Vaccines Europe Statement on Vaccine Preventable Cancers

December 2021

Vaccines Europe welcomes the ambition of Europe's Beating Cancer Plan that sets clear targets for HPV vaccination (90% VCR for girls and increasing vaccination for boys by 2030), towards eliminating HPV related cancers, improving access to and uptake of vaccines against Hepatitis B in order to reduce liver cancer, and proposes a Council Recommendation on vaccine-preventable cancers and calls for stakeholder collaboration.

Programs must be developed across Europe to implement actions and achieve these goals. We must also continue research and development to advance cancer preventing vaccines and treatment as well as improving early detection and screening to further reduce the burden of cancer in the future, which will ultimately improve population's health and positively impact the sustainability of health systems.

"Vaccination is a key driver in realizing the EU's ambition of preventing cancers caused by infections, a core component of Europe's Beating Cancer Plan"

The Beating Cancer Plan represents a unique opportunity for the elimination of vaccines preventable cancers in the European Union.

The burden of cancer in the EU is high and rising. Cancer causes 1 in 4 deaths and is the second leading cause of death, illness, and disability in many EU countries.[1] In 2020, 2.7 million people in the EU were diagnosed with cancer, 1.3 million individuals died from cancer, and cases are estimated to increase by 24% by 2035, making it the leading cause of death in the EU.[2] The overall economic impact of cancer in Europe is estimated to exceed €100 billion annually.[3]

Although few people associate infections with cancer, approximately 13% of cancers diagnosed globally in 2018 were attributed to carcinogenic infections[4], such as viruses and bacteria. Among the most important infections associated with cancers are Human Papillomavirus (HPV) and Hepatitis B (HBV) for which vaccines are available. HPV infection causes cervical, vaginal, vulvar, anal, penile, and oropharyngeal cancers and HBV causes liver cancer.

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[1] Eurostat (2020) World Cancer Day: 1 in 4 deaths caused by cancer. Available at: https://ec.europa.eu/eurostat/web/products-eurostatnews/-/EDN-20200204-1

[2] Europe's Beating Cancer Plan: Communication from the Commission to the European Parliament and the Council. Available at: 2021 01 25 Communication - Europe's Beating Cancer Plan v.24 - CLEAN EVENING (europa.eu)

[3] Europe's Beating Cancer Plan: Communication from the Commission to the European Parliament and the Council. Available at: 2021 01 25 Communication - Europe's Beating Cancer Plan v.24 - CLEAN EVENING (europa.eu)

[4] (3) de Martel C, Georges D, Bray F, Ferlay J, Clifford GM. Global burden of cancer attributable to infections in 2018: a worldwide incidence analysis. Lancet Glob Health. 2020;8(2):e180-e190.

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Raising rates of vaccination can help Europe towards the goal of eliminating vaccine-preventable cancers and address the inequality gap that currently exists among EU countries.

One million cancer cases every year worldwide can be prevented through vaccination against hepatitis B and HPV.[5] In Europe, there are about 53,000 new cervical cancer cases annually that are attributed to HPV infection[6] and there are estimates of more than 60,000 deaths annually due to liver cancer.[7] Both infections can be prevented by vaccines.

Highly effective vaccines against hepatitis B have been available for several decades and many EU countries offer hepatitis B vaccination in their routine immunization programmes for children and adults. The efficacy and effectiveness of HPV vaccination and protection against HPV infection, genital warts, and high-grade cervical lesions, including a reduced risk of invasive cervical cancer has been established.[8]

Yet, inequity and discrepancies persist in Europe for both HPV and hepatitis B vaccines that must be addressed. For example, the East-West divide in fighting HPV-related burden is characterized by Central and Eastern countries lagging for primary prevention, thus subsequently bearing a higher load of HPV related cancers, in particular cervical cancer incidence and mortality.[9] In relation to hepatitis B, there remain sizeable, unprotected cohorts of adults who were not vaccinated in connection with childhood vaccination programmes, and sub-optimal coverage for risk-based recommendations across Europe.

