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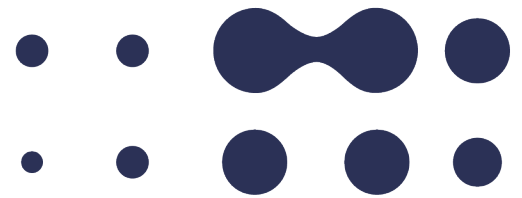
## New HPV vaccines and fewer doses: promising recent developments towards eliminating cervical cancer (IARC Evidence Summary Brief No. 4)

**Lyon, France, 21 April 2023** – The International Agency for Research on Cancer (IARC) has released a new [IARC Evidence Summary Brief](#), titled “Protection from a Single Dose of HPV Vaccine: A major public health impact from IARC studies of vaccine efficacy”. This report highlights promising recent developments, led by scientists from IARC and partners, that are huge steps to accelerate the elimination of cervical cancer as a threat to global public health.

IARC has implemented studies that aim to reduce the cervical cancer burden by making vaccination against human papillomavirus (HPV), the virus that causes more than 95% of cervical cancers, more efficient and effective. As described in the new Evidence Summary Brief, these studies cover three complementary axes of research: (i) evaluating the efficacy of single-dose HPV vaccination, (ii) evaluating a new HPV vaccine that may reduce costs, and (iii) making evidence-based projections of the public health impact of single-dose HPV vaccination. The resulting combination of findings provides health officials with the information they need in their decision-making on vaccination programmes that can save millions of lives in a cost-effective manner.

“This research has delivered game-changing results demonstrating that fewer doses of HPV vaccine may be sufficient to protect against HPV infection. Data collected by the researchers shows that a single dose of HPV vaccine can be as efficacious as two doses or three doses in preventing persistent HPV infection,” says Dr Partha Basu, Head of the Early Detection, Prevention, and Infections Branch at IARC. Dr Basu adds, “The evidence provided by this study contributed significantly to the World Health Organization (WHO) Strategic Advisory Group of Experts on Immunization (SAGE) evaluation of HPV vaccination in a one-dose schedule (an off-label single-dose option). A single-dose schedule should reduce programme costs and facilitate the scaling up of HPV vaccination to improve the vaccination coverage.”

IARC was part of a collaboration between the Serum Institute of India, the Department of Biotechnology of the Government of India, and the Bill & Melinda Gates Foundation to design and implement phase II/III randomized trials to evaluate a new quadrivalent HPV vaccine developed in India. The trial was completed successfully and demonstrated both the safety and the high immunogenicity of the new vaccine. This vaccine may also cost less than previous HPV vaccines as a result of a novel production system and local production in India. Adequate supplies from this new vaccine manufacturer represent an important evolution towards cervical cancer elimination by expanding the market and increasing access, particularly in low- and middle-income countries. “With the new safe, highly effective, and affordable vaccine, low- and middle-income



countries are on the way to universalizing national-level HPV vaccination programmes,” says Professor Neerja Bhatla, Past Chair of the Women’s Cancer Committee of the International Federation of Gynecology and Obstetrics (FIGO).

IARC researchers projected the health benefits and potential economic impact of a national single-dose HPV vaccination programme for girls in India. The study found that such a vaccination programme could substantially reduce the incidence of cervical cancer to below the incidence rate established by WHO as the threshold for the elimination of cervical cancer as a public health problem. If HPV vaccination is introduced now, it could prevent almost 1 million cases of cervical cancer over the lifetime of the birth cohort currently aged 10 years or younger. This study indicates that single-dose HPV vaccination could be an effective, efficient, and cost-effective strategy for cervical cancer prevention in India and other low- and middle-income countries.

### **About cervical cancer**

Cervical cancer is the fourth most common cancer type in women worldwide. In 2020, an estimated 604 000 women were diagnosed with cervical cancer globally and about 342 000 women died from the disease. The main cause of cervical cancer is persistent infection with high-risk types of HPV, an extremely common family of viruses that are transmitted through sexual contact.

Vaccines exist that protect against high-risk HPV types, and screening programmes can detect signs of disease at an early stage, allowing for effective treatment and management of the condition. Therefore, cervical cancer should be one of the most preventable and treatable forms of cancer. In many high-income countries, this is the case. High incidence rates and high mortality rates of cervical cancer occur mainly in low- and middle-income countries.

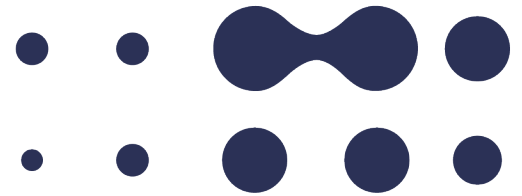
### **Note to the Editor**

This IARC Evidence Summary Brief is the fourth in a series of scientific [Evidence Summary Briefs](#) published by IARC to call attention to the findings of evidence-based studies in key aspects of cancer prevention.

### **Key references**

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