From cervical cancer to HPV elimination in Poland: Local action for national impact

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Foreword

Over the past years, Poland has made remarkable progress in confronting HPV-related disease and cervical cancer, a challenge that touches thousands of families and communities across the country. Of note are, the introduction of gender-neutral HPV vaccination, growing school-assisted programs, rapid digitization of health records, new reimbursement pathways for high-risk HPV testing, and expanded access to innovative therapies – all of which reflect a clear national commitment to cancer prevention and early detection.

Poland is no longer in a phase of incremental improvement; it is in a phase of transformation. We see a health system that is increasingly data-enabled, a public that is more informed, and a medical community proactively engaged in protecting both girls and boys from HPV-driven cancers. This momentum matters. It aligns Poland with the European and global goals of cervical cancer elimination and places the country among regional leaders driving forward an equitable, population-wide cancer-prevention agenda.

Our organization has been privileged to work alongside the Polish clinicians, researchers, and civil-society partners in shaping the forward-looking roadmap. The recommendations laid out in this white paper draw from that collaborative effort, and present not only what Poland must do, but what Poland is ready to do.

With continued investment and coordination, Poland can move toward eliminating cervical cancer and reducing all HPV-related cancers in women and men – a goal we look forward to witnessing.

Lund, January 2026

Peter Lindgren
Managing Director, IHE

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Summary

Poland has one of the highest burdens of cervical cancer in the EU, but HPV's impact extends far beyond cervical cancer, contributing to several other cancer such as anal, vulvar, vaginal. This broader burden reflects historical underinvestment in comprehensive prevention and persistent structural barriers to access. Yet, Poland now stands at a turning point. The introduction of gender-neutral HPV vaccination, heightened public awareness, increasing digitization of health records, and national policy commitments under the National Oncology Strategy and the National Cancer Strategy 2020–2030 create a rare window for progress, not only toward cervical cancer elimination, but toward a comprehensive reduction of all HPV-driven cancers.

Poland must shift from pilot-based, fragmented implementation to coordinated nationwide execution supported by strong data systems and intersectoral governance. This white paper outlines a strategic, evidence-driven roadmap, developed in consultation with Polish experts, aligned with the objectives of the European Beating Cancer Plan and WHO 90-70-90 strategy. Four strategic pillars form the core of the proposed policy framework:

- **Primary prevention and early awareness through school and primary care.**
  Schools are an important delivery channel for vaccination, enabling equitable access and normalizing HPV prevention as part of adolescent health. Complementing this, primary care services can further engage parents, address hesitancy, and offer routine vaccination. The roadmap recommends expanding school-assisted vaccination models, linking them with digital reminder systems, supporting school directors in implementation, and ensuring that family physicians and pediatricians are equipped with evidence-based materials to proactively recommend HPV vaccination for girls and boys.
- **Ensuring equitable access across populations and across the life course.**
  HPV elimination requires reaching everyone; historically underserved, rural populations, low-income households, and migrant communities. Extending vaccination beyond the existing age cohort, offering catch-up pathways up to at least age 26, incorporating HPV self-sampling into screening services, and providing mobile and community-embedded delivery models are necessary to reduce disparities. Opt-out invitation and local micro-grants can provide local authorities with resources to address context-specific barriers.
- **Governance, monitoring, and research-enabled decision-making.**
  Reliable, disaggregated and interoperable data will enable real-time monitoring of vaccination and screening, enhance transparency, and increase public trust. Strengthening the HPV dashboard, integrating private-sector data, embedding treatment tracking indicators, and enhancing the National Cancer Registry's functionality are essential steps. In addition, investing in implementation research, including behavioral insights on hesitancy, evaluation of school-assisted programs, and cost-effectiveness analysis, will allow policy refinement based on real-world evidence.
- **Cross-sector collaboration and public engagement.**
  HPV elimination is a medical, cultural, educational, behavioral, and economic challenge. Achieving progress requires cooperation between the Ministry of Health and Ministry of Education, systematic involvement of local governments, and strategic partnerships with actors along the value chain. Public communication must be clear, evidence-based, and gender-neutral, emphasizing HPV as an infection causing cancers in both women and men, and reducing the stigma associated with vaccination.

Achieving HPV and cervical cancer elimination requires sustained political commitment, predictable funding cycles, modernized data systems and registries, and accountability through KPIs that are publicly reported and evaluated. By implementing the actions presented in the roadmap, Poland can place itself among the leaders in HPV-related cancer prevention within Europe.

Abbreviations

AIS	Adenocarcinoma in situ
ASR	Age-standardized rate
BMSGPK	Austria's Federal Ministry of Social Affairs, Health, Care and Consumer Protection
CCEI	Cervical Cancer Elimination Initiative
CEE	Central and Eastern Europe
CIN	Cervical Intraepithelial Neoplasia
CPPs	Standardized cancer patient pathways
CT	Computed tomography
DEIS	Delivering Equality of Opportunity in Schools
DiLO	Oncology fast-track
EBCP	Europe Beating Cancer Plan
EFPIA	European Federation of Pharmaceutical Industries and Associations
EMA	European Medical Agency
EML	Essential Medicines List
ESGO	European Society of Gynecological Oncology
ESMO	European Society for Medical Oncology
MCBS	Magnitude of Clinical Benefit Scale
ESP	European Society of Pathology
ESTRO	European Society for Radiotherapy and Oncology
EU	European Union
EU-27	EU member states
GNV	Gender neutral vaccination
GP	General practitioner
HCP	Healthcare professional
HPV	Human papillomavirus
HR-HPV	High-risk human papillomavirus
IARC	International Agency for Research on Cancer
IKP	Online Patient Account
IOB	The Bucharest Oncological Institute "Prof. Dr. Alexandru Trestioreanu"
KOL	Key Opinion Leaders
KPIs	Key Performance Indicators
KSO	National Oncology Network
LINAC	Linear accelerators
MDT	Multidisciplinary team
MRI	Magnetic resonance imaging
MSM	Men who have sex with men
NCCN	National Comprehensive Cancer Network.
NFZ	Narodowy Fundusz Zdrowia
NGO	Non-Governmental Organization
NHS	National Health Service
NOS	National Oncology Strategy
NSB	No substantial clinical benefit
OCCSP	Poland's Organized Cervical Cancer Screening Program
OECD	The Organization for Economic Cooperation and Development
Pap smear	Papanicolaou smear
PCP	Primary care physician
PET	Positron emission tomography
PHC	Primary health care
PSGO	Polish Society of Gynecological Oncology
PVFLP	Present Value of Future Lost Productivity
RWE	Real World Evidence
SB	substantial clinical benefit
UK	United Kingdom
VCR	Vaccination coverage rate
WHO	World Health Organization
YLL	Years of Life Lost
YPLL	Years of Productive Life Lost

1. Introduction

1.1 The case for HPV elimination

Human papillomavirus (HPV) is one of the most common viral infections worldwide, with more than 200 known genotypes (1). Of these, 14 are considered high-risk and can cause multiple cancers. Low-risk HPV types cause genital warts. While cervical cancer contributes to the largest part of HPV-related disease in Poland, the virus also contributes to other cancers and conditions affecting both women and men. High-risk HPV types are also linked to anal, vulvar, vaginal, penile, and head and neck cancers[1] (2). Across Europe, the incidence of HPV-related head and neck cancers, particularly oropharyngeal cancers, has been rising, with men disproportionately affected (3). This growing burden highlights the need for comprehensive prevention that addresses all HPV-driven diseases, not only those affecting women.

Poland's advancements reflect this understanding by emphasizing HPV elimination as a population-wide goal, supported by gender-neutral vaccination. Such an approach not only protects girls and women from cervical cancer, but also prevents HPV-related cancers in men, contributing to a more equitable and sustainable reduction in disease burden.

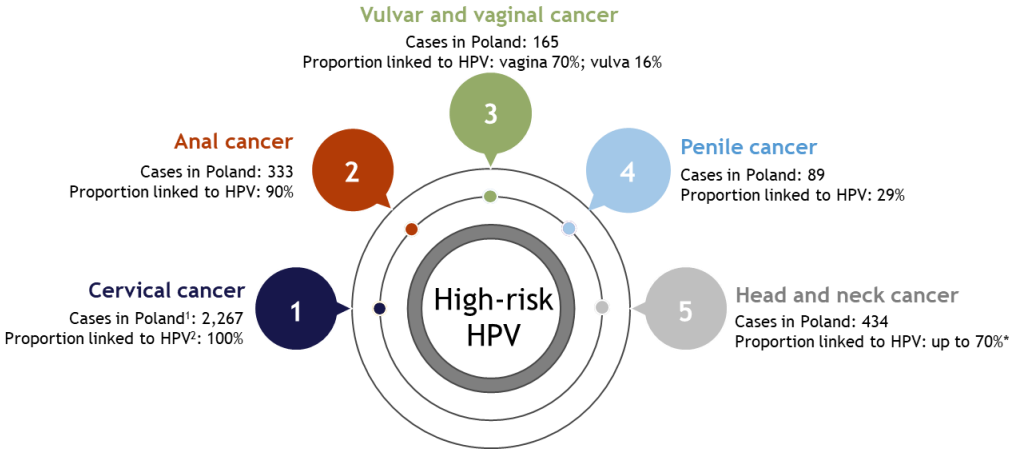


Figure 1: HPV-related cancers in Poland.

Note: incidence for Poland in 2022, proportions estimated on EU data, *proportions vary by cancer site; Cervical cancer (ICD-10 C53); anal cancer (ICD-10 C21); vulvar and vaginal cancers (ICD-10 C51, C52); penile cancer (ICD-10 C60); and head & neck (including oral) cancers (ICD-10 C00-C15). Source: (4, 5).

1.2 Cervical cancer: The most preventable HPV-related cancer

Cervical cancer is a type of cancer that develops in the cervix, in the lower part of the uterus that connects to the vagina (6). It usually begins with abnormal changes in the cells lining the cervix called "precancerous lesions". Over time, if these changes are not detected and treated, they can grow uncontrollably and form a tumor. The main cause of cervical cancer is persistent infection with certain types of HPV, a very common sexually transmitted virus that normally clears on its own. In early stages, cervical cancer often causes no symptoms. When symptoms do appear, they may include abnormal vaginal bleeding (i.e., bleeding after sex, between

[1] The link between HPV and these cancers is supported by the epidemiological evidence. Inclusion of this information is not intended to reference vaccine use, indications, or prevention of penile or head and neck cancers.

menstrual periods or after menopause) (7). Because of its well-understood cause and predictable natural history, cervical cancer serves as the flagship disease in the global fight against HPV.

1.3 Why cervical cancer elimination matters for HPV control

Among all HPV-related cancers, cervical cancer carries the greatest burden, accounting for the highest incidence and mortality worldwide (8). The good news is that cervical cancer is almost entirely preventable (8). Vaccines with demonstrably favorable safety profiles protect against the most common high-risk HPV types (9). When delivered through gender-neutral programs targeting adolescents, vaccination can greatly reduce the prevalence of HPV within populations and subsequently the future burden of HPV-related disease.

However, recognizing that not everyone had, or currently has, the opportunity to be vaccinated, secondary prevention through screening and treatment of precancerous lesions remains essential. High-performance HPV testing – the recommended method of screening by the EU guidelines (10) – allows for early detection of pre-cancerous changes before they progress and develop into cancer. When coupled with accessible triage and management, cervical cancer can be prevented or treated in early stages.

Eliminating cervical cancer as a public health problem thus represents a key milestone toward the broader goal of HPV elimination. The same tools that enable cervical cancer prevention, primarily vaccination, also forms the foundation for reducing the incidence of all HPV-related cancers over time.

1.4 Global and European momentum towards elimination

Eliminating cervical cancer requires a coordinated multi-stakeholder and multi-sectoral approach; from public health authorities to civil society. Global momentum is already underway, and in 2020, WHO launched the Cervical Cancer Elimination Initiative (CCEI) which sets benchmarks across three key pillars — vaccination, screening, and treatment and management (11). Building on this, the European Beating Cancer Plan introduced a year later, in 2021, explicitly commits to eliminating cervical cancer and other HPV-related cancers in Europe (12).