Vaccines Europe calls on the EU to support Member States in updating their National Cancer Control Plans and Strategies to reflect Europe Beating Cancer Plan's objectives and targets, make use of all available EU funding instruments to implement actions at national level and encourage Member States to:

1. **Prioritise life-course routine immunisation programmes to include and support vaccines against preventable diseases and cancers:**
   - Promote the case for the use of vaccination as an effective and safe strategy to prevent and control vaccine preventable diseases and cancers with healthcare policy makers, and the general public.
   - Propose and implement a European Council Recommendation on vaccine-preventable cancers.
   - Strengthen electronic monitoring and registry systems for vaccines preventable cancers coverage rates, track progress of implementation of the Europe's Beating Cancer plan targets
   - Establish a Pan-European stakeholders' group to share evidence, best practices and policy recommendations on the prevention of vaccine preventable cancers.
   - Develop the European Cancer Information system and improve health literacy for cancer prevention and care.[10]

[5] de Martel C, Georges D, Bray F, Ferlay J, Clifford GM. Global burden of cancer attributable to infections in 2018: a worldwide incidence analysis. The Lancet Global Health. 2020;8(2):e180-e190
[6] https://hpvcentre.net/statistics/reports/XEX.pdf?t=1637596552197
[7] MCS Wong et al. "International Incidence and Mortality Trends of Liver Cancer: A Global Profile". Available at: International incidence and mortality trends of liver cancer: a global profile (nih.gov)
[8] HPV Vaccination and the Risk of Invasive Cervical Cancer | NEJM
[9] Globocan 2020. Cervix Uteri fact sheet https://gco.iarc.fr/today/data/factsheets/cancers/23-Cervix-uteri-fact-sheet.pdf
[10] 2021-2025_cancer-roadmap_en.pdf (europa.eu)

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- Invest in health service and implementation research for strategies to reach under-served population groups and increase and maintain confidence in vaccines following effective practices for addressing vaccine hesitancy.
- Expand sites for vaccination to increase uptake, especially for adults. The COVID-19 pandemic has severely disrupted routine care, including the provision of vaccines. Adults especially may not make routine doctor/GP visits, and broader sites for vaccination should be considered, such as community pharmacies.
- Monitor the implementation of health components of national Rescue and Resilience Plans (RRPs) to achieve goals and objectives.

2. **Ensure sustainable performance including through robust data systems in the implementation of public health measures, from prevention to care, against Human Papillomavirus related cancers and diseases (HPV):**
   - Vaccinate at least 90% of the target population with HPV vaccines by 2030 and, expand recommendations and programme[11] objectives beyond cervical cancer, to target other HPV-related cancers and diseases in both genders with a comprehensive HPV prevention approach.
   - Screen at least 95% of the eligible population by 2025, create an alliance in prevention between vaccination and screening to catch up unvaccinated individuals and treat at least 90% of HPV related cases and precancerous lesions.

3. **Engage sustainably in the fight against hepatitis and deliver on the primary prevention end goal of vaccination against Hepatitis B:**
   - Improve access to vaccination against Hepatitis B to achieve WHO goals of a 90% reduction in cases by 2030[12], in order to reduce the incidence of liver cancers. To achieve this goal, new approaches and increase in vaccination will be needed across Europe.
   - Develop action plans and strategies for hepatitis prevention and control with sufficient funding in Europe. A third of all EU/EEA countries reported no action plan and nearly half reported there was no funding for implementation.[13]

About Human Papillomavirus (HPV):

- HPV is a very common sexually transmitted infection that causes almost 5% of all cancers in women and men worldwide[14]. There are more than 53,000 new cervical cancer cases in Europe annually.[15] Other HPV related cancers include head and neck, anal, vulvar, vaginal, and penile cancers[16].

