

Study suggests global warming could cause more cases of food poisoning

February 13 2019, by Bob Yirka







This scanning electron microscope image shows the characteristic spiral, or corkscrew, shape of C. jejuni cells and related structures. Credit: De Wood; digital colorization by Chris Pooley/ Public Domain

A team of researchers from the University of Guelph and the University of Toronto reports evidence that as the planet heats up, humans may become more susceptible to food poisoning. In their paper published in *Royal Society Open Science*, the group describes models of fly population increases caused by increases in temperatures in Canada in the coming years, and why they believe such increases will lead to more cases of food poisoning.

Campylobacter bacteria are a group of bacteria species that together account for a very large number of cases of <u>food poisoning</u> annually. The researchers note that one such species is behind the most common type of gastrointestinal illness in Canada— campylobacteriosis. Notably, the group includes such species as C. jejuni and C. coli. Prior research has shown that the bacteria can make their way into the human GI tract via consumption of contaminated <u>food</u> (usually meat) and sometimes by handling infected animals. The main reservoir of the pathogen is chickens.

Unfortunately, despite its pervasiveness, it is still not clear how, exactly, the bacteria move through a population. Campylobacteriosis infects people in Canada more in the summer than other months, and flies have been found with the <u>bacteria</u> on their bodies; notably, flies are most active in summer. For these reasons, researchers believe that flies may be a vector for human infections. In this new effort, the researchers have worked under the assumption that flies are a vector and they explored what might happen if more flies were to appear in Canada each summer as the planet warms—prior studies have shown that fly eggs hatch more



quickly in <u>warmer temperatures</u>, allowing the insects to reproduce more effectively.

To learn more about what might happen with fly populations, the researchers built models that mimicked fly population numbers in Canada over the past 12 years and then used it to predict population changes under global warming conditions in the future. They report that their models showed fly populations increasing to the point that cases of Campylobacter food poisoning could double by the year 2080.

More information: Melanie Cousins et al. Modelling the transmission dynamics of Campylobacter in Ontario, Canada, assuming house flies, Musca domestica , are a mechanical vector of disease transmission, *Royal Society Open Science* (2019). DOI: 10.1098/rsos.181394

© 2019 Science X Network

Citation: Study suggests global warming could cause more cases of food poisoning (2019, February 13) retrieved 2 May 2024 from <u>https://medicalxpress.com/news/2019-02-global-cases-food-poisoning.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.