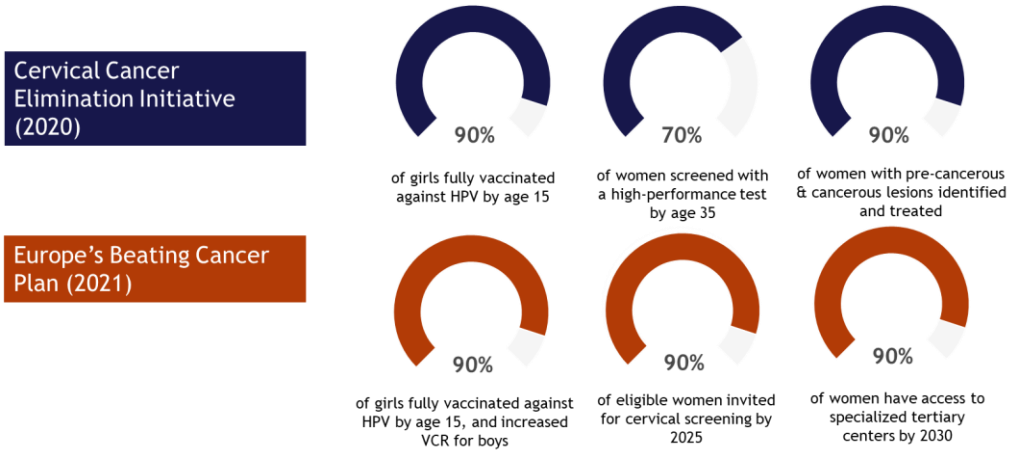


Figure 2: Cervical Cancer Elimination Initiative and Europe's Beating Cancer Plans targets for cervical cancer.

1.5 White paper: Objectives and process

The objective of this white paper was to outline and co-design a policy roadmap for cervical cancer elimination in Poland. The process combined collaboration with leading experts, stakeholders, and advocates and included a targeted review of the evidence, as well as validation of evidence and recommendations by key opinion leaders (KOLs) to ensure scientific and contextual accuracy and feasibility.

The white paper contributes to the Polish elimination effort by outlining a roadmap based on three interdependent pillars: primary prevention through HPV vaccination, secondary prevention through screening, and tertiary prevention through timely treatment and management of precancerous and cancerous lesions. While the primary focus of the paper is on cervical cancer elimination, it should be read as the first step towards a broader milestone of HPV-related cancer and disease control.

Moreover, the roadmap emphasizes cross-cutting themes critical to success: robust infrastructure for evaluation and monitoring, including data systems, broad stakeholder participation, and strong policy alignment. Above all recommendations are grounded in equity, ensuring that prevention and care are equally accessible to all segments of the population. In line with inclusive language and terminology, this paper refers to women and all persons with a cervix as the population directly at risk of cervical cancer.

Learning from international best practice examples

International experience can offer valuable insights. Throughout this paper, examples of best practices related to HPV elimination efforts from other European countries are highlighted in dedicated boxes. These cases illustrate strategies that address challenges relevant to the Polish context; for example, school-assisted[2] vaccination as the primary delivery channel, establishing structured catch-up programs for older cohorts, integrating equity monitoring into national plans, or strengthening trust through targeted communication.

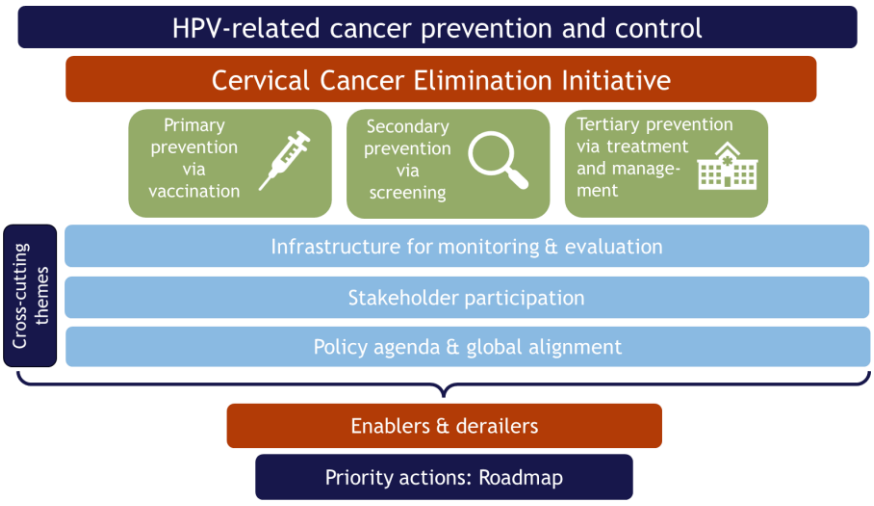


Figure 3: Cervical Cancer Elimination rests on three pillars

[2] Internationally, the term "school-based vaccination" is widely used to describe programs delivered directly within the school setting. In Poland, HPV vaccination is primarily administered through outpatient clinics, with schools serving as a secondary point of engagement, facilitating the process (information, consent procedures, coordination, vaccination venue, with administration performed by a clinical team). Therefore, throughout this report, we use the term "school-assisted vaccination" to more accurately reflect the Polish model, where clinics are the main delivery channel and schools provide complementary support, while maintaining conceptual alignment with international terminology.

2. Cervical Cancer in Poland

Cervical cancer continues to pose a substantial public health burden in Poland. In 2022, the incidence was 20.6 per 100,000 women, markedly higher than the EU-27 average of 12.4 (13)[3]. The burden however, is not evenly distributed, in 2021, the regions with the highest age-standardized rate (ASR) were Świętokrzyskie and Warmińsko-Mazurskie and the lowest Podkarpackie (15). Although incidence remains high, long-term trends suggest a gradual decline between 2013 and 2022, with an annual change of -3.3% (16). This decline has accelerated since 2006-2007, coinciding with the implementation of the nationally organized cervical cancer screening program (16, 17).

Similarly to the trend in incidence, mortality rates from cervical cancer in Poland are also higher compared to other EU-27 countries. In 2022, the modelled ASR for mortality reached 10.5 per 100,000, against the EU benchmark of 5.3, representing a 98% higher risk of death from cervical cancer in Poland compared to the European average. This places Poland as the country with the fourth highest mortality rates in the EU-27.

Although cervical cancer mortality in Poland has declined over time, both national and international targets remain unmet. The National Cancer Strategy 2020–2030 set an ambitious goal reducing mortality to 4.9 per 100,000 women by 2025 (18).

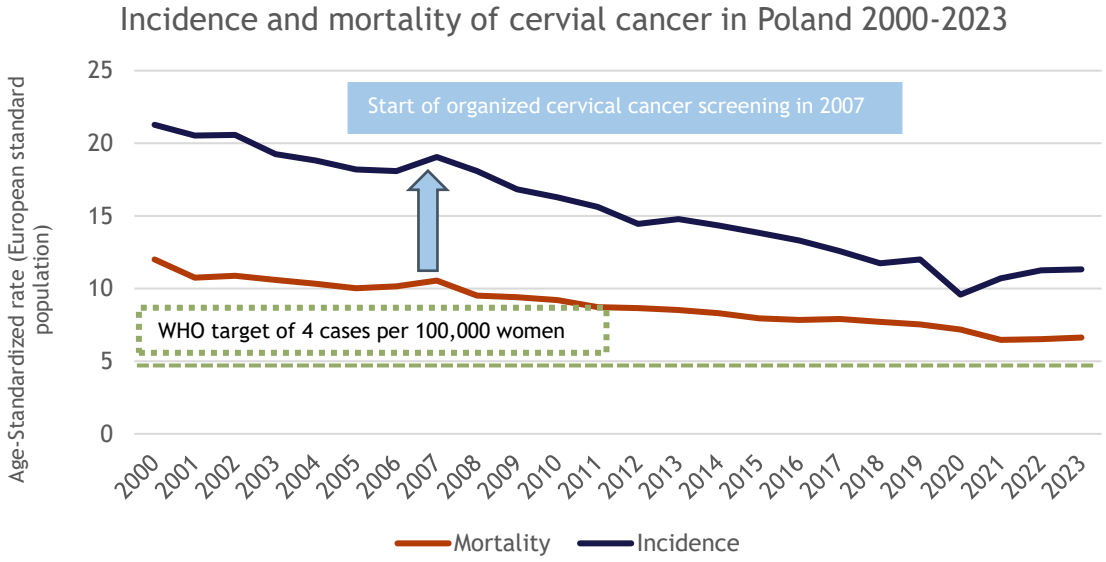


Figure 4: Age-standardized incidence and mortality of cervical cancer in Poland 2000-2023

Source: (19).

Despite a steady decline in cervical cancer burden in Poland (17, 20), the burden of mortality follows a social gradient; women with lower educational attainment experience higher

[3] Note: ECIS provides two complementary data sources for 2022.

- Estimates 2022 are modelled national rates that adjust for incomplete registry coverage using mortality-to-incidence ratios and projections (14).

- Historical trends reflect observed registry data, which may cover only part of the population and are not adjusted to national level.

We use ECIS estimates in text to contextualize Poland's cervical cancer burden relative to European countries, while recognizing that national Polish registry data may differ slightly – as presented in the graph.

mortality (21). Moreover, cervical cancer in Poland is often diagnosed at relatively advanced stages compared to Western European countries. According to the Greater Poland Cancer Registry (2020)[4], 24% of cases were diagnosed at stage III and 17% at stage IV (22), figures consistent with other national estimates (23, 24). Between 2010-2014, 5-year survival rate for cervical cancer in Poland was 55%, compared to 64% across the EU-27 (25). This was one of the lowest survival rates among the European countries (26).

That said, national data show gradual progress (19), and further action that will strengthen primary prevention and early detection presents important opportunities for cervical cancer control.

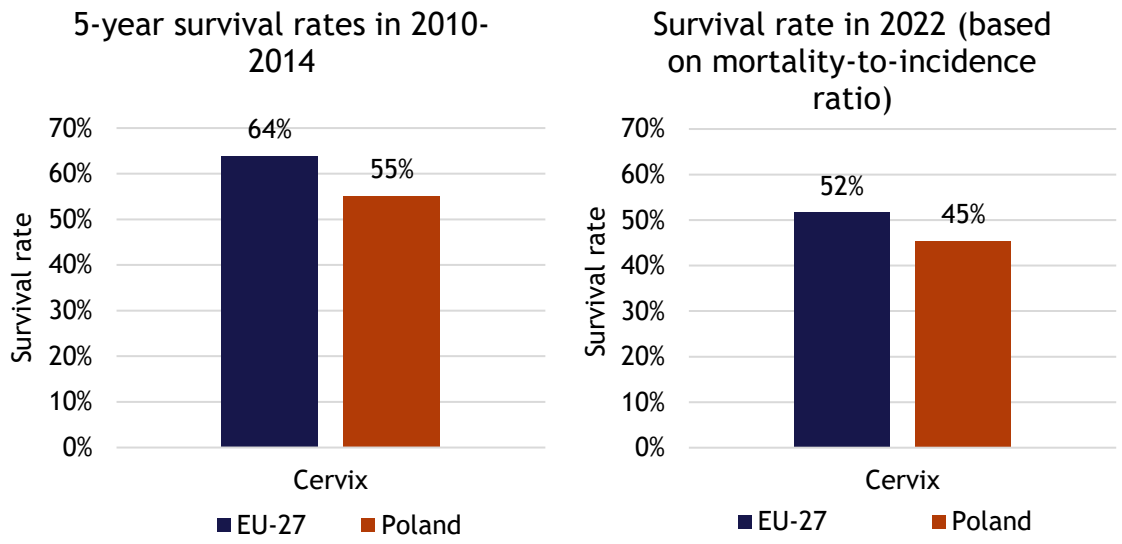


Figure 5: 5-year cervical cancer survival rates in EU-27 and Poland.

Notes: The mortality-to-incidence ratio is an indicator that shows the proportion of deaths relative to new cases of a given cancer within the same time period (27). It is used as a proxy for cancer survival and as an indicator of data quality: cancers with poorer survival have MIR values closer to 1, while those with better survival have lower MIR values. Source: (17, 25).

2.1 Societal and economic burden

In 2023, in Poland, cancer care accounted for 8% of total health expenditure, more than the EU-27 average of 6.9% (28). Yet medical spending tells only part of the story. An analysis of HPV-related diseases in Poland showed that direct healthcare costs represent only one-third of the overall economic burden of HPV-related diseases (29). The remaining two-thirds are productivity losses, a signal that the disease's impact is felt well beyond hospitals, affecting families, workplaces, and the economy; see Figure 6.

Modeling of the indirect costs of HPV-related cancers in Central and Eastern Europe (CEE) further highlights Poland's disproportionate share of the economic burden (30). In 2019, the excess deaths corresponded to 34,478 Years of Life Lost (YLL) and 6,643 Years of Productive Life Lost (YPLL), reflecting the significant proportion of deaths occurring in women of working

[4] This distribution includes in situ cases, which accounted for 36% of all cervical cancer diagnoses by stage in 2020 (22). If these in situ cases were excluded, the proportion of advanced-stage diagnoses (stage III and IV) would be higher than stated above, reaching approximately 64%.

age. The total Present Value of Future Lost Productivity (PVFLP) was estimated at €37.8 million, the second highest in the CEE region. On average, each HPV-related cancer death in Poland represented a loss of €17,017. These figures highlight the need and potential for greater preventive impact of HPV-related burden.

