

## Rapid communications

# AN OUTBREAK OF MEASLES IN ALGECIRAS, SPAIN, 2008 – A PRELIMINARY REPORT

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On 4 February 2008, the Andalusian Epidemiological Surveillance Network (SVEA) was notified of two epidemiologically linked cases of measles. By 18 April 2008, a total of 142 suspected cases of measles had been reported from Algeciras, a town in the south of Spain, with a population of approximately 110 000 inhabitants. Of the 142 reports, 57 cases were confirmed, 61 are still under investigation, and in 24 cases measles was ruled out by laboratory investigation.

### Background

Over the past few years, several European countries have notified measles outbreaks, some affecting the general public and others limited to specific population groups [1].

In Andalusia, Spain, a Plan of Action for Measles Elimination was approved in 2001 [2], following the recommendations of the World Health Organization (WHO) [3] with the objective of eliminating indigenous measles by the year 2005. The two strategic goals of the Plan are the enhancement of the epidemiological surveillance system to facilitate early detection of cases and transmission control, and the increase in vaccination coverage in order to improve population immunity.

Consequently, since 2001, there has been an obligation to urgently notify cases of measles, within 24 hours, as well as to carry out the epidemiological survey, to obtain samples for the laboratory, and to take action on all possible contacts of every suspected measles case.

The Andalusia Vaccination Calendar includes two doses of measles, mumps and rubella (MMR) vaccine: at the ages of 15 months and three years. In 2007, the MMR vaccine coverage for the first dose was 96.5% in Andalusia, and 98.7% in Algeciras.

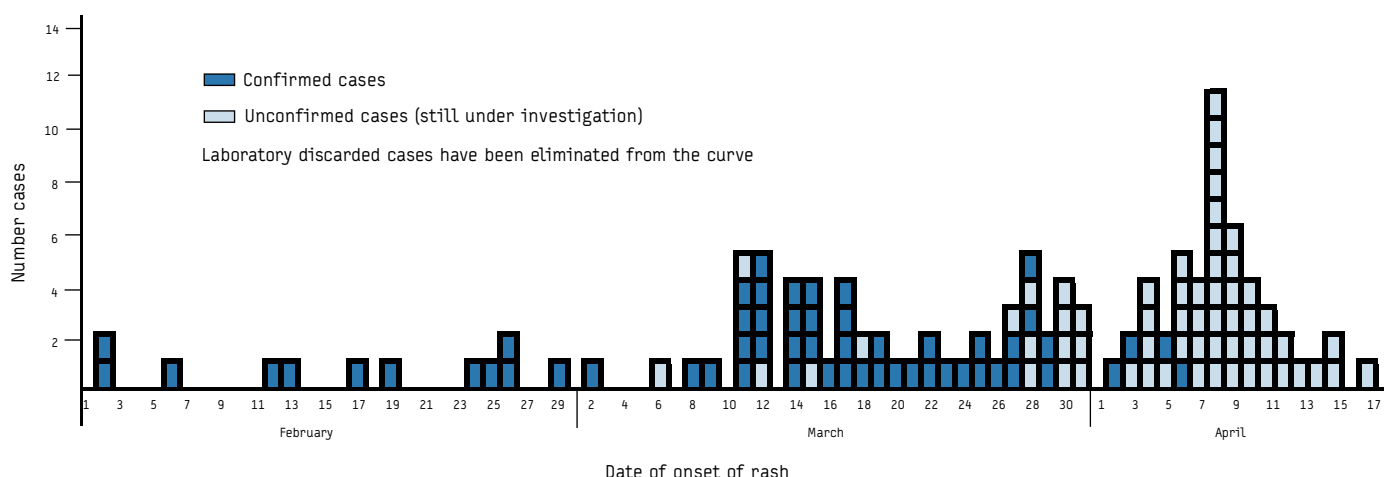
### Outbreak description

The first two cases notified on 4 February were young adults belonging to the crew of a shipping company covering the Algeciras-Tangiers route. Subsequently, a third primary case was notified in another adult living in a different place from the first two, who had travelled to the north of Morocco via the Tarifa-Tangiers ferry. The first two cases were associated with eight secondary cases in their working and family environments. The third case caused no secondary cases.

Between 12 and 19 February, four cases were reported, and between 24 February and the 9 March a further nine cases were

FIGURE 1

Measles cases by date of onset of rash, Algeciras, Spain, April 2008 (n=118, as of 18 April 2008)



notified. From 11 March a growing number of cases had been registered, as shown in Figure 1.

To date, 25% of all cases (37/142) have been shown to be epidemiologically related and belong to 11 different clusters.

