitoring programme for Campylobacter in broiler flocks and broiler carcasses in the UK. For the period January 2016 to March 2017 (FS101126). [Campylobacter in broiler flocks and broiler carcasses analysis \(food.gov.uk\)](#)
- Little CL, Richardson JF, Owen RJ, de Pinna E, Threlfall EJ, 2008. Prevalence, characterisation and antimicrobial resistance of Campylobacter and Salmonella in raw poultry meat in the UK, 2003–2005. *International Journal of Environmental Health Research*, 18:403-414. doi.org/10.1080/09603120802100220
- Lopes BS, Strachan NJC, Ramjee M, Thomson A, MacRae M, Shaw S, Forbes KJ., 2019. Nationwide Stepwise Emergence and Evolution of Multidrug-Resistant Campylobacter jejuni Sequence Type 5136, United Kingdom. *Emerg Infect Dis.* 25:1320-1329. doi: 10.3201/eid2507.181572.
- Lynch CT, Lynch H, Egan J, Whyte P, Bolton D, Coffey A, Lucey B., 2020. Antimicrobial resistance of Campylobacter isolates recovered from broilers in the Republic of Ireland in 2017 and 2018: an update. *Br Poult Sci.* 61:550-556. doi:10.1080/00071668.2020.1758300
- Mullner P, Jones G, Noble A, Spencer SE, Hathaway S and French NP, 2009. Source Attribution of Food-borne Zoonoses in New Zealand; a modified Hald Model. *Risk Anal.* 29:970-984.
- Painset A, Day M, Doumith M, Rigby J, Jenkins C, Grant K, Dallman TJ, Godbole G, Swift C., 2020. Comparison of phenotypic and WGS-derived antimicrobial resistance profiles of Campylobacter jejuni and Campylobacter coli isolated from cases of diarrhoeal disease in England and Wales, 2015-16. *J Antimicrob Chemother.* 75:883-889. doi.org/10.1093/jac/dkz539
- Public Health England (PHE), 2015. [A microbiological survey of Campylobacter contamination in fresh whole UK produced chilled chickens at retail sale \(2014-15\)](#).
- Public Health England (PHE), 2016. [Antibiotic resistance report for FS241044 \(PDF\)](#).
- Public Health England (PHE), 2017a. [A microbiological survey of Campylobacter contamination in fresh whole UK-produced chilled chickens at retail sale. Year 2 Report \(PDF\)](#) FSA Project FS102121.
- Public Health England (PHE), 2017b. [Antimicrobial resistance in Campylobacter jejuni and Campylobacter coli from retail chilled chicken in the UK \(Year 2: 2015-16\)](#).
- Public Health England (PHE), 2018a. [A microbiological survey of Campylobacter contamination in fresh whole UK-produced chilled chickens at retail sale. Year 3 Report \(PDF\)](#). FSA Project FS102121.
- Public Health England (PHE), 2018b. [Antimicrobial resistance in Campylobacter jejuni and Campylobacter coli from retail chilled chicken in the UK \(Year 3: 2016-17\)](#).
- Public Health England (PHE), 2019. [A microbiological survey of Campylobacter contamination in fresh whole UK-produced chilled chickens at retail sale. Year 4 Report \(PDF\)](#). FSA Project FS102121.
- Public Health England (PHE), 2020. Antimicrobial resistance in Campylobacter jejuni and Campylobacter coli from retail chilled chicken in the UK (PDF) (Year 4: 2017-18).
- Public Health England (PHE), 2021. A survey of the levels of Campylobacter spp. contamination and prevalence of selected antimicrobial resistance determinants in fresh whole UK-produced chilled chickens at retail sale (non-major retailers). FSA Project FS102121 Year 5 and 6 (2018 to 2020). <https://doi.org/10.46756/sci.fsa.xxz973>.
- RUMA, 2021. Responsible Use of Medicines in agriculture Alliance; RUMA Targets Task Force 2, One Year On. November 2021. [RUMA-TTF-Report-2021.pdf](#)
- Sheppard SK, Dallas JF, Strachan NJC, MacRae M, McCarthy ND, Wilson DJ, Gormley FJ, Falush D, Ogden ID, Maiden MCJ and KJ Forbes, 2009. Campylobacter genotyping to determine the source of human infection. *Clinical Infectious Diseases* 48:1072-1078. <https://doi.org/10.1086/597402>

- Strachan NJC and Forbes KJ, 2010. The growing UK epidemic of human campylobacteriosis. *Lancet*, 376: 665–67. doi.org/10.1016/S0140-6736(10)60708-8
- Tam CC, Rodrigues LC, Viviani L, Dodds JP, Evans MR, Hunter PR, Gray JJ, Letley LH, Rait G, Tompkins DS and O'Brien SJ, 2012. Longitudinal study of infectious intestinal disease in the UK (IID2 study): incidence in the community and presenting to general practice. *Gut* 61:69-77. doi.org/10.1136/gut.2011.238386
- University of Oxford, 2021. Enhanced molecular-based (MLST/whole genome) surveillance and source attribution of Campylobacter infections in the UK. FS101013 project report. doi.org/10.46756/sci.fsa.ksj135
- UK-VARSS, 2016. Veterinary Antibiotic Resistance and Sales Surveillance Report (UK-VARSS 2015). New Haw, Addlestone: Veterinary Medicines Directorate. [Veterinary Antimicrobial Resistance and Sales Surveillance 2015 - GOV.UK \(www.gov.uk\)](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541122/Veterinary_Antimicrobial_Resistance_and_Sales_Surveillance_Report_2015.pdf)
- UK-VARSS, 2017. Veterinary Antibiotic Resistance and Sales Surveillance Report (UK-VARSS 2016). New Haw, Addlestone: Veterinary Medicines Directorate. [Veterinary Antimicrobial Resistance and Sales Surveillance 2016 - GOV.UK \(www.gov.uk\)](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/581122/Veterinary_Antimicrobial_Resistance_and_Sales_Surveillance_Report_2016.pdf)
- UK-VARSS, 2019. Veterinary Antibiotic Resistance and Sales Surveillance Report (UK-VARSS 2018). New Haw, Addlestone: Veterinary Medicines Directorate. [Veterinary Antimicrobial Resistance and Sales Surveillance 2018 - GOV.UK \(www.gov.uk\)](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/641122/Veterinary_Antimicrobial_Resistance_and_Sales_Surveillance_Report_2018.pdf)
- [UK-VARSS, 2020. Veterinary Antibiotic Resistance and Sales Surveillance Report](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/641122/Veterinary_Antimicrobial_Resistance_and_Sales_Surveillance_Report_2018.pdf) (PDF) (UK-VARSS 2019). New Haw, Addlestone: Veterinary Medicines Directorate.
- [UK-VARSS, 2021. Veterinary Antibiotic Resistance and Sales Surveillance Report](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/641122/Veterinary_Antimicrobial_Resistance_and_Sales_Surveillance_Report_2018.pdf) (UK-VARSS 2020). New Haw, Addlestone: Veterinary Medicines Directorate (www.gov.uk)
- World Health Organization (WHO), 2019. Critically important antimicrobials for human medicine, 6th revision. Geneva: World Health Organization.
- Zhao S, Young SR, Tong E, Abbott JW, Womack N, Friedman SL and PF McDermott, 2010. Antimicrobial resistance of Campylobacter isolates from retail meat in the United States between 2002 and 2007. *Appl Environ Microbiol.* 76:7949-56.