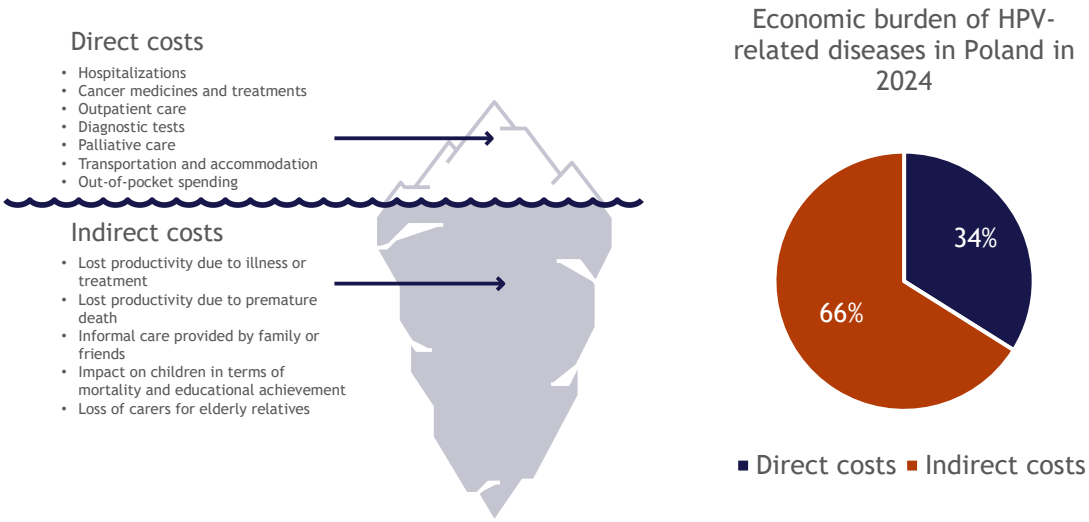


Figure 6: Economic burden of HPV-related diseases in Poland in 2024

Source: (29).

Table 1: Components of the economic burden of cancer

Direct costs	These are the costs of disease-related resource consumption. They include public and private expenditure for services within the health care system, such as diagnostic procedures, surgeries, radiation therapy, and medicines. Expenditure on social support services outside of the health care system are also direct costs. Expenditure by patients for travelling to receive treatment is also a direct cost.
Indirect costs (productivity losses)	These are the costs of patients' productivity loss arising from the inability to participate in the economy due to the disease. They consist of the temporary or permanent inability to work in the formal labor market (called morbidity) and from premature death (called mortality) of working-age patients.
Informal care costs	These costs represent the value of the time spent by family members and friends providing unpaid care, such as transportation to a health care facility or assistance with household chores.

In Poland, productivity losses from cervical cancer exceed direct medical costs. Between 2018 and 2022, women diagnosed with cervical cancer took an average of 23 to 25 sick leave days each year, resulting in productivity losses that increased from just over EUR 10 million to more than EUR 14 million annually (31). During the same period, nearly 1,750 deaths due to cervical cancer among working-age women and annual treatment costs around EUR 11 million, alongside EUR 5 to 6 million in sickness and disability benefits further compounded the economic impact (31).

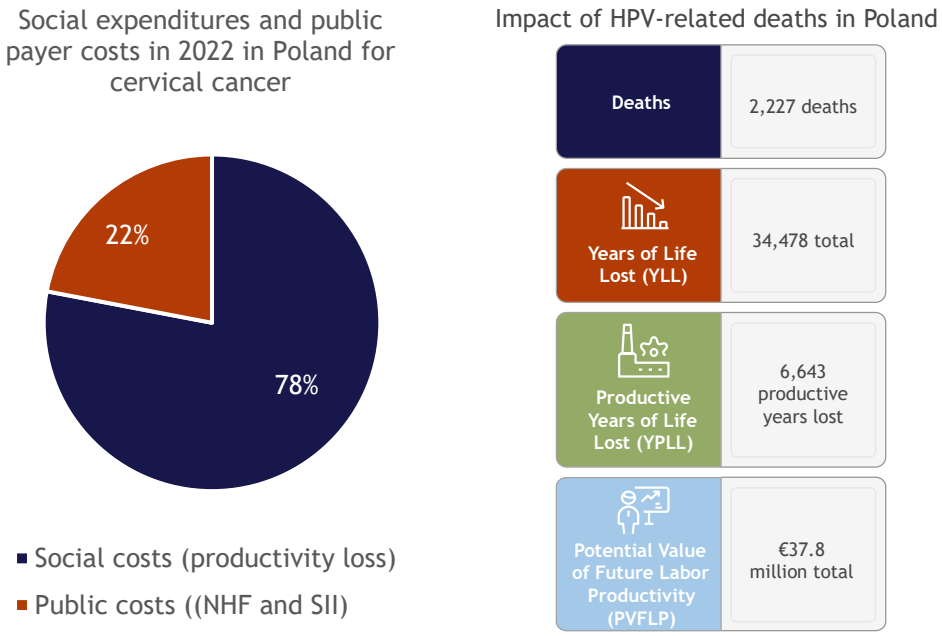


Figure 7: Impact of indirect costs of cervical cancer and HPV-related cancers.

Source: (31) and (30).

2.2 Cervical cancer patient pathway

International standards, guidelines, patient care algorithms for cervical cancer prevention and treatment are well-established. Given that cervical cancer is among the most preventable cancers, effective control begins with HPV vaccination, followed by screening, and timely treatment of precancerous lesions or cancer. The figure below shows the continuum of prevention, control, and treatment, structured around the three key pillars: vaccination, screening and treatment. These pillars align with the WHO's global elimination targets and the EBCP, which aims to significantly reduce the burden of HPV-related cancers. The subsequent sections of this white paper will examine each pillar in detail, highlighting opportunities to strengthen Poland's response.

Despite fewer deaths, bigger societal costs: HPV prevention is key to burden reduction

A study from 2025 described how Poland made real progress against HPV-related cancers between 2010 and 2022 (32):

- 14.7% fewer deaths.
- 28.2% fewer years of life lost.
- 37.9% fewer years of productive life lost (mainly due to fewer cervical cancer deaths).

But despite these improvements, the economic cost of HPV-related cancers grew:

- The total economic loss caused by people dying too early increased by 11.5%, reaching €142 million when valued by GDP per employed person.
- When valued using wages, the increase was even greater 23.2%, with productivity losses reaching €52.6 million.

Even though fewer people are dying from HPV-related cancers, the economic cost of each death is increasing. As life expectancy, wages, and workforce participation rise, every year of life lost translates into greater productivity losses for society. This means that the financial impact of HPV-related deaths today is far higher than it was a decade ago.

Investing in HPV prevention is not only a health priority, but also a key to economic prosperity.

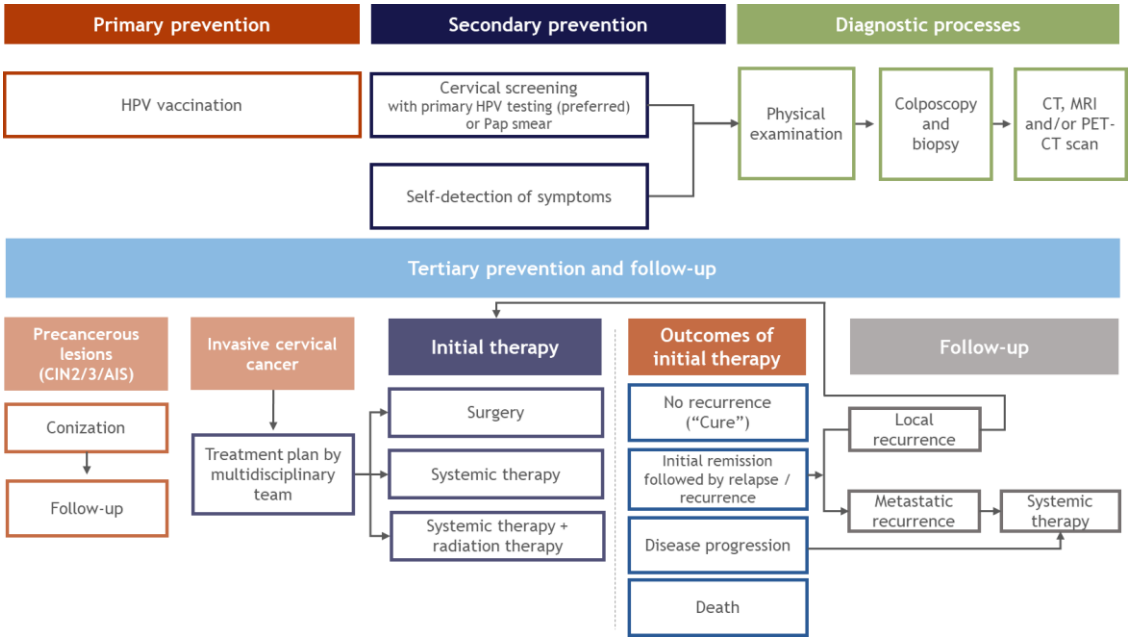
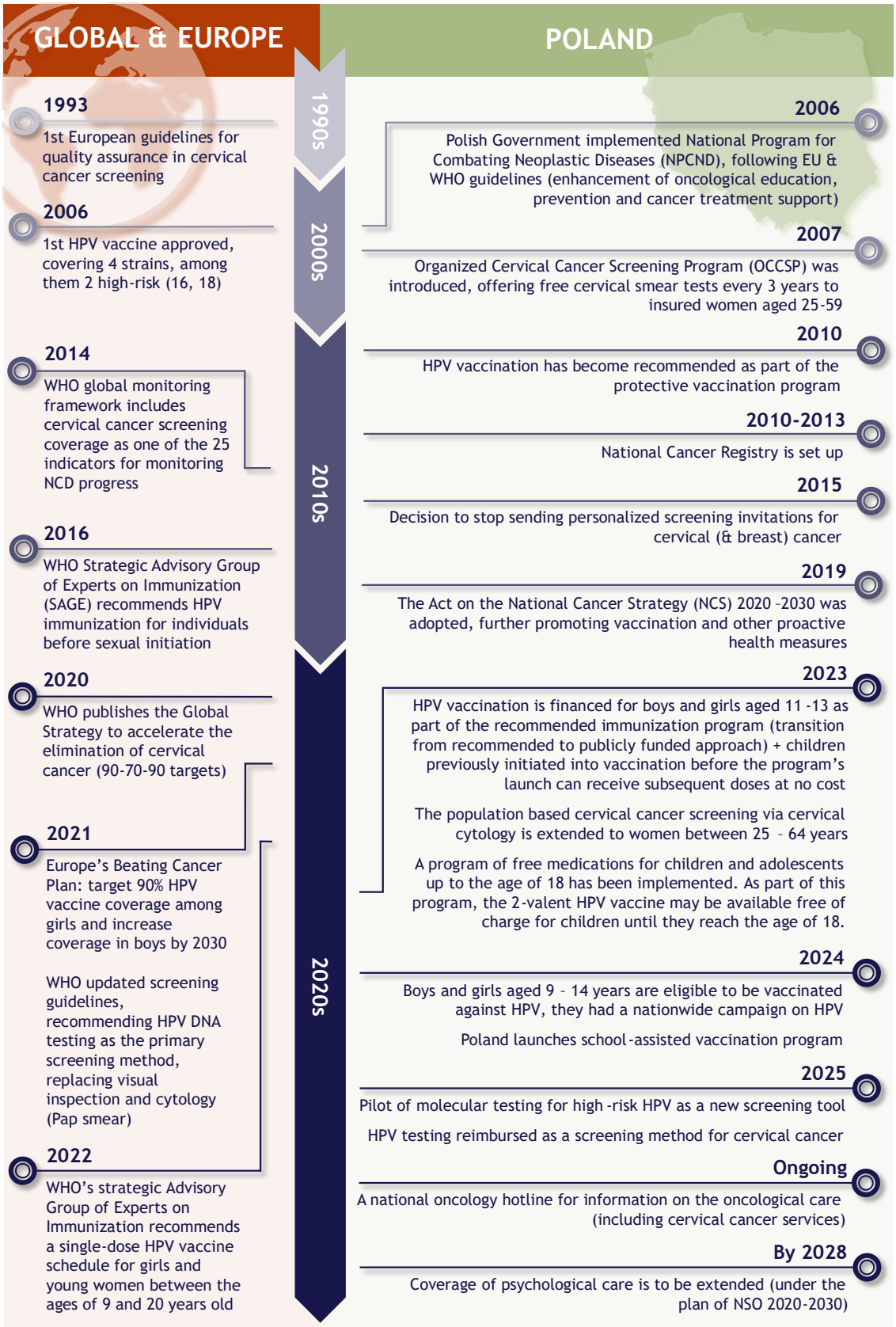


Figure 8: Cervical cancer pathway from prevention to treatment.

