An ongoing multi-state outbreak of measles linked to non-immune anthroposophic communities in Austria, Germany, and Norway, March-April 2008

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From the second week of March 2008, public health authorities in the province of Salzburg observed an increased number of measles cases compared to previous years. Twenty cases of measles had been were notified Austria-wide in 2007, 24 in 2006, 10 in 2005, and 14 in 2004.

The current outbreak has affected, as of 14 April, 202 people in Austria, 53 in Germany, and four in Norway, bringing the total number of cases related to this outbreak to 259. The initial case series investigation revealed that the common link was attendance of an anthroposophic school and day care centre in Salzburg city. The majority of the pupils were not vaccinated against measles.

An outbreak case was defined as a person who

a) became ill with measles after 1 March, fulfilling the clinical criteria of measles regardless of laboratory confirmation, and
b) was epidemiologically linked to Salzburg city in the period 7 to 18 days prior to clinical onset.

Outbreak investigation

As of 14 April, 183 cases of measles restricted to four public health districts in the province Salzburg, 16 cases from the neighboring province Upper Austria, and one case each in the Austrian provinces Tyrol, Vorarlberg and Vienna fulfilled the preliminary outbreak case definition. In addition, 50 outbreak cases, most of them with residence in Bavaria, three cases of measles in the state Baden-Württemberg in Germany, and four outbreak cases resident in Norway were identified.

Figure 1 illustrates the epidemic curve by onset of rash of 256 notified cases for whom data on clinical onset were available. In 78.5% (201) of these cases a link to the particular school and day care centre in Salzburg city has been identified so far. Questioning of the cases is still ongoing. Figure 2 summarises age and sex distribution of 259 cases.

Since the third week of March 2008, the Austrian health authority has put in place a range of outbreak control measures:

- raising awareness in the overall population and encouraging measles, mumps, rubella (MMR) vaccine uptake, supported by proactive media releases;
- dissemination of information to schools and nurseries;

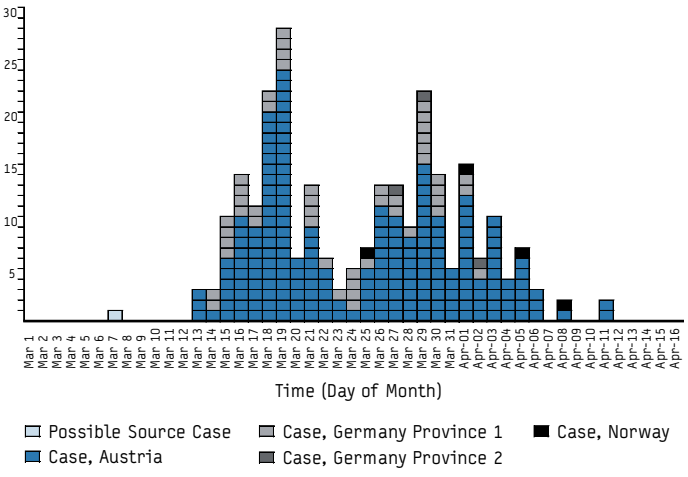
Figure 1

Outbreak cases with date of onset of rash available (N_{total}= 256).

$Cases_{Austria}$: N=202;

$Cases_{Germany}$: N=47 in German province I and N=3 in German province II;

$Cases_{Norway}$: N=4; and the possible source case by date of onset of rash



- closure of the particular school and day care centre for one week;
- post-exposure prophylaxis for contact persons if appropriate;
- control of vaccination documents in all persons of the affected institution;
- access restriction to school for all persons with unclear immune status;
- closure of the particular school and day care centre for one week;
- after re-opening of the anthroposophic school, access restriction for pupils other than those vaccinated at least once and those with serologically documented previous infection;
- offering MMR vaccination free of charge to the population younger than 15 years;
- and alerting health professionals.

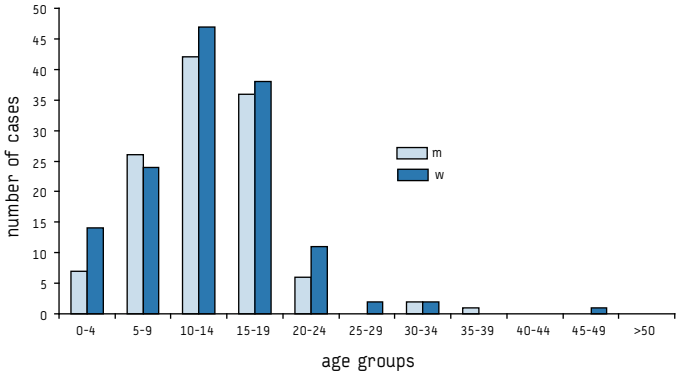
Preliminary results of the outbreak investigation indicate the possible source case – a student from an anthroposophic school in Switzerland who visited the anthroposophic school in Salzburg city with colleagues. That student became ill with measles during their stay in Salzburg on 7 March, a week prior to the primary outbreak case in the anthroposophic school in Salzburg (13 March). Since November 2006, Switzerland is experiencing the largest measles outbreak registered in the country since notification for this disease in 1999 [1].

Conclusions

Recently, ultra-orthodox Jewish communities and travelling communities have been implicated in outbreak of measles [2,3]. The outbreak described here indicates that the anthroposophic community also is an at-risk group of measles spread, because many parents in this group choose not to vaccinate their children with the MMR vaccine [4]. Anthroposophy, based on the writings of the mystic and social philosopher Rudolf Steiner (1861-1925), combines human development with an investigation of the divine spark found in all of nature. The movement has marked education (Waldorf/Steiner schools) and medicine. Anthroposophical doctors emphasise nature-based therapies that support the body's innate healing wisdom. Antibiotics, fever-reducing agents, and vaccinations are used at one's own discretion only [5].

Figure 2

Age and sex distribution in 259 notified measles cases, Austria, March/April 2008



Although measles has been eliminated or is under control in several EU countries, it is still a public health priority [6]. Organisers of large-scale events attended by international travellers, especially youths, should consider documentation of adequate participant vaccination [7]. In view of the current measles outbreak, Austrian and Swiss authorities advise measles vaccination before travelling to the EURO 2008 soccer games, starting on 7 June, 2008 in Austria and Switzerland.

The current multi-state outbreak of measles once again highlights the need to improve the vaccination coverage in Austria, along with disease surveillance and outbreak-control capabilities [8]. Diligent case investigation of every single measles case is a prerequisite to achieve the goal of measles eradication by 2010, planned by the World Health Organization European Office [9].

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