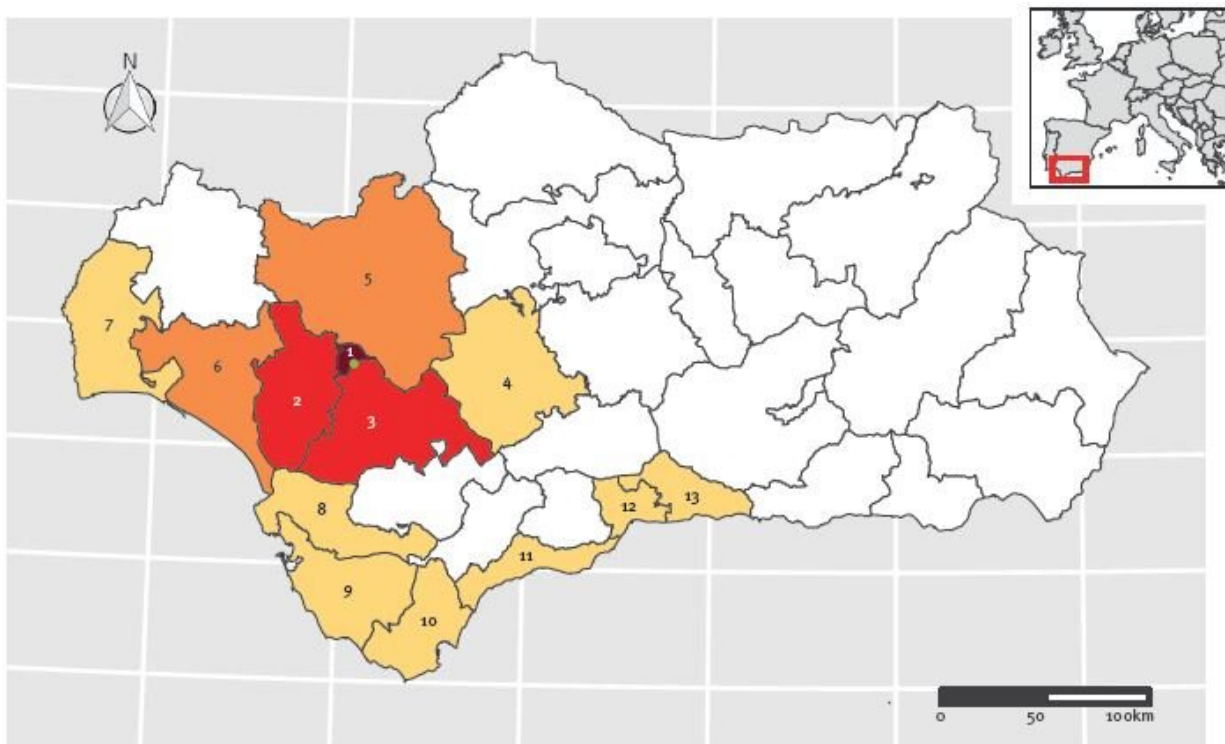


When tapas can cause harm: Large listeriosis outbreak in Spain

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Despite four provinces being affected, most confirmed cases occurred in Seville (78.7%). Credit: *Eurosurveillance*

Listeria bacteria are ubiquitous in the environment and consumption of food contaminated with *Listeria monocytogenes* is one of the main routes for food-borne outbreaks. Healthy adults might not even develop any symptoms after eating contaminated food. Listeriosis can, however,

cause serious health issues in pregnant women, newborns and people with a weakened immune system. The incidence of listeriosis has been steadily increasing in Europe since 2008 with an observed upward trend in Spain since 1997.

Between July and end of October 2019, contaminated [food](#) was causing a large outbreak in the southern Spanish region Andalusia with 207 confirmed cases. In their outbreak report Fernández-Martínez et al. describe the investigations to identify the cause of the infections and reasons for the rapid spread of infections (the median incubation period was 1 day)—with a peak of 43 symptomatic patients notified on one day in mid-August 2019. During these investigations, prospective and retrospective active case finding was conducted.