Notes: based on ESMO and ESGO/ESTRO/ESP guidelines (33, 34). Abbreviations: CIN = Cervical intraepithelial neoplasia; AIS = Adenocarcinoma in situ; HPV = Human papillomavirus; Pap smear = Papanicolaou smear; CT = Computed tomography; MRI = Magnetic resonance imaging; PET-CT = Positron emission tomography-computed tomography.



NOTE: WHO and EU recommendations are global and European, respectively, but not binding, not imposing specific requirements on any individual country.

3. Primary prevention through HPV vaccination

HPV vaccination is the cornerstone of primary prevention of HPV-related diseases, including cervical cancer. Despite clear evidence of its effectiveness and longstanding recommendations, vaccination coverage in Poland remains below both national targets and European benchmarks.

As of 2024, final-dose vaccination coverage rate (VCR) among women was 13%, below the global average of 28% (35). Among men, coverage stood at 7%, roughly aligned with global figures. According to national official statistics in October 2025, 15.5% of children aged 9-18 had received the vaccine, with higher uptake among girls 19.4% than boys 11.8% (36). However, local experts caution that this figure is a point-in-time snapshot, likely an underestimation of completed birth cohorts; for example, the 2011 cohort shows completed vaccination rate of 40.7% among girls and 27.9% among boys.

These numbers are promising, but are yet to reach both Poland's National Cancer Strategy 2020–2030 goal, which aims to vaccinate at least 60% of girls and boys by 2028 (18), and the Europe's Beating Cancer Plan (EBCP) target of 90% HPV coverage for girls and significant increases among boys by 2030 (12).

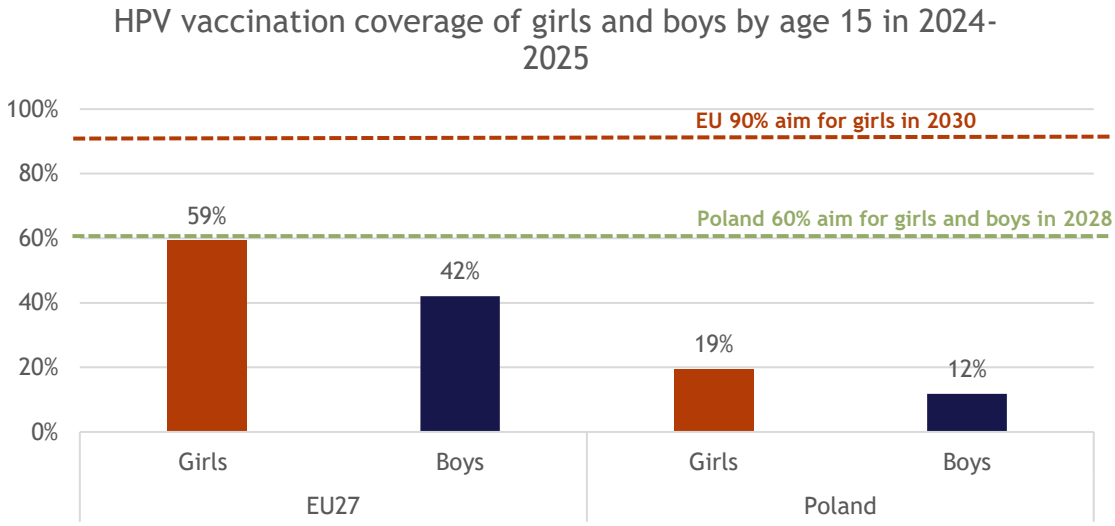


Figure 9: HPV vaccination coverage of girls and boys by age 15 in 2024 - 2025.

Notes: HPV vaccination coverage rate (VCR) refers to last-dose coverage by age 15 in 2024. A weighted average of EU27 was estimated; experts warned these data can be incomplete. Data for Poland are derived from a report issued by the national e-health service (*Centrum e-Zdrowia*), for girls and boys 9-18 years old. Sources: (35), and (36).

Despite the slow initial uptake of the HPV vaccine, recent years saw important progress made, coverage rose from under 1% in early 2023 to about 15% by mid-2025; Figure 10. The trend shows a growing momentum, which further political commitment and action will help to sustain.

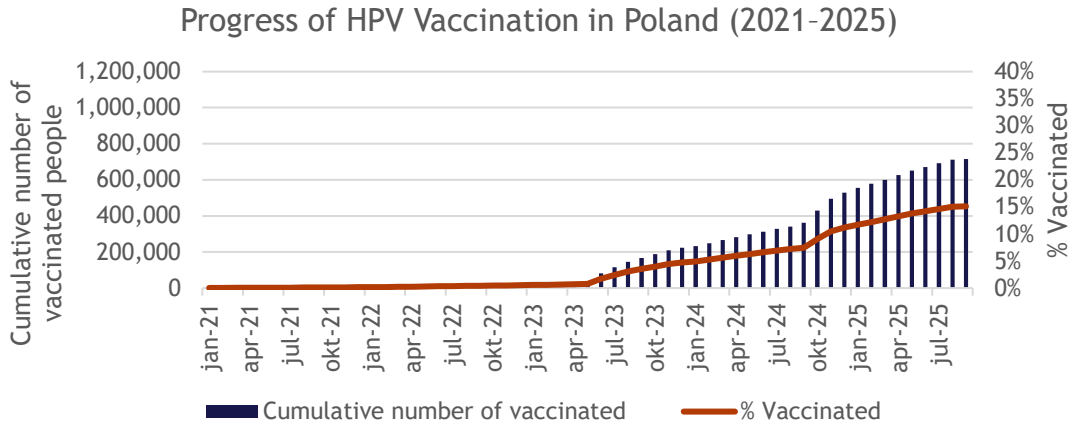


Figure 10: Progress of HPV vaccination in Poland (2021-2025).

Sources: (36).

Regional disparities and equity in access to prevention services

HPV vaccination coverage in Poland demonstrates large regional disparities, reflecting differences in local outreach, cultural attitudes, and access to vaccination services. Coverage is lowest in Podkarpackie (9.6%), Lubelskie (11.2%), and Podlaskie (11.3%) voivodeships, and highest in Kuyavian-Pomeranian (18.9%), Pomeranian (18.86%), and Mazowieckie (18.5%) (36); Figure 11.

Info box 1. Regional context & cultural factors shaping HPV uptake

HPV vaccination in Poland does not vary only by logistics, it also reflects local attitudes. Local experts pointed out that more conservative eastern voivodeships tend to lag, influencing both family decisions and provider behavior. In these areas, some PHC teams are cautious about fronting HPV vaccination due to expected pushback, which creates a loop where low demand leads clinics to deprioritize the effort.

Moreover, vaccine availability mechanisms further influence uptake. Under the national HPV program, vaccines must be ordered by primary care facilities based on parental request, or individual, if over 18 years old (37). As vaccines cannot be returned or transferred between centers (38), this requirement limits the possibility of administering the vaccine spontaneously during a routine visit unless prior arrangements have been made. Local experts noted that the feasibility of offering “same-day” vaccination depends on local organization and availability of the vaccines and variability of schools participating in the vaccination program.

Structural and logistical barriers that underpin differences in access to preventive services require more proactive, equitable distribution strategies, enhanced local outreach, and flexible delivery models to increase coverage, particularly in low-performing regions.

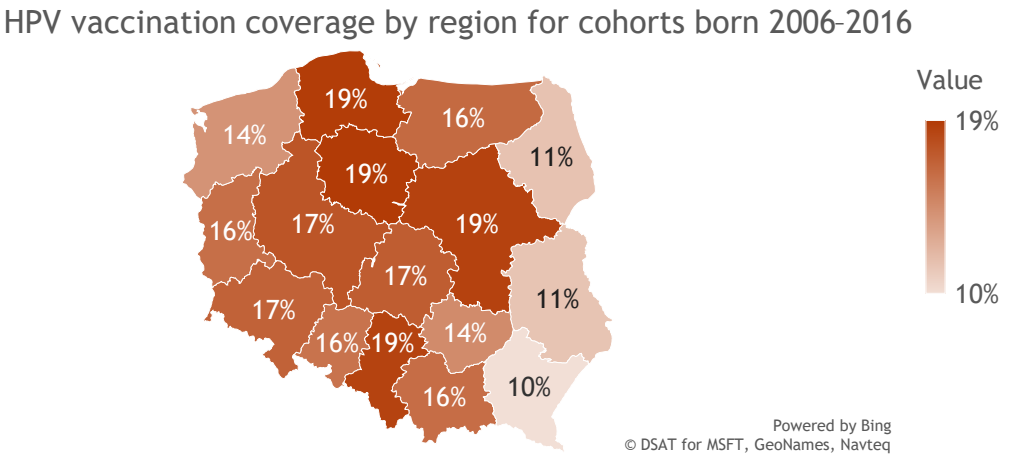


Figure 11: Regional differences in VCR for individuals born in 2006 to 2016.

Source: (36).

Best practice example: Using trusted messengers to rebuild trust in vaccination

UK (Premier League women's football as trusted messengers). Arsenal Women used the high-visibility North London Derby to amplify the Defend Your Tomorrow campaign, linking cervical-cancer prevention to NHS screening and HPV vaccination (35). Players acted as credible, value-aligned messengers. Also, matchday assets and social posts pushed fans to take concrete next steps (visit GP / campaign site).

Austria (national campaign + youth partners). Austria's Federal Ministry of Social Affairs, Health, Care and Consumer Protection (BMSGPK) launched a nationwide HPV communication campaign as part of its expanded free vaccination offer for all individuals aged 9–30 (36). The official Campaign Report on HPV Vaccination (January 2025) outlines a coordinated media strategy combining digital, outdoor, and influencer outreach under the national vaccination brand impfen.gv.at – "Einfach schützt" ("Simply protects"). The campaign uses relatable youth imagery and messages such as "Dein erster Crush? Deine Zeit: Jetzt gratis gegen HPV impfen" ("Your first crush? Your time: Get your HPV shot now for free") to reframe vaccination as cancer prevention rather than an issue of sexual behavior. Alongside public-space advertising and school placements, the plan includes social media collaborations with influencers and podcasts to reach parents and young adults.

EU-level (PROTECT-EUROPE exploring football as an "influencer"). Under Europe's Beating Cancer Plan, the EU-funded PROTECT-EUROPE project explicitly explores football as an influencer and supplies Member States with campaign tools for social media, helping countries localize credible messengers (clubs, players) and target youth/parents with cancer-prevention framing (39).

Key features: Meet people where they are and prompt immediate action. Each practice above pairs high-trust messengers (players, public figures, youth leaders) with high-attention settings, and always directs audience to a specific next step (book screening, get vaccinated, visit the campaign page). The strategic sequence of targeted messages, paired with actionable steps can reduce friction and responsibility placed on an individual.

Learnings for Poland: Like many EU countries, vaccine hesitancy persists; school principals report parental pushback. Campaigns should keep the cancer-prevention frame front and center (instead of sexually transmitted infection framing), mobilize trusted messengers, women's/men's football clubs, local players, and youth leaders, as peer influencers, and deliver easy actions (SMS links, QR codes to e-registration, on-site mobile clinics at school/club events). With online sources as the primary channel for 17–25-year-olds, Poland can pilot peer-to-peer social campaigns and implement tracking of such reach.

3.1 Infrastructure for monitoring and evaluation for primary prevention

Reliable monitoring systems are indispensable for tracking progress, ensuring accountability, and building public trust. In Poland, HPV vaccinations are documented in the central electronic vaccination card (e-Karta Szczepień), maintained within the national healthcare information system (P1/e-zdrowie) (36, 38). Since October 2023, healthcare providers are legally required to record all HPV vaccinations to ensure traceability and consistency at the clinical level (38, 43). Data from the *e-Karta Szczepień* form the basis of the Human Papillomavirus Vaccination Report, published online by the national eHealth Centre (36).

