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.
Cost-effectiveness evidence for introducing and sustaining a vaccine

Case study: Italy – Hepatitis B

KEY FINDINGS
An economic evaluation of the clinical impact of hepatitis B immunization in the 20 years following its introduction in Italy in 1991 was conducted. Key findings included the following.

• The first 20 years of the hepatitis B vaccination programme resulted in:
  • reduced burden of hepatitis B virus (HBV) related diseases;
  • return on investment of 1.02 from the National Health Service (NHS) perspective;
  • clinical savings exceeding vaccination costs in 2010

Italy context

1980s
• 11 000 symptomatic cases of acute viral hepatitis per year (incidence rate 19/100 000).
• 64 000 affected by chronic viral hepatitis or cirrhosis.
• 3 400 affected by hepatocellular carcinoma.

1991
• Italy introduced a programme of routine immunization against HBV.
• Immunization of all newborns within their first years of life.
• Immunization of 12-year-olds during the first 12 years of the programme.
• HBV incidence rate declined to 5/100 000 due to behaviour changes and improved health care procedures.

2010
• HBV incidence rate decreased to 0.9/100 000.

About hepatitis B

Approximately 2 billion people worldwide have been infected with HBV. Of the 360 million people chronically infected, 600 000 die each year from HBV-associated liver cirrhosis or hepatocellular carcinoma.

In endemic areas, HBV transmission mainly occurs perinatally or during early childhood. However, in low endemic areas, transmission mainly occurs later in life through sexual contact or through the use of contaminated needles.

Methods

The authors used a mathematical simulation model to conduct an economic evaluation of the clinical impact of hepatitis B immunization in the 20 years following its introduction in Italy. The authors also projected future benefits that could be expected to be delivered by the programme.

Results

- The study found that hepatitis B incidence declined between 1990 and 2010 by:
  - 100% among children aged 0–14 years
  - 97% among teenagers and adults aged 15–24 years
  - 70% among adults older than 24 years of age
  - 82% in the total population.
- Benefit-to-cost ratio was 0.91 from the societal perspective for the period 1991-2010, and predicted to be 2.47 for the period 1991-2059.
- Projections for 2011–2059 estimated a 77% reduction of costs, from the both the NHS and societal perspectives.

From the NHS perspective, the break-even point was achieved in approximately 2010. Therefore, benefits of the immunization programme will continue to become more evident in the future.

The impact of the immunization programme was far reaching, affecting all age groups within the Italian population.