[11] https://ec.europa.eu/health/sites/default/files/non_communicable_diseases/docs/eu_cancer-plan_en.pdf
[12] WHO releases first-ever global guidance for country validation of viral hepatitis B and C elimination
[13] Monitoring the responses to the hepatitis B and C epidemics in the EU EEA Member States, 2019 (europa.eu)
[14] HPV and Cancer - National Cancer Institute
[15] https://hpvcentre.net/statistics/reports/XEX.pdf?t=1637596552197
[16] Hartwig S, St Guily JL, Dominiak-Felden G, Alemany L, de Sanjosé S. Estimation of the overall burden of cancers, precancerous lesions, and genital warts attributable to 9-valent HPV vaccine types in women and men in Europe. *Infectious Agents and Cancer.* 2017;12(1):19

- HPV vaccine has been available in the EU since 2006 and it has a proven effect in tackling HPV-related cancers.[17]
- 14 out of 54 countries in the WHO Europe region have yet to introduce national vaccination programmes for girls[9] and 9 of the EU member states have yet to include boys.[18] The sustainability and resilience of the vaccination program varies with the uptake widely differing between and within countries with only few reaching a coverage rate of 90%.[10]

About Hepatitis B (HBV):

- There are an estimated total of 4.7 million chronic hepatitis B virus (HBV) cases in the European Union/European Economic Area (EU/EEA) with estimates of hepatitis B surface antigen (HBsAg) prevalence in the general population up to 4.4%.[19]
- Four (Denmark, Finland, Iceland, Sweden) countries lack a national policy for universal vaccination of children, and, in many countries Hepatitis B vaccination rates are below other routine vaccines, for example in Germany only 78% of adolescents 14-17 are vaccinated.[20]
- There remain sizeable unprotected cohorts of adults who were not vaccinated in connection with childhood vaccination programmes. Some countries only implemented childhood programmes within the last five to 10 years leaving cohorts of adults vulnerable, whereas others with earlier implementation have sub-optimal levels of coverage.
- Risk groups are not consistently recommended and vaccinated across Europe. Robust coverage on key adult populations are lacking and available information suggests gaps in local coverage policies.[21] For example, in Germany, 93% of HBV cases occurred in unvaccinated individuals, and vaccination rates for at-risk populations include only: 32% of People Who Inject Drugs (PWID), 65% of Men who have Sex with Men (MSM), 40% of migrants, and 64-90% of Health Care Workers (HCW).[22]
- Given the prevalence of HBV infection and ongoing transmission in adult high-risk groups, vaccination of members of risk groups needs to improve including for: pregnant women (up to 0.8% in France and Italy and 2.9% in Greece have HBV) MSM (up to 1.4% in France have HBV), PWID (People Who Inject Drugs - up to 6.3% in Portugal have HBV), prisoners (up to 25.2% in Bulgaria have HBV), and migrant populations (up to 17% have HBV). [23] Other groups seen as being at risk include: healthcare workers, diabetics, people on hemodialysis, people with chronic liver disease, and others remains an important component of prevention strategies in EU/EEA countries.

End.

[17] The effects of the national HPV vaccination programme in England, UK, on cervical cancer and grade 3 cervical intraepithelial neoplasia incidence: a register-based observational study - The Lancet
[18] Vaccine Scheduler | ECDC (europa.eu), updated with decisions in Hungary, Cyprus and Slovenia
[19] Monitoring the responses to the hepatitis B and C epidemics in the EU EEA Member States, 2019 (europa.eu)
[20] RKI; Epidemiologisches Bulletin 29 2021 (23.7.2021)
[21] Monitoring the responses to the hepatitis B and C epidemics in the EU EEA Member States, 2019 (europa.eu)
[22] RKI; Epidemiologisches Bulletin 29 2021 (23.7.2021)
[23] Systematic review on hepatitis B and C prevalence in the EU/EEA (europa.eu)

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