Despite recent advances, the e-Karta Szczepień currently does not distinguish between doses, or record where vaccinations are administered (e.g., schools, primary care, pharmacies), whether they are routine or non-routine, or which vaccine product is used (36). Missing data on older cohorts and target population denominators further limit assessment of VCR. Similarly, WHO data for Poland report only aggregate last-dose coverage by sex, without details on first-dose uptake, completion, or regional variation (35). A public dashboard is available and regularly updated, but its indicators remain high-level and lack the granularity (e.g. missing VCR target) needed for robust progress monitoring. In addition, combining data sources in CeZ reports creates uncertainty about overlaps between pharmacy prescriptions and registry entries, increasing the risk of duplicate counts (44). These constraints are consistent with findings from a systematic review, which identifies centralized electronic registries, when they capture dose-level data, setting of administration, and contact details, as the preferred backbone for coverage monitoring, equity analysis (via district-level disaggregation), and targeted reminders/recalls (45).

Best practice example: Reminders/recalls for vaccination and HPV dashboard

Denmark. Denmark operates a centralized reminder/recall system embedded in its national Danish Vaccination Register, which automatically sends reminders 14 days before the due vaccination date and follows up 30 days after if the vaccine has not been administered (40). The system covers all recommended childhood vaccines, including HPV, and is tied to civil and health registries to maintain real-time monitoring and targeting. Moreover, Denmark trains health visitors as vaccination ambassadors to complement digital reminders with local trust-based outreach. The system is considered part of Denmark's robust immunization infrastructure and has been flagged as a "best practice" in EU peer learning projects (41). Complementing this, Denmark also uses a publicly available HPV immunization dashboard that displays vaccination coverage by birth cohort and geography against clearly defined VCR targets. By visualizing both actual coverage and target levels, the dashboard makes gaps immediately visible, supports micro-planning (e.g. focusing outreach on underperforming municipalities or cohorts), and strengthens transparency and accountability around progress towards national HPV vaccination goals (42).

Key features: Denmark's reminder system is embedded in the Danish Vaccination Register, which automatically issues notifications 14 days before a vaccine is due and 30 days after if it remains outstanding. This automation ensures consistent follow-up across all childhood vaccines, including HPV, and leverages real-time registry data to target families accurately and equitably. The HPV dashboard further enhances this by providing near real-time visualizations of coverage by age, sex and region against agreed VCR benchmarks, enabling program managers to quickly identify where reminders and outreach need to be intensified and to monitor the impact of their actions over time.

Learnings for Poland: Poland could apply the same model using its e-Karta Szczepień system to trigger SMS and mojeIKP app reminders for upcoming or missed HPV doses. Coupling these automated alerts with school-assisted outreach or local health-visitor follow-up would reduce missed opportunities, improve second-dose completion, and strengthen public confidence through predictable, transparent communication. Drawing on Denmark's HPV dashboard, Poland could also enhance its existing public dashboard to show coverage by cohort and region against explicit VCR targets, making gaps easier to spot and better aligning reminder efforts with underperforming areas.

To strengthen monitoring and ensure continuous public engagement, digital communication has been incorporated into the national HPV elimination strategy. The Department of Education

and Health Promotion, in cooperation with the Ministry of Health and the e-Health Center, plans to send targeted reminders through the mIKP application and SMS to inform users about the availability of HPV vaccination for girls and boys (46). This direction is well-supported: structured notifications are a consistent feature of higher uptake. Across Europe, areas with high coverage systematically used invitations and reminders (10/10), most mid-performing areas used them (5/7), only a minority of low-coverage areas did so (2/4), and none of the very-low-coverage areas used them; examples range from pre-due phone calls to letters (47).

3.2 Stakeholder participation in primary prevention

From August 2024, the government rolled out primary school-assisted vaccination program. Getting a vaccine requires a parental consent (50). National guidance allows giving HPV together with other vaccines at the same visit (separate injections), however, this is only possible in clinical settings, not schools (51). In 2024/2025 40% of schools have joined the program (5,207 schools) (46). The participation grew from 30% by the end of 2024 (52). However, participation varies considerably by region: while 73% of primary schools in the Świętokrzyskie Voivodeship took part, only about 20% participated in Wielkopolskie and Podkarpackie (52). Local experts noted that participation often depends on the school director's competence and initiative, with unclear procedures and liability cited as barriers. Local experts also noted that operational timing matters: September overlaps with PHC "high season," resulting in staff shortages for school sessions. A further constraint is limited school-health capacity. Too few school nurses and hygienists are available to sustain routine school sessions. In 2022/23 preventive care operated in 17,489 schools (84.6%), while special schools had coverage of just 50.4% (53). Thus, both PHC and schools remain important avenues for strengthening primary prevention.

Best practice example: School-based/School-assisted vaccination where all girls and boys get offered the HPV vaccine

Sweden (School-based vaccination). In Sweden, HPV vaccination has been part of the school-based vaccination program for girls since 2012 and extended to boys from 2020 (48). In year 5, a school nurse administers HPV vaccination to all children whose parents have signed the consent. The nurse acts as the primary information source for children and parents.

Key features: Sweden's HPV vaccination strategy relies on an "organized" and school-based program to achieve high coverage. All schools are automatically enrolled and have an assigned nurse that will cover it for school-health services (49).

Learnings for Poland: So far, Poland has ~40% schools that participate in school-assisted vaccination programs. Some regions report reluctance from parents and inadequate resources for successful implementation. Understanding key barriers of specific schools and securing adequate resources for school administrators can make schools a default avenue to vaccinate children, educate parents, and reduce logistical barriers of obtaining a vaccine.

HPV vaccination uptake is influenced not only by availability but also by trust, awareness, and public engagement. HPV vaccination in Poland faces challenges from vaccine hesitancy and a growing anti-vaccine movement (54), limiting individual as well as school participation (55). To address this challenge, the national communication strategy employs multiple channels, including television, radio, billboards, leaflets, websites, and social media to promote HPV awareness (56, 57).

The medium of communication and messaging are key; the majority of young women use internet as the primary source of information (58). Moreover, for years, vaccine campaigns in Poland framed HPV primarily in relation to cervical cancer (57). To strengthen sex-neutral uptake, communication strategies should broaden their scope to include other HPV-related cancers that also affect men (57).

Info box 2. Attitudes towards HPV vaccination in Poland are changing

A nationally representative survey from 2025 on HPV awareness in Poland found that (59):

- 62% of the population has heard about the free HPV vaccination program for children aged 12–13.
- Among those aware of the program, 66% report learning about it from media/Internet/NGOs, with far fewer citing healthcare providers as a source.
- Nearly 70% believe that schools should facilitate HPV vaccination to improve access to preventive care.
- Key barriers to school-assisted vaccination include parental concerns about vaccine safety (42%) and insufficient information for parents (38%).

These findings indicate broadly positive attitudes toward HPV vaccination and school-assisted delivery models. Support for mandatory HPV vaccination is substantial; over 40% in favor, with only 14% strongly opposed, suggesting a receptive environment for future policy steps. Insights from the survey suggest the need for enhanced engagement of schools in distributing clear educational materials for parents, teachers, and students, alongside strengthened communication from healthcare professionals.

Best practice example: Trust-building communication and youth engagement

Portugal (LPCC "HPV e Quê?" school tour). The Liga Portuguesa Contra o Cancro runs HPV e Quê?, a national school roadshow and web hub that brings HPV education into secondary schools through interactive sessions (e.g., virtual reality, quizzes, and on-site question-and-answers with health professionals) (60). The campaign uses youth-focused creative and plain-language explainers to reduce stigma, position HPV as a cancer-prevention issue, and spark peer-to-peer diffusion. Multiple editions (including a digital roadshow) have reached dozens of schools nationwide.

Denmark (Stop HPV, Stop Cervical Cancer). National myth-busting campaign ("Stop HPV, Stop Cervical Cancer") curbed hesitancy (61). Within a year of its launch, coverage among girls doubled, and parental confidence in the vaccine increased substantially from about half of parents expressing trust to around 80%.

Key features: Both campaigns rely on simple, emotionally resonant engagement formats, meeting audiences where they already are and framing HPV vaccination as cancer prevention, not sexual behavior. Denmark's campaign built confidence through clear myth-busting messages and trusted national messengers, while Portugal's "HPV e Quê?" tour used interactive, school-based sessions and digital tools (gamification) to spark dialogue and peer-to-peer diffusion. In both cases, information delivery was hands-on, relatable, and backed by credible institutions, turning awareness into confidence.

Learnings for Poland: Poland's low and uneven vaccination coverage underscores the need for multi-level trust rebuilding, national credibility campaigns complemented by youth-centered engagement at school level. A similar dual model could use a national myth-busting narrative to counter misinformation, alongside interactive roadshows that make HPV prevention visible, participatory, and gender-neutral (turn away from sex).

Limited health literacy remains a barrier too. Awareness of the national program is low: a 2023 survey found that only 51% of adults had heard of the free HPV vaccination program, and just 32% correctly identified boys and girls aged 12–13 as the eligible group (57). Awareness was highest among urban, educated women aged 35–64. Among young women (17–25), most had heard of cervical cancer, yet fewer than half recognized its link to HPV (58). Another 2023–

2024 survey showed that only half of respondents had heard of HPV vaccination (55), among those uncertain about vaccination (68%), the main reasons were insufficient knowledge (29%) and safety concerns (21%).

Parental attitudes are shaped more by knowledge, education, and safety perceptions than by moral stigma (62). In conservative or rural areas, presenting HPV vaccination as cancer prevention for both girls and boys helps reduce resistance and engage PHC teams. However, awareness levels are declining—between 2021 and 2022, HPV vaccine awareness fell from 69.8% to 53.2%, and cytology awareness from 91.2% to 81.9%; only 19.4% reported being vaccinated.

While improving health literacy is crucial, it must be accompanied by systemic and targeted interventions. Marginalized populations, including migrant and refugee communities, face additional barriers such as language difficulties, uncertainty about entitlements, and limited outreach, requiring tailored communication and access strategies (63).

Info box 3. Consent logistics in school-based & school-assisted HPV programs

Consent logistics can be a major bottleneck for uptake in school-based programs. A systematic literature review on immunization program delivery strategies found the following (45):

- Opt-in is common but slows uptake: some studies identified opt-in parental consent as a major barrier to HPV vaccination; paper forms are often lost or not returned; and when opt-in is not the local norm, it can fuel suspicion and lower participation.
- Opt-out performs better: programs and reviews report higher coverage under opt-out; switching from opt-in to opt-out improved uptake where opt-in struggled.
- Design and delivery of forms matter: keep forms short and bundle them with clear information; offer digital return options (email/app); and set up reminders and follow-ups by school staff.
- Direct parent–school contact helps: access to school nurses/teams to answer questions supports timely consent returns.

Best practice example: Embedding equity and monitoring in national elimination plans

In 2023, Ireland published "Ireland's Cervical Cancer Elimination Action Plan 2025-2030", which explicitly aims to make cervical cancer rare in every community and sets 2040 as the target year for elimination (64).

Key features: Ireland's plan ensures equitable HPV vaccination by monitoring uptake separately in DEIS (Delivering Equality of Opportunity in Schools) vs. non-DEIS schools, tailoring services to underserved groups, and embedding culturally sensitive community education alongside the national school-based program (64).

Learnings for Poland: Poland's e-Karta lacks dose number and delivery setting (school vs PHC). More granular data will promote equity and further investment in developing KPIs and research for RWE can strengthen the vaccine uptake.

3.3 Policy agenda and global alignment

International frameworks, such as the WHO Global Strategy, set ambitious benchmarks aimed at eliminating cervical cancer as a public health problem, while the EU's Beating Cancer Plan and Poland's own National Cancer Strategy outline concrete timelines and coverage targets.

Table 2: Key objectives primary prevention worldwide, the EU and Poland.

Key objectives	
World 	• 90% coverage of HPV vaccination in girls by 2030 in the Global strategy to accelerate the elimination of cervical cancer as a public health problem (11).
EU 	• Under Europe's Beating Cancer Plan, the EU has set a goal to vaccinate 90% of girls in the target population against HPV and significantly increase the vaccination of boys by 2030 (12). • The Council Recommendation adopted in June 2024 supports Member States by providing a common framework to strengthen HPV vaccination program, improve monitoring and data systems, promote equitable access, and share best practices, with EU-level support through the EU4Health program, Horizon Europe, and ECDC coordination under the European Health Union (65).
Poland 	• By the end of 2028, the strategy aims to vaccinate at least 60% of adolescent girls and boys against HPV (18).

