

## CURRENT LEGIONELLOSIS OUTBREAK WITH 139 CASES IN PAMPLONA, SPAIN

A Barricarte, M García Cenoz, J Castilla, P Aldaz  
Instituto de Salud Pública, Navarra, Spain

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By 8 June 2006, 139 cases of legionellosis had been reported in an outbreak in Pamplona, north Spain. All cases presented with clinical signs of pneumonia, compatible radiography and positive urinary antigen test. The outbreak was recognised on 1 June, when 4 confirmed cases were reported to the Public Health Institute of Navarra. The number of cases diagnosed up to 8 June are presented in the figure, by date of diagnosis. Seventy six of the patients (55%) were admitted to hospital, and the other sixty three patients have been given treatment to take at home. A total of seven patients have required intensive care, and six patients remained in intensive care on 8 June, two of whom are seriously ill. No deaths have occurred. Men represent 47% of cases. The patients range in age between 21 and 97 years.

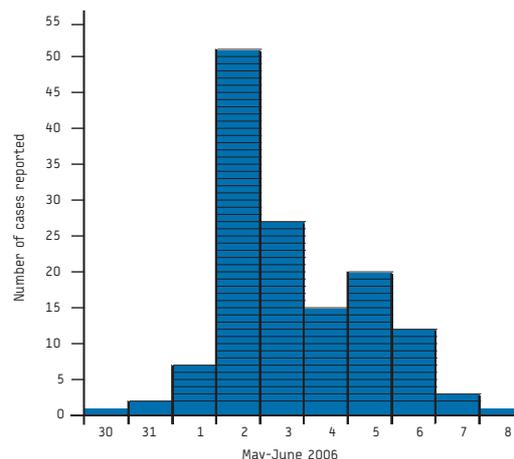
Most of the initial cases occurred in a neighbourhood close to the city centre, and the investigations began on 1 June with the inspection of 30 cooling towers in 11 buildings in this part of the city. Rapid tests for *Legionella* antigen were positive in four of the towers, located in three buildings, on 2 June, and these four towers were shut down immediately. Culture and PCR for *Legionella* have been positive in two of these cooling towers, but could not be confirmed in the other two.

The Public Health Institute in Navarra found *Legionella* with low bacterial load in two further cooling towers, which were shut down on 6 June. A helicopter inspection of the area was carried out on 2 June and identified eight structures that resembled undeclared cooling towers in the investigated area, but further investigation has found that none of these structures is a cooling tower.

Microbiological culture of respiratory samples from patients are in progress. *Legionella* isolates from the four positive cooling towers have been sent to the reference laboratory in the National Centre of

## FIGURE

### Numbers of legionellosis cases by date of diagnosis, Pamplona, May-June 2006



Microbiology in Majadahonda, Madrid.

The local health authorities have been issuing regular press releases giving the details of the outbreak [1-6].

### References:

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- 122 personas afectadas por el brote de «legionella» registrado en Pamplona. Comunidad Foral de Navarra. Press release, 6 June 2006. ([http://www.navarra.es/home\\_es/Actualidad/Noticias/Salud/0606sa61.htm](http://www.navarra.es/home_es/Actualidad/Noticias/Salud/0606sa61.htm))
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- Se han registrado en Pamplona 61 casos de Legionella, con 31 ingresos hospitalarios. Comunidad Foral de Navarra. Press release, 3 June 2006. ([http://www.navarra.es/home\\_es/Actualidad/Noticias/Salud/0306sa90.htm](http://www.navarra.es/home_es/Actualidad/Noticias/Salud/0306sa90.htm))
- Detectado en Pamplona un brote de «legionella comunitaria» que ha afectado a 13 personas. Comunidad Foral de Navarra. Press release, 2 June 2006. ([http://www.navarra.es/home\\_es/Actualidad/Noticias/Salud/0206sa61b.htm](http://www.navarra.es/home_es/Actualidad/Noticias/Salud/0206sa61b.htm))

## SHORT REPORTS

### FLOODING IN EUROPE: A BRIEF REVIEW OF THE HEALTH RISKS

P Vasconcelos, and the Unit for Preparedness and Response  
European Centre for Disease Prevention and Control, Stockholm, Sweden

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In the light of current flooding events in Bulgaria, Serbia and Romania [1], staff at the European Centre for Disease Prevention and Control (ECDC) have undertaken some preliminary review of the adverse health effects of such natural disasters.

Flood events are the most frequently occurring natural disasters worldwide, and may increase in the future as a result of climate change [2]. Adverse effects on human health include [3,4,5]:

- trauma deaths, mainly by drowning;
- injuries;
- enteric infections due to increased faeco-oral cycling from disruption of sewage disposal and safe drinking water infrastructure;
- mental health such as post-traumatic stress disorder;

- vectorborne disease, such as malaria, dengue and dengue hemorrhagic fever, yellow fever, and West Nile fever;
- rodent-borne disease, such as leptospirosis;
- poisoning caused by toxic substances;
- snake bites as snakes tend to seek shelter in households to escape from flooding;
- other negative health outcomes, such as disruption of healthcare services and population displacement.

A limited number of short term epidemiological studies have been undertaken to assess the health impacts of flooding, but there is a deficiency in studies of long term health and economic impacts. Population resilience is likely to vary widely depending upon the economic and organizational resources available.

Limited data on flood events shows that the greatest burden of mortality is from drowning, heart attacks, hypothermia, trauma and vehicle related accidents [4,5]. The speed of onset of floodwaters is a factor determining the number of immediate flood-related deaths.

Flood-related injuries, such as contusions, cuts, sprains have been reported in several studies [5,6], as well as burns, electrocutions, snake bites and wound infections. After the tsunami of December 2004, 106 cases of tetanus and 20 deaths were reported in Indonesia (case-fatality ratio 18.9%) [7]. However, the number of serious injuries observed after violent flooding events generally turns out to be much lower than initial estimates predict.