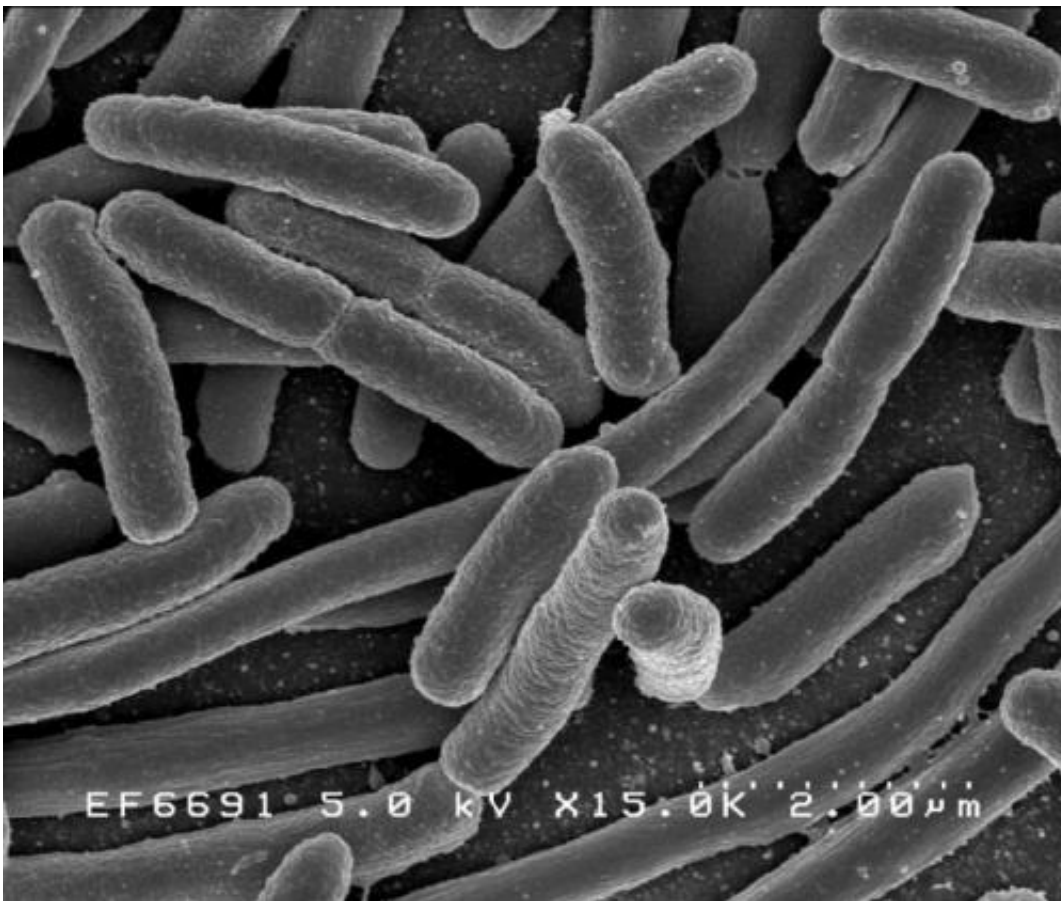


Study detects presence of *E. coli* in recreational waters, including in bathing waters rated excellent under EU criteria

April 18 2020



Escherichia coli. Credit: Rocky Mountain Laboratories, NIAID, NIH

New research due to be presented at this year's European Congress on

Clinical Microbiology and Infectious Diseases (ECCMID) has revealed the presence of disease-causing *E. coli* in recreational waters, including from beaches rated excellent under EU criteria. The study is led by Prof. Dearbháile Morris and Dr. Louise O'Connor at the School of Medicine, National University of Ireland Galway, Ireland.

E. coli are part of the normal gut flora of humans and animals, but not all *E. coli* are exactly the same. Some *E. coli* can produce toxins that can cause serious infection in humans. Shiga -toxigenic *E. coli* (STEC) are pathogenic *E. coli* that can cause severe intestinal infection and potentially renal failure and death. Ireland has had the highest incidence rate for human infection with STEC among EU member states for many years, reporting 10 times the EU average in 2017 (see link below for European data). This research looked at recreational waters for the presence of STEC.

Seawater, river and lake samples were collected around Ireland between December 2018 and October 2019 and examined for [genetic markers](#) of STEC. Of the 75 samples tested, 49 (65%) were positive for the presence of STEC genetic markers, including 29/52 (56%) seawater samples, 14/15 (93%) river samples and 6/8 (75%) lake samples.

Professor Morris says: "To our knowledge this is the first investigation of recreational waters across Ireland for the presence of STEC. There was a high occurrence of genetic markers for STEC in the samples tested, highlighting the need for further investigation to establish the scale of the problem, not only in Ireland but globally."

She adds: "It is worth noting that all of the [bathing waters](#) tested were designated as of good or excellent quality based on current EU bathing [water quality](#) monitoring criteria. Bathing [water](#) quality is assessed based on estimating the total number of *E. coli* in a 100ml sample over a defined time-period (May to September). Bathing waters in Europe and

elsewhere are not routinely monitored for the presence of STEC. This study highlights the limitations of only assessing the total number of *E. coli* present as an indicator of water quality without taking into consideration the potential pathogenicity of some variants."

Provided by European Society of Clinical Microbiology and Infectious Diseases

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