In Poland, HPV vaccination has been recommended since 2006, but until mid-2023, it was not fully funded at the national level (66-68). In the EU, Poland was among the last countries to introduce free HPV vaccination nationwide (68):

- **June 2023**: Free vaccination introduced for boys and girls aged 11–13 (66, 67). By August 2023, coverage was 9.8%, with 65% of recipients being girls and 35% boys (69).
- **September 2023**: There is also full reimbursement of bi-valent vaccination for girls and boys up to 18 years old (44, 70), and partial reimbursement of bi-valent vaccination (50%) for individuals over 18 years old (70). To receive the reimbursement, a prescription must be issued by an authorized healthcare professional and filled at a pharmacy (44).
- **September 2024**: Eligibility expanded to all children aged 9–14 as part of the national vaccination program, which includes vaccines with varying protection profiles (56, 71).

Since 1 September 2024, HPV vaccination registration is primarily done directly through any primary care clinic (PHC), with optional e-registration available at some clinics via the Internet Patient Account or mojeIKP app. Qualified professionals, including physicians, nurses, midwives, paramedics, and trained school hygienists administer the vaccine, and record in the electronic vaccination card (56, 66). While the vaccine is available in PHC, by mid-2024 the HPV vaccination program had been implemented in only about 30% of primary health care facilities (73). In part, limited uptake was attributed to the complexity of reporting requirements, as data must be entered into three separate systems, creating an administrative burden.

Info box 4. Policy update (draft): Mandatory HPV vaccination proposal

As of October 2025, the Health Ministry has put out for public consultation a draft amendment to the regulation on mandatory immunizations that would add HPV vaccination to the mandatory schedule (72). The obligation would apply to children from age 9 through 15, starting with the 2018 birth cohort, and follow a two-dose schedule (dose 1 after age 9; dose 2 6–13 months later). The proposed effective date is 1 January 2027. This is a draft and remains subject to consultation and final approval.

While mandatory HPV vaccination present one potential level to increase the VCR, international experience shows that expanding vaccination coverage age-range can also accelerate it. The following best practices demonstrate where this has already been implemented and how.

Best practice example: expanding access through regional catch-up and high-risk group vaccination programs

Sweden. Several Swedish regions provide free or subsidized HPV vaccination to unvaccinated individuals up to age 27, while others target specific cohorts, such as boys born 2007–2008 or 17–19-year-olds in high school (48). Some regions also extend eligibility to high-risk adults up to age 45 (e.g., people living with HIV or with previous HPV-related lesions). In Sweden only the nonavalent vaccine is available (48).

Italy. Across Italy, regional and autonomous provincial programs offer free HPV vaccination to vulnerable groups, including people living with HIV, men who have sex with men (MSM), and women with HPV-related lesions (74). By 2020, free vaccination was available to HIV-positive individuals in 8 regions and 2 provinces, to MSM in 9 regions and 2 provinces, and to women with HPV-related lesions in 86% of regions. In addition, 10 regions and 2 provinces extended access to broader adult cohorts via co-payment schemes, ensuring equity and continuity of protection.

Romania. National policy extends free HPV vaccination of the nonavalent vaccine up to age 26 (women and men) via the National Vaccination Program from 1 October 2025 (75); women 27–45 receive 50% reimbursement (76).

Slovenia. Under compulsory health insurance, HPV vaccination with nonavalent vaccine is free for all young people up to age 26 (77).

Key features: These regional models demonstrate how flexible implementation within a national framework can drive equity.

- Integration with digital platforms: Sweden's use of the 1177.se health portal allows individuals to check eligibility, schedule appointments, and access vaccination records **(48)**.
- Financial accessibility: Vaccines are provided free of charge or at nominal cost, removing economic barriers that often deter adults or at-risk groups.
- Data-driven expansion: Regions use vaccination registry data to identify coverage gaps and adjust eligibility dynamically.
- Clear age-band entitlements: National catch-up to age 26 (e.g., Slovenia; Romania from 1 Oct 2025) sits alongside routine adolescent offers, reducing ambiguity for providers and families.
- Tiered financing for older adults: Romania combines free vaccination ≤26 with co-payment/partial reimbursement for 27–45, protecting access while managing budgets.

Learnings for Poland:

Poland's HPV vaccination uptake remains low, and older adolescents and adults are largely excluded from the national free vaccination program. While partial reimbursement (50%) is available for adults aged 18–64, no structured mechanism exists for free access among high-risk groups such as MSM, people living with HIV, or those with HPV-related diseases.

Italy's and Sweden's regional approaches show how targeted funding, digital eligibility systems, and co-payment schemes can close equity gaps. Drawing on Slovenia and Romania, Poland could (a) introduce a national catch-up entitlement to age 26, (b) adopt tiered reimbursement for older adults for all vaccine options (e.g., partial reimbursement 27–45), and (c) create regional pilot programs for high-risk groups. All should be coordinated through e-Karta Szczepień and mojeIKP for eligibility checks, booking, reminders, and completion tracking, promoting fairness, improving health outcomes, and aligning national practice with EU-wide cancer-prevention goals.

Local success stories

In 2025, The Parliamentary Group on Combating HPV and Related Diseases has been inaugurated. This is a group composed exclusively of Members of Parliament and operating within the Sejm of the Republic of Poland. Its aim is to prevent HPV infections through educational and preventive activities. The tasks include, among others, engaging young people in prevention and recommending systemic solutions in the areas of public health and education (78). The group has attracted broad political support, with eight MPs joining as active advocates. Its first meeting, held in September 2025, was dedicated to advancing school-assisted vaccination programs (46). This platform represents a unique and structured mechanism for keeping HPV elimination on the political agenda. By fostering collaboration between decision-makers and civil society, it has the potential to accelerate progress toward the WHO 90-70-90 targets, reduce regional disparities, and strengthen public trust in the national immunization effort.

Alongside national-level initiatives, local community-based programs highlight the power of grassroots participation. In Poznań, a county program running since 2008 achieved 80% coverage among girls (81). In Wrocław, a long-standing program (2010–2023) implemented a "train-the-trainers" model, enabling scaled, community-level dissemination of accurate HPV information (24). Each year, HPV experts trained healthcare professionals, school nurses, and teachers, equipping them with up-to-date knowledge and communication tools. These trained individuals then engaged parents and children through school meetings, counseling sessions, and interactive educational materials such as films and games. The program achieved a median vaccination coverage of 72% of its target population, 13-year-old girls from 2010 onward and boys from 2020.

Info box 5. European Code Against Cancer (ECAC) and HPV prevention

The ECAC, developed by the European Commission in collaboration with IARC, is a key evidence-based tool supporting cancer prevention. The updated 2025 edition with 14 actions that target modifiable risk factors for cancer, recommends strengthening HPV vaccination programs and ensuring prioritization of high-risk individuals, including those immuno-compromised or with a history of sexual abuse (79).

Despite its significance, awareness of the ECAC in Poland remains low: only around 9% of adults are familiar with it. Increasing public familiarity with the ECAC is a priority within the National Oncology Strategy (NSO), alongside providing free HPV vaccination and broader investments in prevention and education (80).

4. Secondary prevention through screening

Early detection through cervical cancer screening can detect precancerous lesions or cancer before symptoms appear. In Poland participation is among the lowest in the EU, and transition to HR-HPV testing began only recently. From both a public health and economic perspective, detecting and managing precancerous changes early is considerably less costly, and far less burdensome for patients, than treating invasive cancer at a later stage.

Poland's Organized Cervical Cancer Screening Program (OCCSP) targets women between the ages of 25–64 years. Since 1 July 2025, both cytological and HPV testing are available (82, 83). Women can access screening through direct appointments at the gynecologic and obstetrics clinics via central e-registration in IKP or the mojeIKP app (84).

Two screening methods are currently in use:

- Cytology (Pap smear): The most widely used test, performed every three years. It detects abnormal cell changes that may indicate precancerous or cancerous lesions.
- High-risk HPV (HR-HPV) testing with genotyping: A molecular test detecting high-risk HPV DNA or RNA, recommended every five years (82). Followed by cytology if positive.

Following the European Council recommendations for HPV testing as the primary method (10), Poland ran a pilot program (2019–2023) that screened over 30,000 women and demonstrated feasibility (83). Despite the promising results, implementation of HPV testing remains in early stages and access is limited to selected clinics. Poland's guaranteed screening benefit specifies HR-HPV testing with genotyping of at least HPV16/18 (85); though broader panels may be used (86).

Despite the availability of OCCSP, participation is low and has fallen from 21% in 2016 to just around 11% in 2025; see Figure 12; (87), below the EU average of 55% (in 2022).

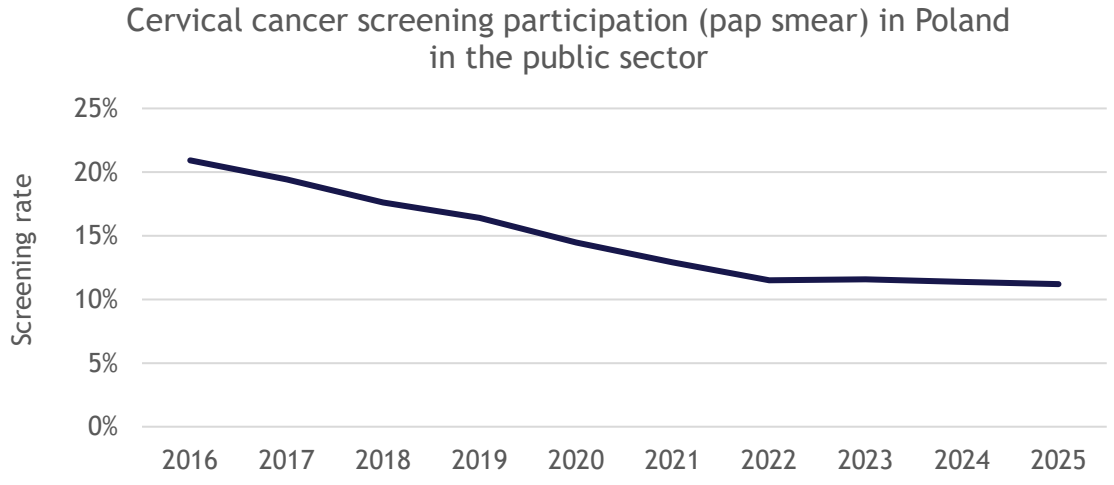


Figure 12: Cervical cancer screening participation (pap smear) in Poland 2016-2015.

Source: (87).

The National Cancer Strategy has flagged this downward trend as a concern (18). However, the true population-level screening coverage is likely underestimated because private-sector tests are not captured (18). Self-reported surveys suggest that up to 87% of women over the age of 15 report having had a Pap smear at least once (88), and according to self-reported data from 2019, about 73% of women aged 20-69 had undergone cervical cancer screening within the last three years (89).

4.1 Infrastructure for monitoring and evaluation in secondary prevention

Comprehensive and complete data is important in monitoring and evaluation of the screening program. At present, Poland lacks a cervical cancer screening registry that captures both public and private sector data. Although NFZ reports monthly Pap smear rates within the national program (87), opportunistic screening performed in the private-sector is not systematically recorded, making the true population-level coverage rates uncertain (88).

Better systemic organization of screening should also incorporate quality assurance and monitoring of the screening tests performed. Although Pap smears in Poland show moderate to substantial diagnostic quality overall, gaps remain in recognizing unsatisfactory and low-grade lesions, and in the variability between laboratories (90). Regular external audits, standardization of procedures, and stronger training/re-certification systems will ensure consistent high-quality cervical cytology nationwide (90).

When it comes to monitoring and evaluation frameworks, NOS defines many prevention and early detection goals, but the stated KPIs are yet to be consolidated and regularly updated in a public dashboard. A 2025 review by the Alivia Foundation found that out of 15 secondary-prevention tasks due in 2023, only 5 were completed and 7 postponed (91). HPV-DNA testing, scheduled for rollout in late 2022, has only occurred in mid-2025 (91). Plans to introduce IT and legal solutions for nationwide tracking by 2023 have also been delayed.

Best practice example: Centralized screening registry and KPIs

Slovenia. Since 2003, Slovenia's ZORA program has operated as a population-based, centralized screening system with a centralized registry and a set of defined and monitored KPIs (92). The results are published in a yearly report and data is visually presented on the program's website. The landing page shows an interactive map overlaying screening and HPV vaccination coverage by region, which is very informative for campaign design. Managed by the Institute of Oncology Ljubljana, it invites all women aged 20+ for Pap tests every three years and follows up if no result is recorded within four years. Incidence of cervical cancer has nearly halved, with ASR ~7/100,000 and coverage >70%.

Key features: A single central registry links the ZORA database with the national population registry and updates nightly (92). This enables automated invitations, active follow-up, and continuous monitoring across both public and private clinics. Additional logistics include standardized triage algorithms, a set of monitored KPIs with visualizations, professional training, multilingual materials, and a nurse-led helpline.

