

## Vaccines Case Study: Greece, 2015-2016

### *The high price of vaccinating refugee children against pneumococcal diseases*



Young boy receives vaccine in Greece. ©Pierre-Yves Bernard

### Background

Médecins Sans Frontières/Doctors Without Borders (MSF) has been providing medical and humanitarian assistance to asylum seekers and migrants in Greece since 1996. In 2015, more than 850,000 people fleeing war and persecution, predominantly from Syria, Afghanistan and Iraq, risked their lives to cross the Mediterranean Sea before arriving on Greek islands and continuing their journeys across Europe. MSF worked on the Greek islands and mainland in response to the refugee crisis in 2015,<sup>1</sup> largely distributing emergency relief items, and providing food, shelter, water, sanitation facilities, and medical care to people on the move. However, the closure of the main Balkan route towards Western Europe, and the EU-Turkey deal signed in March 2016,<sup>2</sup> left thousands of refugees and migrants stranded. By June 2016 approximately 52,000 refugees and migrants were stranded on mainland Greece and 8,000 on Greek islands.<sup>3</sup>

Overcrowded living conditions, as well as below-freezing temperatures during the winter, made the camps susceptible to disease outbreaks.<sup>4</sup> Many children living in the camps had not been immunised in their country of origin or during their journey, making them vulnerable to outbreaks of vaccine-preventable diseases (VPDs). The World Health Organization (WHO) Vaccination in Acute Humanitarian Emergencies: A Framework for Decision-Making<sup>5</sup> is used to assess risk and identify priority vaccines to give preventively in emergency contexts. In Greece, the framework indicated a clear need to proceed with a multi-antigen vaccination campaign for refugee children

living in the camps as soon as possible, using the measles, mumps and rubella (MMR) vaccine; hexavalent\* vaccine; and pneumococcal conjugate vaccine (PCV),† to protect against 10 key diseases. Idomeni, a makeshift camp of 8,000-17,000 people (an accurate population estimation was difficult due to lack of surveillance and reliable data), was identified as a priority for the first phase of the vaccination campaign due to its overcrowded living conditions. Other islands and locations in Greece were targeted during the second and third phases of the campaign.

## Obtaining vaccines for refugee children in Greece

The vaccination campaign was led by the Greek Ministry of Health (MoH), with the support of several partners, including MSF. At the time, the two available PCVs (PCV-10 and PCV-13‡) were some of the most expensive vaccines on the market. In Greece, PCV-13 was procured directly from pharmaceutical company Pfizer at a price of approximately EUR 38.38/dose (US\$43.96/dose).<sup>6</sup> While low-income and some lower-middle income countries were eligible for financial support for vaccines through Gavi, the Vaccine Alliance, Greece was ineligible<sup>7</sup> for this support as it is a high-income country. Gavi facilitates access to the lowest global prices for vaccines for eligible countries, with PCV-13 available through Gavi at approximately EUR 2.66/dose (US\$3.05/dose). For countries ineligible for this support, high prices, particularly for new vaccines such as PCV, make it difficult for governments to not only meet the needs of their own routine immunisation programmes, but also to provide access to immunisations for migrants and refugees trapped in emergencies.

In addition to affordability concerns, the MoH had no availability of the required vaccines in the country—Greece was experiencing vaccine shortages for routine immunisation programmes for the Greek population. In an attempt to secure a supply of the vaccines at an affordable price, MSF contacted the UNICEF Supply Division, which procures vaccines for Gavi. However, the discussion with UNICEF around the possible mobilisation of vaccines did not translate into a feasible option within the timeframe required for the vaccination campaign.

Due to the urgent situation in the Idomeni camp, MSF had no alternative but to purchase all the vaccines through local suppliers as the quickest solution to prevent deaths and other health problems. This however came at an extortionate price: the price for a single dose of each vaccine was EUR 66.70/dose for hexavalent vaccine; EUR 61.40/dose for PCV-13; and EUR 23.50/dose for MMR. Although both the hexavalent vaccine and PCV-13 were hugely expensive, hexavalent provides protection against six diseases, whereas PCV-13 protects against invasive pneumococcal disease alone. Moreover, as three doses of PCV are needed to provide full protection, the total cost for PCV was EUR 184.20 per infant – 20 times more than the vaccine's lowest global price available through Gavi.