Thus far, the outbreak has been restricted to the town of Algeciras (where 75% of the cases have been reported) and the nearby municipalities.

The incidence of measles in the area reached nearly 50 cases per 100 000 inhabitants.

The age of the cases ranged from five months to 41 years. The highest numbers of cases and highest incidence rates were reported in age groups considered to be most susceptible to measles: children younger than two years old and adults between 20 and 39 years old (Table and Figure 2).

Approximately half of the cases were female.

Four patients required hospitalisation. The complications notified have been diarrhoea, otalgia and bronchitis.

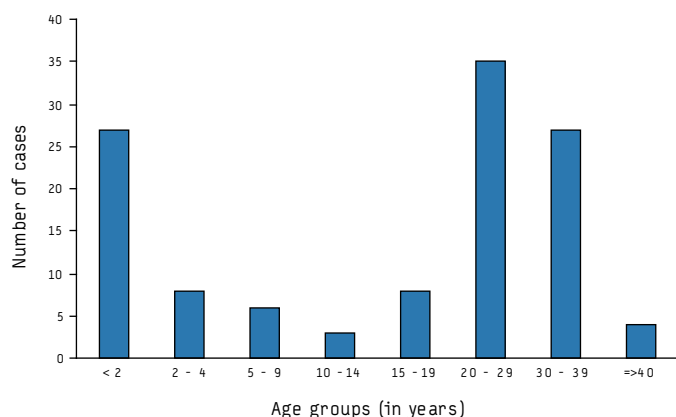
**TABLE**

**Number of cases of measles and incidence rates, by age group, Algeciras, Spain, 2008 (n=118, as of 18 April 2008)**

Age group (in years)	Number of cases	Incidence rates (per 100 000 population)
< 2	27	470.9
2-4	8	85.7
5-9	6	42.1
10-14	3	22.7
15-19	8	57.3
20-29	35	101.6
30-39	27	62.4
≥ 40	4	3.8
<b>Total</b>	<b>118</b>	<b>49.0</b>

**FIGURE 2**

**Measles cases by age groups, Algeciras, Spain, April 2008 (n=118, as of 18 April, 2008)**



In keeping with the case classification proposed by the Spanish Measles Elimination Plan [4], 57 cases have been confirmed up to now: 45 by laboratory, 11 by epidemiological link and one by being clinically compatible. For 61 cases the investigations are still underway and in 24 cases laboratory analysis ruled out measles.

In samples taken from at least 29 patients, including case 3 epidemiologically unrelated to the two primary bases, a D4 measles virus genotype has been isolated, which would suggest a common origin of the outbreak. The D4 genotype isolated is a strain with an identical sequence to that identified in the United Kingdom in 2007 which has been circulating now for more than a year and is related to cases in other European countries and in Israel and America.

Of the confirmed cases, 1.4% had been vaccinated previously. Among the unvaccinated cases one was an emergency doctor who subsequently refused to be vaccinated when offered the vaccine as part of control measures.

#### Control measures

The following steps have been taken to control the outbreak: respiratory isolation of the cases during the infectious period; vaccination or administration of immunoglobulin to susceptible contacts, with close surveillance at work, schools, nurseries, and health centres; vaccination of infants aged between six and 15 months; vaccination of health workers; distribution of information to doctors on the progress of the outbreak, insisting upon the necessity of considering measles as a differential diagnosis on adult rashes, urgent notification of cases and compliance with the established action protocols with contacts.

#### References

1. Muscat M, Bang H, Glismann S. Measles is still a cause for concern in Europe. *Euro Surveill.* 2008;13(16):pii=18837. Available from: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18837>
2. Plan de Acción para la Eliminación del Sarampión en Andalucía. Dirección General de Salud Pública y Participación. Consejería de Salud. Sevilla, 2001. Available from: <http://www.csalud.junta-andalucia.es/library/plantillas/externa.asp?pag=contenidos/profesionales/vigilanciaepi/programas/Plansarampion.PDF>
3. Strategic plan for measles and congenital rubella infection in the European Region of WHO. Copenhagen, World Health Organization, 2002. Available from: [http://www.euro.who.int/InformationSources/Publications/Catalogue/20051123\\_1](http://www.euro.who.int/InformationSources/Publications/Catalogue/20051123_1).
4. Amela C, Pachon I. La Vigilancia Epidemiológica del Sarampión en el contexto del "Plan de acción para la eliminación del sarampión en España" *Bol Epidemiol Semanal* 2000; 8 (16):169-80. Available from: <http://cne.isciii.es>

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