Learnings for Poland: Poland currently lacks a central registry that captures both public and private screening, making coverage rates uncertain. Slovenia's experience shows the impact of centralized invitations and a nightly updated registry can secure high coverage, ensure timely follow-up, and cut incidence in half within two decades.

4.2 Stakeholder participation in secondary prevention

Ensuring access to screening is just one side of the equation, ensuring participation is another. Similar to the findings from other European countries (93), screening uptake in Poland is uneven across socio-demographic groups: in 2019, only 45% of women with lower secondary education reported participation, compared to 87% among those with tertiary education, and while 77% of women in major cities reported screening, only 69% did so from rural areas (94).

Unlike in some countries, healthcare workforce availability is not a limiting factor in Poland. The country has a relatively high number of gynecologists—19 per 100,000 inhabitants in 2023, above the OECD average of 17—with around 6,000 trained specialists nationwide (24, 95). In addition, midwives are increasingly trained in cervical screening procedures, expanding capacity for early detection and follow-up, particularly in underserved areas (96). While women often visit primary care physicians (PCPs) more frequently than gynecologists, screening remains underused in this setting: a 2017 Supreme Audit Office report found that only 9.4% of patient records documented a cytology exam (16).

The main barriers to screening participation in Poland stem not from workforce shortages but from communication and patient engagement challenges. Surveys of program organizers cite limited encouragement from general practitioners (62%), lack of personal invitations (54%), and weak social advertising (46%). On the patient side, low awareness of screening benefits (64%), fear of diagnosis (63%), and limited attention to personal health (49%) remain key deterrents (97). Since 2018, the Ministry of Health's "I Plan a Long Life" campaign has aimed to address these gaps, with renewed ongoing editions emphasizing cancer prevention, including cervical screening promotion (98, 99).

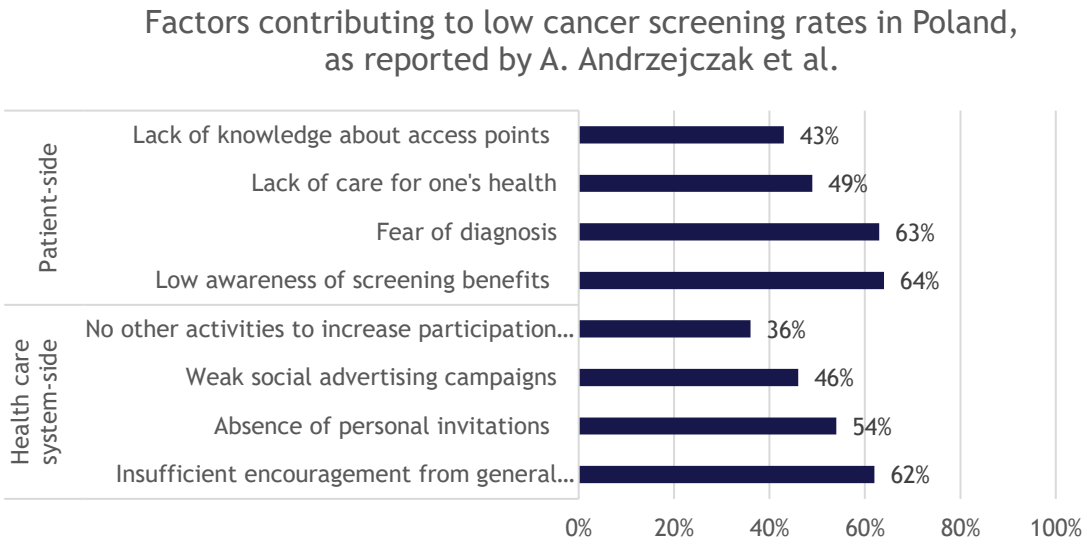


Figure 13: Factors contributing to low cancer screening rates in Poland, as reported by A. Andrzejczak et al.

Source: (97).

Most women in Poland are still screened using cytology, as the national rollout of HPV testing is progressing gradually. The delay stems from ongoing administrative and technical processes, including finalizing the National Health Fund's order based on AOTMiT valuation, completing tenders and contracts for diagnostics, and adapting IT systems to monitor screening activities

(82, 100). HPV self-sampling remains limited despite strong international evidence of its effectiveness (101). Personal invitations, previously mailed to eligible women, were discontinued in 2016 due to cost and data concerns (102). Recently the Ministry of Health began using e-health tools to reintroduce digital invitations and reminders. Since 2022, the IKP platform and its mobile app ("mojeIKP") have been used to send screening reminders; an approach first introduced in colorectal cancer screening (103).

Best practice example: Home-mail HPV self-sampling / direct kit offer

Sweden. In 2021–2022, 330,000 self-sampling kits were mailed to screening-eligible women instead of clinician invitation; coverage increased from ~75% to ~85% (104). Since 2022 women can choose if they prefer to use self-sampling or to see a clinician for screening.

Key features: Direct mailing to eligible women (104), bypassing clinic attendance; kits low-cost, simple, and usable at home; integrated into the organized screening program.

Learnings for Poland: Poland's screening participation remains low (~11%), partly due to barriers like clinic attendance, logistics, and socio-demographic inequalities. Sweden's experience shows that home-mailed HPV self-sampling kits can quickly boost coverage by removing access barriers and offering women a convenient, low-cost option.

Best practice example: Multi-channel digital invitation system

England. England's NHS cervical screening program traditionally relied on mailed letters, but in 2024–2025 introduced a "'ping and book'" system sending invitations through the NHS App and SMS, with paper letters as a fallback (105).

Key features: The system is integrated with NHS health records, enabling personalized app notifications linked directly to booking functions (105). Layered reminders (app first, followed by SMS and later a letter) ensure outreach covers both digitally connected and less connected groups, while GP practices receive lists of due patients for additional follow-up.

Learnings for Poland: Poland currently lacks a consistent, multi-channel invitation and reminder system. Building on the mojeIKP app and SMS notifications already used for HPV vaccination, a similar tiered invitation approach could modernize screening, improve convenience, and reduce non-attendance, while still ensuring paper letters reach those without digital access.

4.3 Policy agenda and global alignment

Poland has taken important steps in strengthening its cervical cancer screening program and aligning it with global and European goals. Over the past years, a series of reforms have been introduced to improve coverage, quality, and monitoring of screening services. Scaling HPV testing, establishing a structured invitation system and self-sampling are just some of the actions that may promote the uptake in the future, see Table 3.

Table 3: Key objectives for secondary prevention worldwide, EU and Poland.

Key objectives	
World 	• By 2030, 70% of women screened using a high-performance test by the age of 35, and again by the age of 45 (11).
EU 	• Under Europe's Beating Cancer Plan it was set that by 2025, 90% of the target population should be offered cervical cancer screening (12).
Poland 	• By the end of 2022, the Strategy planned to introduce the HPV-DNA test into the Cervical Cancer Prevention Program (18). • From 2022, the plan was to increase intensity of quality control for cytological tests. Additionally, from 2023, the plan was to tighten the criteria for implementing the Cervical cancer prevention program (18). • By the end of 2024, the goal was to increase the percentage of people in the target population who have undergone cervical cancer screening to 60% (18). • From 2025, mandatory certification of colposcopists and cytodiagnostics involved in the Cervical cancer prevention program will be introduced (18). • By the end of 2027, this percentage is aimed to increase further to 80% (18). • From 2020 to 2030, the quality of prevention, specifically for cervical cancer, will be coordinated and monitored at the central level (18).

5. Tertiary prevention through treatment and management

Cervical cancer can be detected either when women notice symptoms themselves or through screening before symptoms appear. Detecting precancerous lesions early and timely management of cervical intraepithelial neoplasia (CIN) can interrupt the disease process (106), avoiding the need for more complex and costly treatments. However, when cervical cancer develops, comprehensive treatment strategies become essential to achieve cure or control of the disease.

Cervical cancer diagnosis is confirmed by colposcopy and biopsy (33, 34). MRI, PET, or CT scans may also be used. Once suspected or confirmed, patients enter the oncology fast-track (DiLO) for expedited diagnostics and treatment planning (107); see Figure 14. Management of cervical cancer should be guided by a multidisciplinary team (MDT) (34, 108), including oncologists, surgeons, radiologists, pathologists, and oncology nurses to ensure the most appropriate care for each patient.

The stage at diagnosis determines therapeutic options. Standard treatment typically involves surgergical removal of the tumor and often the entire uterus, radiation therapy, and systemic cancer medicines, alone or in combination depending on the stage (34, 109). Early, operable disease is usually treated with surgery and often followed by radiation therapy with or without chemotherapy (110). For locally advanced cases, concurrent chemoradiation with brachy-therapy used to be the curative standard, but nowadays immunotherapy may be added in high-risk settings (111). In recurrent or metastatic disease, chemotherpay regimens used to be the standard of care, but they have been partly replaced by immunotherapy-based regimens for eligible patients (34). The updated WHO Essential Medicines List (EML) from September 2025, includes immunotherapy as a first-line monotherapy for metastatic cervical cancer (112). Treatment algorithms follow national recommendations from the Polish Society of Gynecological Oncology (PSGO, 2024), aligned with European ESGO and NCCN standards (110); see Figure 8.

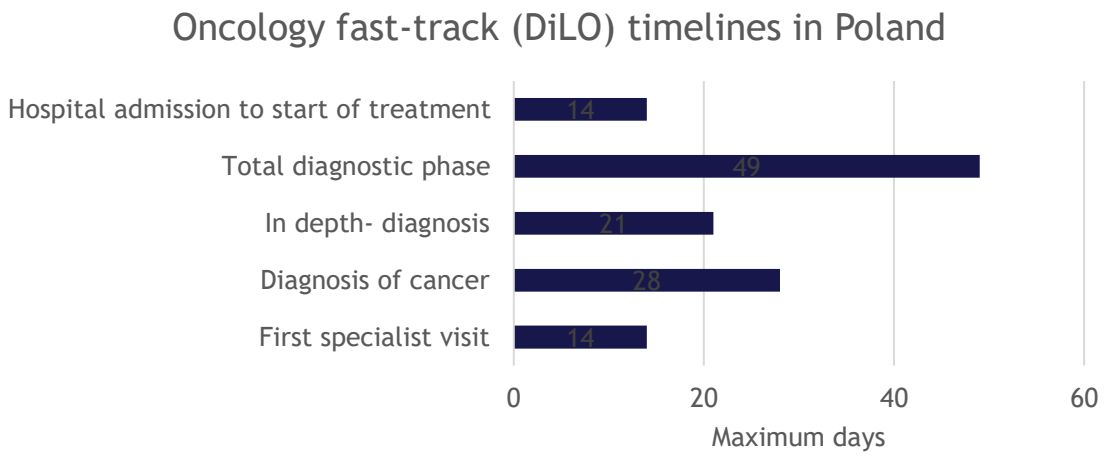


Figure 14: Oncology fast-track (DiLO) timelines in Poland.

Notes: Day counts indicate the maximum target duration for each step. The total diagnostic phase should be completed within 7 weeks. The interval from admission/registration to treatment start should be no more than 14 days. Sources: (107, 113).

5.1 Infrastructure, monitoring and evaluation in tertiary prevention

Data and registries. In order to meet the third pillar of the WHO CCEI and EBCP, ensuring that 90% of women with pre-cancerous lesions or cancer are managed and treated, robust, detailed clinical cancer registries are essential for monitoring and evaluation. In Poland, most data still rely on epidemiological reporting, and treatment indicators remain difficult to capture due to inconsistent or absent measurement. The NFZ's interactive report (2013–2022) provides valuable information on incidence, survival, prevention, and treatment pathways (114). However, it lacks data on time intervals between diagnosis and treatment, limiting assessment of progress toward the EU goal of timely access to care.

Timeliness of care. Diagnostic and treatment delays can significantly affect screening effectiveness and patient outcomes. Poland introduced the Rapid Oncology Therapy Package to reduce waiting times—28 days from primary care to basic diagnostics, 21 days from specialist consultation to advanced diagnostics, and 14 days from multi-disciplinary review to treatment initiation (91); see Figure 14. However, evaluations of this package show only modest improvements in waiting times and persistent regional disparities (103).

Best practice example: Treatment KPIs

Ireland. Ireland has established cervical cancer-specific treatment KPIs as part of its Cervical Cancer Elimination Action Plan (64). A central indicator tracks the proportion of women with invasive cervical cancer treated within one year of diagnosis. Ireland's baseline and national target is 97%, exceeding the WHO target of 90% treatment coverage by 2030. The Action Plan also commits to developing additional KPIs for timely outpatient services and for gynecological cancer pathways.

