

Ongoing measles outbreak in Elche, Spain, 29 January to 9 March 2012

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On 29 January 2012, the first case of measles in Elche, Spain, since 2001 was notified through the epidemiological surveillance system of the Valencian Community. As of 9 March, 109 cases have been notified. The outbreak started in a neighbourhood where the vaccination coverage of the population is inadequate. This report highlights the need to vaccinate the susceptible population and also points to the importance of developing coordinated measures between public health centres and hospital preventive services.

Outbreak description

On 29 January 2012, a 13-year-old child was diagnosed with suspected measles at the emergency service of the Hospital General Universitario of Elche (HGUE), Spain. The infection was confirmed by serology (IgM positive) at the hospital.

By 9 March, 109 cases in Elche have been confirmed through serology or an epidemiological link to confirmed cases (Figure 1). Of the 109 cases, 44 were notified from the same neighbourhood, Los Palmerales, where the index case lived (Figure 2). The mean age of the cases was 15 years (range: 25 days to 50 years). A total of 42 cases were adults aged from 20 to 50 years; 37 of the cases were children aged from 25 days to four years. Eight cases were aged under one year. Among the young adult cases, three were pregnant.

Of the 109 cases, 80 were diagnosed in the emergency services of the HGUE (66 cases) and the Hospital of Vinalopo in Elche, far from the HGUE, on the other side of the city (14 cases). Eleven of the 80 cases examined in the emergency services were admitted to inpatient care because of the following: impaired general condition (n=6), pneumonia (n=2), bronchitis (n=2) or otitis (n=1). Their ages ranged from 25 days to 17 years; the mean duration of hospitalisation was four days (range: two to seven days).

Cases not diagnosed at hospital (n=29) were diagnosed at primary healthcare centres.

Of the 109 cases, 66 had not been vaccinated with measles-mumps-rubella (MMR) vaccine (Table 1). A total of 28 cases had received the first dose of MMR vaccine; two cases had received both doses.

Four of the cases were healthcare workers in the HGUE: two were working in the emergency service; they were not vaccinated against measles. The MMR vaccination status of the other two was unknown: these cases had no direct link with the measles patients treated in the hospital.

Background

Measles is a highly contagious viral disease that can be prevented by a safe and effective vaccine, such as the measles-mumps-rubella (MMR) vaccine [1]. It is recommended that the MMR vaccine be given in two doses. The vaccine was introduced into the vaccination schedule in Spain in 1981. In the Valencian Community – one of the autonomous communities of Spain – the first dose is given at 15 months of age and the second at the age of five years [2].

As this infectious disease is preventable, a plan of action for measles elimination was implemented in Spain in 2001 [3]; the objective was expected to be achieved by 2005. In spite of the efforts made, however, there have been some measles outbreaks among the autonomous communities of Spain. The deadline for the elimination goal has therefore been postponed, in line with the plan of the World Health Organization Regional Office for Europe to eliminate measles and rubella by 2015 [4].

One of the strategies of the plan of action has been to enhance the epidemiological surveillance system at the national level, in order to facilitate early detection of measles cases and transmission control.

Consequently, in the Valencian Community, measles notification is mandatory [5]. Another important strategy has been to increase the measles vaccination coverage: the target vaccination coverage is above 95% for the first and second MMR doses).

In 2010, four cases of measles were notified in the Valencian Community: three of them were laboratory confirmed, imported from France. The fourth case

was confirmed by epidemiological link to the laboratory-confirmed cases [6]. In 2011, the number of notified cases increased to 236. Most were notified in the Valencia health department (120 cases); 30 cases were notified in Alicante.

The city of Elche, with a population of 230,354, is located 25 km from Alicante. Until the outbreak described here, the last case of measles in Elche was

FIGURE 1

Confirmed measles cases in Elche, Spain, 29 January–9 March 2012 (n=109)