Despite these exorbitant prices, MSF vaccinated 3,031 refugee children in the Idomeni camp during the first phase of the vaccination campaign between May and July 2016. During the second and third phases, MSF vaccinated an additional 8,000 refugee children on a number of different islands and locations in Greece. For these phases, MSF used a supply of PCV-10 that had been donated to the government by UNICEF in response to the ongoing refugee crisis.

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\* The Hexavalent vaccine provides protection against diphtheria, tetanus, pertussis, poliomyelitis, *Haemophilus influenzae* type B and hepatitis B.

† Pneumonia is the leading cause of death of children under the age of five worldwide. Two pneumococcal conjugate vaccines (PCV), PCV-10 and PCV-13, can provide protection against pneumonia, as well as other serious illnesses such as meningitis and sepsis, caused by *Streptococcus pneumoniae* infections. PCV is [recommended by WHO](#) for inclusion in every government's Expanded Programme on Immunisation (EPI) for infants up to 24 months of age, and children aged two to five years who are at high risk of pneumococcal infection.

‡ PCV-10 safeguards against 10 types of pneumococcal bacteria; PCV-13 protects against 13 strains.

## Conclusion and future solutions

### *The Humanitarian Mechanism*

This was not the first time MSF had been unable to access an affordable price for PCV. There were only two global manufacturers for PCV: PCV-10 is manufactured and marketed by GSK, and PCV-13 by Pfizer. PCV-13 is the highest-selling vaccine ever manufactured,<sup>8</sup> and Pfizer and GSK collectively made approximately EUR 42 billion\* in sales from their respective PCV products from 2009 to the end of the third quarter of 2018. Monopolistic commercial strategies used by the companies have kept the prices of PCVs high.

After previous efforts to negotiate with Pfizer and GSK failed to secure an affordable price, MSF launched a global campaign in April 2015 called “A Fair Shot”<sup>9</sup> that called on Pfizer and GSK to lower the price of their vaccines to US\$5.00 per child (i.e., for a full three-dose course) for developing countries and humanitarian organisations. Additionally, in June 2016, MSF and WHO convened key stakeholders<sup>†</sup> to discuss the challenges of vaccine procurement during humanitarian crises, including high prices. This and subsequent meetings resulted in the launch of the Humanitarian Mechanism in May 2017.<sup>10</sup> With the WHO acting as the validation body, the Mechanism enables the procurement of vaccine products pledged to the Mechanism at the lowest global prices for governments and organisations responding to emergencies. During the development of the Mechanism, in September and November 2016, GSK<sup>11</sup> and Pfizer,<sup>12</sup> each respectively announced that they would provide access to their PCV products through the Humanitarian Mechanism at the lowest global price of US\$3.05/dose for nongovernmental organisations (NGOs), civil society organisations (CSOs) and United Nations (UN) agencies (these pledges exclude governmental use).

While the launch of the Humanitarian Mechanism was a significant step towards protecting the world’s most vulnerable children, two critical steps are needed to maximise its potential. First, manufacturers should expand their supply offers to include governments trying to protect populations in emergencies. This would enable Gavi-ineligible countries, such as Greece – to procure vaccines at the lowest global prices when responding to emergencies. Secondly, the Mechanism is not limited to PCV, and manufacturers must commit to providing other vaccines to the Mechanism at the lowest global price. Without these steps, key vulnerable populations trapped in emergencies will remain left behind.

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\* Approximate cumulative calculation taken from GSK and Pfizer quarterly revenue reports provided on their websites [here \(GSK\)](#) and [here \(Pfizer\)](#).

† United Nations High Commissioner for Refugees (UNHCR), United Nations Children’s Fund (UNICEF), International Federation of Red Cross and Red Crescent Societies (IFRC), Save the Children, Médecins du Monde (MDM)/Doctors of the World, Centre for Vaccine Ethics and Policy, Gavi, the Vaccine Alliance (Gavi), International Rescue Committee (IRC), International Federation of Pharmaceutical Manufacturers and Associations (IFPMA), Developing Countries Vaccine Manufacturers Network (DCVMN).

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