Food source and molecular typing identified the source within 10 days

Following the detection of the outbreak in early August, epidemiological interviews and [whole genome](#) sequencing clarified the [food source](#) and the respective listeria strain within 10 days. The investigation included sampling of food and from the environment of potentially exposed surfaces in food establishments, including factories, markets and [grocery stores](#), bars and restaurants. Some patients also provided food sample from their homes.

The regional health authorities issued a public health alert on 15 August after an initial three cases of food poisoning had been reported beginning of August. During the interviews with patients, most of them mentioned that they had bought stuffed pork at a variety of food establishments—primarily supermarkets and bars. Based on those responses, trace-back investigation in a mentioned grocery store pointed to a specific facility where the stuffed pork was produced.

The grocery store sold pork from two different brands, each produced by a different company. One sample from those products tested positive for *L. monocytogenes*. Food production in the facility with a listeria-positive food sample was stopped and a recall order was extended to any meat or meat derivative produced there. The alert was successively amended to include any food item produced in this establishment.

While the facility distributed almost exclusively in Andalusia, the food recall affected an estimated 8 tons of meat products. After the product recall, listeriosis notifications dropped, suggesting that food products from other facilities did not play a significant role as potential source in this outbreak.

Specific post-exposure protocol for pregnant women: 30,000 women were interviewed

In total, 3,582 suspected cases were investigated, 207 confirmed and 3,059 considered as probable cases. In almost all patients (94%) with confirmed listeriosis, an invasive clinical form of the disease was observed and two in three (68%) had to be hospitalized. The authors also report three related deaths to this outbreak and among 34 pregnant patients, five suffered from miscarriages.

Fernández-Martínez et al. describe the protocol for antibiotic post-exposure prophylaxis (PEP) in pregnant women with a history of stuffed pork consumption (after antimicrobial susceptibility testing excluded ampicillin-resistance in the outbreak strain). This included a follow-up evaluation whether the women developed symptoms of listeriosis.

Within several weeks of the outbreak, more than 30,000 pregnant women across Andalusia were interviewed by the authorities. Based on individual assessment, around 5% of those women were recommended

to undergo PEP. According to the authors, the protocol was developed for this specific outbreak to limit the potential impact on [pregnant women](#).

By the end of the outbreak in October 2019, more than 1,800 food establishments had been inspected, with *L. monocytogenes* contamination in 87 non-human samples. Most positive samples came from food products involving stuffed pork (n=76) and other pork derivatives (n=6).

As Fernández-Martínez et al. note, ready-to-eat (RTE) products "can be eaten without previous heating and their consumption is on the rise, they are quickly becoming a relevant vehicle for listeriosis outbreaks. In Andalusia, stuffed pork is very popular locally, as it is a low-cost, traditional RTE food. It consists of a cold cut of roasted pork with garlic, spices and salt."

"Often consumed in summer and on special occasions, it constitutes one of the most popular 'tapas' and is a common ingredient in aperitives and sandwiches." According to their research, an outbreak with 200 or more confirmed cases in Europe dates back to 1992, when 279 confirmed cases of listeriosis related to jellied [pork](#) tongue consumption were recorded in France.

The authors advocate for "efforts to incorporate whole genome sequencing" in [outbreak](#) investigations and coordinate different sectors at regional and national levels are essential for the prevention and control of listeriosis.

The findings were published in *Eurosurveillance*.

More information: Nicolás Francisco Fernández-Martínez et al, Listeriosis outbreak caused by contaminated stuffed pork, Andalusia,

Spain, July to October 2019, *Eurosurveillance* (2022). [DOI: 10.2807/1560-7917.ES.2022.27.43.2200279](https://doi.org/10.2807/1560-7917.ES.2022.27.43.2200279)

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