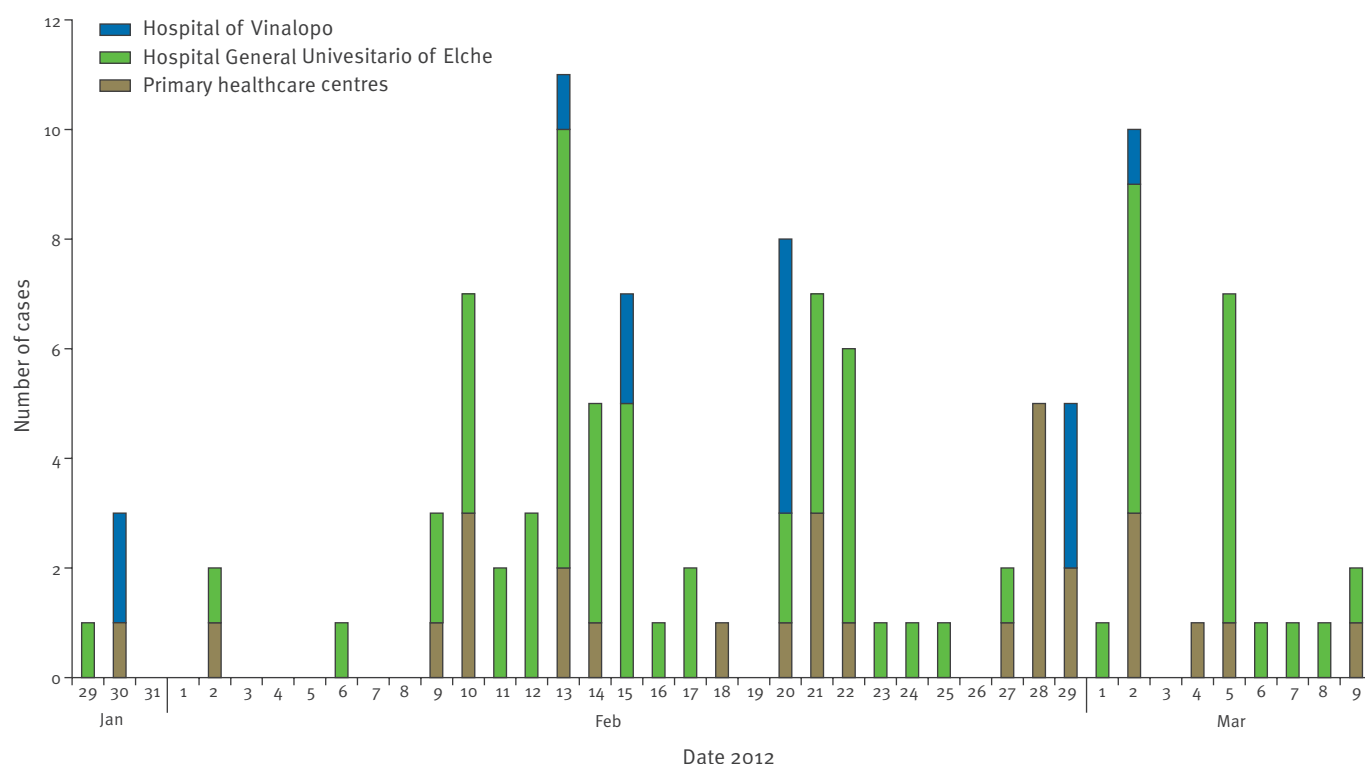
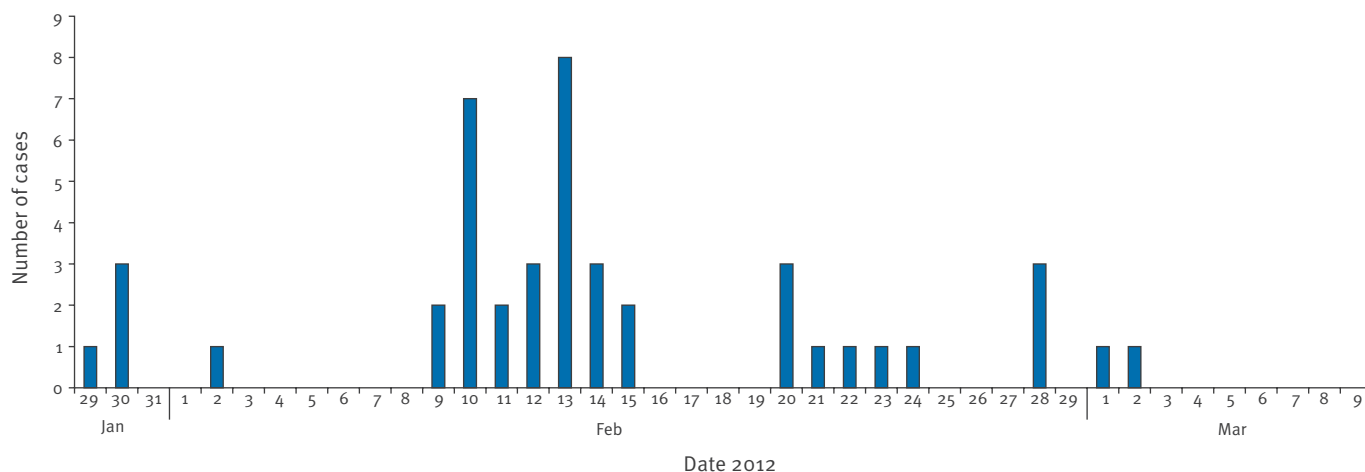


FIGURE 2

Confirmed measles cases in Los Palmerales, Elche, Spain, 29 January–9 March 2012 (n=44)



notified in 2001. In 2011, The MMR vaccination coverage was 96.4% for the first dose (measured between 12 and 24 months of age) and 90.4% for the second dose (measured between the ages of three and seven years) [7].

