

Cost-effectiveness evidence – a case study

This document is intended to support immunization programme managers and staff in their efforts to secure sustainable funding for immunization.

HOW TO USE THIS DOCUMENT

It is important that decision-makers and partners appreciate the importance of immunization, not just as a public health intervention but as a national investment that yields socioeconomic returns and health care savings.

This document presents summaries and key findings from a cost-effectiveness study. It is one of ten such studies drawn from evidence published in peer-reviewed journals and official documentation. The summaries can be drawn upon to support your

country's efforts to raise the profile of immunization and ensure continued investment in it within the context of health care prioritization.

Use the summaries as inspiration, to prepare for a meeting or to hand out to stakeholders.

The case studies will help most when they are used to help paint a national picture and a strong country-specific case for continued support in immunization. Present the studies alongside descriptions of the national issues and challenges. If available, supplement them with your own national data. If the same data is not available, consider using other national data that can serve as a proxy.



Evidence for strengthening an existing vaccination programme

Case study: Italy – measles¹

KEY FINDINGS

A study of two measles outbreaks in Lazio, Italy was conducted. Key findings included the following:

- Despite high overall coverage within the population, pockets of unvaccinated communities create a risk for disease outbreaks.
- The outbreaks started in groups with **low vaccine coverage** (Roma/Sinti community, secondary school students).
- **None** of the 102 Roma/Sinti cases were vaccinated against measles. **5.5%** of the 347 remaining cases had received one dose of measles containing vaccine.
- Four **health care professionals** developed measles.
- **About 60%** of the 449 cases required **hospitalization**.

Methods

Two measles outbreaks in the period June 2006 – August 2007 were investigated using data from the regional Public Health Agency and National Institute of Health.

Measles vaccine coverage has historically been low in Lazio, but after a national measles elimination plan, overall coverage had increased from 83.9% (2003) to 90.7% (2007).

About measles

The measles virus is highly infectious. Measles can lead to serious complications such as death, blindness, encephalitis, pneumonia and severe diarrhoea.

Measles incidence increased by 348% in the WHO European region between 2007 and 2013 due to immunity gaps.

¹ Curtale F, Perrelli F, Mantovani J, Cioffi Degli Atti M, Filia A, Nicoletti L, Magurano F, Borgia P, Di Lallo D. Description of two measles outbreaks in the Lazio Region, Italy (2006–2007). Importance of pockets of low vaccine coverage in sustaining the infection. BMC Infect Dis 2010, 10:62

Results

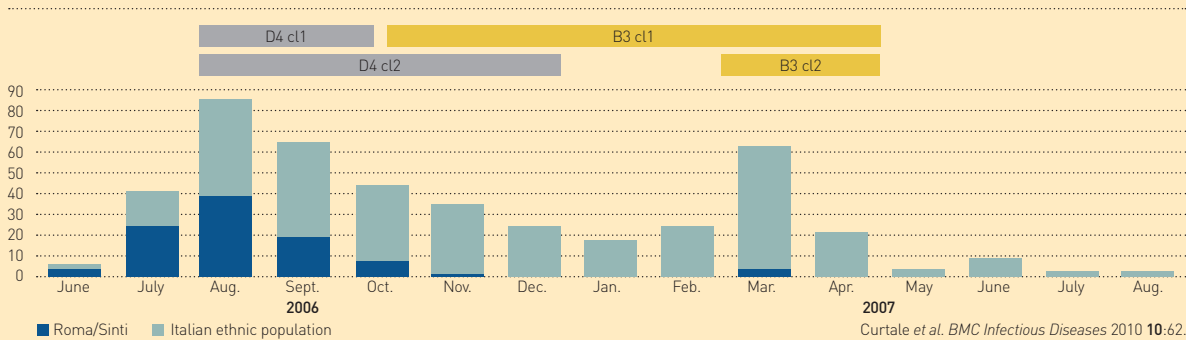
The first outbreak started in the Roma/Sinti population, and was transmitted to the general population.

The second outbreak started in a secondary school and affected mainly adolescents and adults in the general population.

Table 1. Sources of outbreaks

	FIRST OUTBREAK	SECOND OUTBREAK
Serotype	D4	B3
Dates reported	June-Dec 2006	Oct 2006-Aug 2007
First Reported cases	Roma/Sinti population	Secondary school

Figure 1. Number of reported measles cases by month in Lazio



Curtale et al. *BMC Infectious Diseases* 2010 **10**:62.

Vaccination status and age distribution

None of the Roma/Sinti cases were vaccinated against measles. Most cases in the Roma/Sinti group were aged 1-4 years. In the general population, most cases were aged 15-19 years and there was a higher percentage of vaccinated subjects, especially among young children.

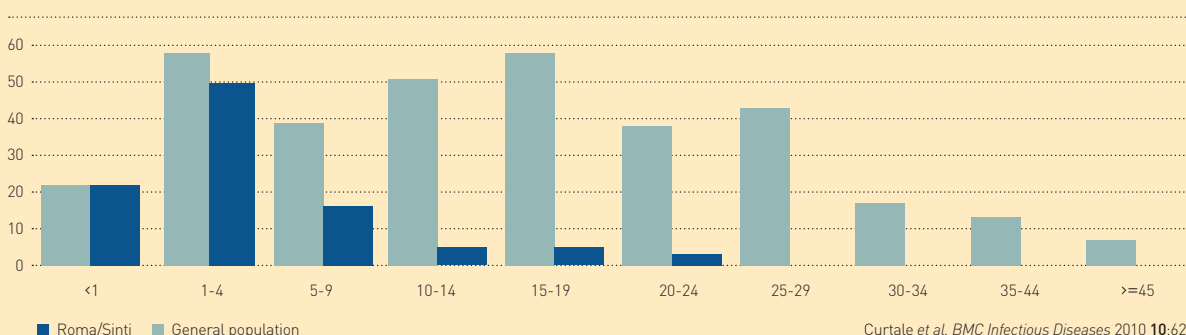
Conclusion

Despite high overall coverage within the population, pockets of unvaccinated communities create a risk for disease outbreaks.

Table 2. Sources of outbreaks

	ROMA/SINTI	NON-ROMA/SINTI
Number of cases	102	347
% received one dose measles-containing vaccine	0 %	5.5 %
Median age of cases (years)	2	15
% cases aged 0-4 years	70 %	23 %
% cases aged less than 15 years	90 %	49 %

Figure 2. Number of reported measles cases by age group



Curtale et al. *BMC Infectious Diseases* 2010 **10**:62.