There are a number of groups with low vaccination coverage in Elche. These include people living in Los Palmerales, a neighbourhood near the HGUE. In this neighbourhood, people of Roma ethnicity are the main ethnic group, many of whom refuse vaccination due to cultural objections [8,9]. Other groups are also at risk: children younger than 15 months who have not received the first dose of MMR vaccine, because vaccination is not indicated; some children who have received only one dose and who have not developed a full immune response; and adults aged between 20 and 45 years who did not receive the MMR vaccine, because it was not included in the vaccination schedule when they were young, and who have not been affected by measles. Non-immunised young healthcare professionals in the hospitals are also a susceptible group [10].

Control measures

As there were reports of eight measles outbreaks, with a total of 236 cases, elsewhere in the Valencian Community in 2011 [11], preventive measures have been taken in Elche since 11 January 2012. They consisted of information sessions, mainly given to the staff in the HGUE emergency services as well as to the coordinators of the primary care centres. Once the outbreak was declared in Elche (on 29 January), these measures were extended to other clinical services. In addition, a catch-up vaccination campaign against measles was implemented, between 6 and 17 February, among the healthcare professionals aged from 20 to 45 years, particularly those working in the services of paediatrics, emergencies, obstetrics and oncology: 56

doses of MMR vaccine have been given and 98 blood tests have been carried out to check immunity against measles.

In order to prevent intrahospital transmission, it was recommended that suspected measles cases be attended only by staff who have a documented serological measles immunity or documented vaccination. In addition, new staff are being tested and we are also working to increase the percentage of vaccinated staff among the healthcare workers younger than 45 years of age.

In addition, a practical guide was distributed among the healthcare professionals who work at the primary health care centres. It encourages staff to treat suspected cases as outpatients and to send just the severe cases to hospital emergency services, where triage of patients with fever and rash is carried out in order to assess them promptly.

At the community level, the Public Health Center in Elche has been responsible for monitoring and controlling the outbreak through enhancing the MMR vaccination coverage. The actions taken in the city have been as follows: to move forward the first dose of MMR vaccine from 15 months to 12 months of age; to keep suspected cases isolated at home; to move forward the second dose of MMR vaccine to children younger than four years of age who have been in contact with a suspected case (ensuring that there is an interval of four weeks between the first and second dose); and carrying out catch-up vaccination for children older than five years of age and adults younger than 45 years of age in Elche.

On 14 February, 323 doses of MMR vaccine were administered in Los Palmerales (Table 2).

TABLE 1

Confirmed measles cases by age group and MMR vaccination status, Elche, Spain, 29 January–9 March 2012 (n=109)

Age group	MMR vaccination status				Total
	1 dose	2 doses	Unknown	Unvaccinated	
	n	n	n	n	
≤15 months	3	0	0	15	18
16 months–4 years	9	0	1	9	19
5–9 years	3	1	1	7	12
10–14 years	2	0	0	6	8
15–19 years	6	1	2	1	10
20–24 years	3	0	3	11	17
25–29 years	1	0	3	2	6
30–34 years	1	0	1	8	10
35–39 years	0	0	0	3	3
≥40 years	0	0	2	4	6
Total	28	2	13	66	109

MMR: measles-mumps-rubella.

Discussion

Elche is experiencing an ongoing measles outbreak. Even though the MMR vaccination coverage is high in the city, measles has been easily spread in pockets of unvaccinated people. The virus has been transmitted to children under 15 months of age and to people with incomplete vaccination.

The high number of patients diagnosed with measles at the emergency service of the HGUE has been due to the proximity of the most affected areas, including Los Palmerales, to the hospital.

The high number of doses MMR vaccine given in Los Palmerales in mid-February, in addition to other actions taken in the city – lowering the ages of the first and second doses of MMR vaccine administration, as well as vaccinating children older than five years of age and young adults who had not received both doses – may have a positive effect in controlling the outbreak.

Coordinated work among the hospital and public health services has been an important factor in ensuring that the appropriate measures have been undertaken and that the status of the outbreak is reported, giving accurate and timely information.

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TABLE 2

MMR vaccinations administered by age group in Los Palmerales, Elche, Spain, 14 February 2012 (n=323)

Age group	Number of MMR vaccinations
≤15 months	1
16 months–4 years	35
5–14 years	87
≥15 years	194
Unknown age	6

MMR: measles-mumps-rubella.