Key features: Ireland's plan places data, monitoring and evaluation at the core of its treatment KPI framework. It prioritizes the development of a suite of KPIs for gynecological cancer services to track treatment timeliness, alongside better integration of healthcare data across the care pathway to enable comprehensive monitoring. Progress toward national targets are published annually through a national cervical cancer elimination dashboard.

Learnings for Poland: Poland currently lacks cervical cancer-specific treatment KPIs, and treatment timeliness is not systematically measured. Local experts conveyed confidence that treatment access is broadly ensured (near-universal management of pre-invasive and invasive disease, with improving access to innovative therapies); nevertheless, this perception should be verified with robust, routine metrics. Ireland's approach highlights the importance of prioritizing monitoring infrastructure and making a public commitment to clear, measurable treatment KPIs. By developing national indicators (e.g., percentage treated within one year of diagnosis), integrating them into the NOS, and linking them to national cancer registry or NFZ datasets, Poland could strengthen accountability, track progress toward WHO and EU targets, and identify regional disparities more effectively.

Treatment infrastructure. Access to adequate radiation therapy infrastructure is essential for effective cervical cancer treatment, particularly for locally advanced disease, where external beam radiation therapy is the standard of care (115). A recent analysis using the Linear Accelerator Shortage Index indicates growing pressure on linear accelerators (LINACs) globally, including in Poland, due to rising cancer incidence and the need to replace outdated equipment (116). LINACs deliver high-energy radiation precisely to tumors while sparing healthy tissue. Although current capacity may appear sufficient, projected increases in demand and machine replacement needs could strain service availability in the coming years (116).

Access to medicines

Access to medicines is another key factor in effective cervical cancer management. According to the EFPIA Patients W.A.I.T. Indicator Survey, the reimbursement rate for novel cancer medicines approved by the EMA (2020–2023) was 48% in Poland at the beginning of 2025, slightly below the EU average of 50% (117). The average time from EMA approval to national

reimbursement remains one of the longest in Europe—762 days (25 months) compared to the EU average of 586 days (20 months) (117). While still longer than the EU average, this marks progress from earlier assessments that placed Poland among the three slowest EU countries, with average waits of 30 months versus 18 months across the EU (118, 119).

A 2023 study analyzed the reimbursement status and timelines of 124 indications of 51 cancer medicines with marketing authorization by the EMA in 2011 to 2020 (120). Among their findings a higher proportion of indications with a substantial clinical benefit (SB), defined according to the ESMO-MCBS scale were reimbursed, compared to indications with no substantial clinical benefit (NSB) 36% vs 65%. The median time until reimbursement did not significantly differ between indications with an NSB (28 months) and an SB (27 months).

Access to innovative therapies for cervical cancer has improved notably in Poland. Since 2021, new medicines such as immunotherapies have been added to the reimbursement list, expanding treatment options for women with advanced, recurrent, or newly diagnosed disease (121-123). These additions mark an important policy achievement, aligning Poland with European standards for access to modern cancer therapies and improving outcomes for patients with high-risk cervical cancer.

5.2 Stakeholder participation in tertiary prevention

Workforce capacity remains a major challenge for timely cervical cancer management in Poland. The NOS 2020-2030 outlines a plan to increase oncology specialists, strengthen continuous training, and adjust specialty mix to match patient demand. Targets include filling vacant residency slots by 2024 and raising specialist numbers—including radiology, pathology, clinical genetics, and oncological rehabilitation, by 10% by 2028 (18). Yet shortages persist with around 500 oncologists lacking and only 60 applicants annually for 200 residency positions (124) (125).

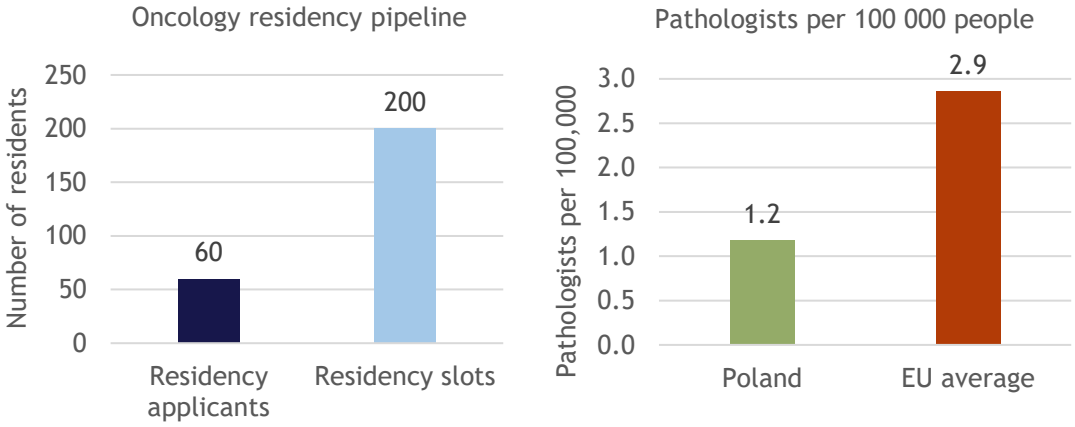


Figure 15: Oncology workforce gaps in Poland: residency intake and pathology capacity.

Source: (125, 126).

In parallel, pathology has been highlighted as a system bottleneck. Between 2017 and 2018, Poland had one pathologist per 85,000 people, compared to the EU average of one per 35,000 (126). A 2019 Supreme Audit Office audit found that 42% of pathologists were over 60 and another 29% were 51-60, indicating a looming workforce shortage (126). The NOS has recognized pathology as a priority specialty, supporting recruitment and training to address this gap.

Systemic workforce gaps affect patient experience, not only through limited oncologists and pathologists but also in supportive services. The NOS addresses this via "Investments in medical personnel," including campaigns to attract medical students, improve the appeal of oncology careers, and expand post-graduate training and specialization slots. Psychological care in oncology centers is also set to expand by 2028 under the National Oncology Network (KSO) (18). The strategy notes risks of patients becoming "lost in the system" due to fragmented care, lack of a central information platform, and un-addressed patient transport. Translating these plans into capacity gains will require annual monitoring of training intake, completion, and regional placement.

Best practice example: Standardized cancer patient pathways (CPPs)

Sweden. Since 2015, Sweden has implemented CPPs to reduce waiting times and regional variation across all major cancers (127), including a specific one for cervical cancer (128).

Key features: Sweden's Cancer Patient Pathway (CPP/SVF) system is governed by national inclusion and lead-time goals: at least 70% inclusion (patients diagnosed within CPP pathways) and 80% treatment start within defined lead times (129). Regions report mandatory start and stop dates of CPP investigations into a national waiting time database (130). Government funding to regions is partially conditional on such reporting (127). The RCC publishes interactive statistics showing how many patients were managed under CPP, how many started treatment within the time boundaries, and regional performance on lead-time compliance.

Learnings for Poland: Poland's DiLO system mirrors CPPs in intent but lacks strong enforcement and real-time reporting. Adopting Sweden's dual metric approach (inclusion plus lead-time), linking NFZ performance-based contracting or incentives to compliance, and introducing a public dashboard could strengthen accountability and reduce diagnostic and treatment delays nationwide.

Among civil-society actors, the organization Kwiat Kobiecości plays a significant role in bridging these gaps. It provides free legal and medical advice, emotional and psychological support via hotlines, and in-person visits to women in 50 oncology wards (24). The organization also operates a mobile medical office that offers cytology, HPV testing, ultrasound, and prostate-specific antigen testing, particularly targeting underserved areas.

5.3 Policy agenda and global alignment

The WHO Global Strategy calls for 90% of women identified with cervical disease to receive treatment by 2030—both for precancer and invasive cancer (11). At EU level, EBCP sets out key actions to strengthen high-quality cancer care and reduce inequalities across Member States. Poland's National Oncology Strategy (2020–2030) does not set cervical cancer–specific treatment targets but outlines broader objectives with direct relevance to cervical cancer; see Table 4. However, local experts noted that universal access to both pre-invasive and invasive treatment is available in Poland and that the country has made significant progress on reimbursing innovative therapies.

Table 4: Key objectives for tertiary prevention worldwide, EU and Poland.

Key objectives	
World 	• By 2030, 90% of women identified with cervical disease to receive treatment (90% of women with pre-cancer treated and 90% of women with invasive cancer managed) (11).
EU 	• Under the EBCP, the Commission will, by 2025, establish an EU Network linking recognized National Comprehensive Cancer Centers in every Member State to support quality-assured diagnosis, treatment, training, research and clinical trials. The Cancer Plan aims for 90% of eligible cancer patients to have access to such centers by 2030 (12). • Under the EBCP, one of the 2025 flagships is to develop guidelines and quality assurance schemes for cervical cancer screening, diagnosis, treatment, rehabilitation, follow-up and palliative care (12).
Poland 	• Poland's National Oncology Strategy (2020–2030) does not set specific targets for cervical cancer treatment, it outlines a broad set of objectives for improving oncological care that could directly benefit cervical cancer patients. These include increasing overall 5-year survival rates, ensuring coordinated and comprehensive care through the National Oncology Network and specialized Cancer Units (including gynecological cancers), standardizing diagnostic and treatment procedures, expanding access to innovative therapies and clinical trials, improving supportive care, and modernizing infrastructure and equipment (18).

6. A call to action: HPV and cervical cancer elimination roadmap for Poland

Poland has the tools to eliminate HPV and cervical cancer as a public health problem, however, the infrastructure supporting the elimination goals are not yet fully optimized. The proposed policy roadmap is structured around four strategic pillars that provide a comprehensive framework for achieving HPV and cervical cancer elimination in Poland, addressing prevention, equity, governance, and cross-sector collaboration to ensure sustainable, system-wide impact.

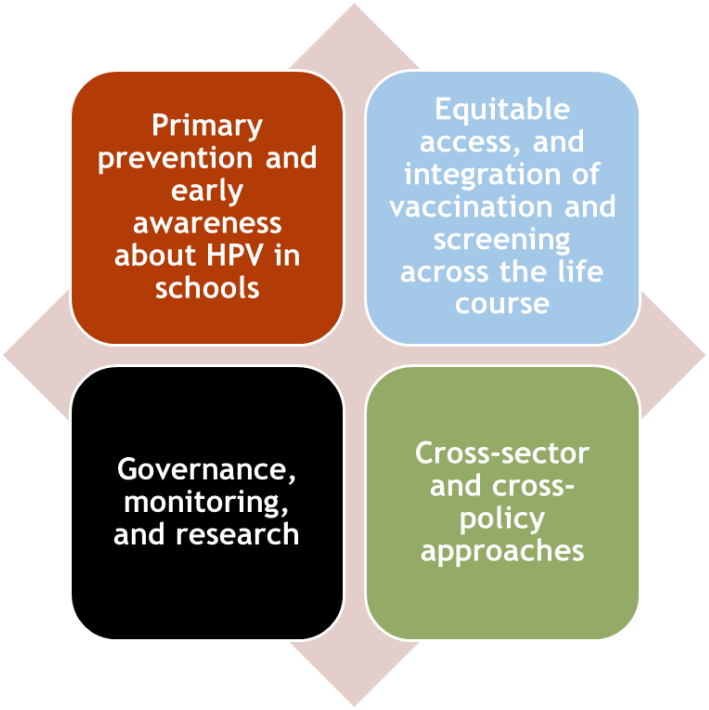


Figure 16: Four pillars for policy action

Primary prevention and early awareness about HPV in schools

The overarching challenge:

Low awareness, health literacy gaps, and limited early education undermine preventive efforts and slow progress toward HPV elimination targets. Moreover, the presence of anti-vaccine movement hinders the uptake of school-assisted vaccination program, particularly in more conservative regions. This pillar responds to the need to integrate HPV vaccination in schools, as well as to introduce the provision to develop structured, age-appropriate HPV education and early awareness to normalize vaccination, and embed primary prevention in the early years.

POLICY ACTIONS

Scale up and optimize school-assisted HPV vaccination programs

Expanding vaccination in schools enhances equitable access and normalizes HPV prevention as part of routine adolescent health. To maximize uptake, national HPV vaccination program should:

- Enroll more schools to increase reach and allow student agency to act.
- Provide training and support for school directors to navigate procedures, liability concerns, and anti-vaccination pressures.
- Adapt timing and delivery models to fit school calendars and complement primary care schedules.

Strengthen primary care as a gateway for HPV prevention

In addition to school-assisted programs, positioning family doctors and pediatricians at the center of vaccination, screening, and education ensures a coherent, population-wide approach.

- Systematically offer HPV vaccination during routine visits and recall eligible patients.
- Integrate vaccination with women's health, adolescent care, and general practice pathways to strengthen continuity of preventive services.
- Support parent engagement through education materials and digital reminders, emphasizing HPV vaccination as cancer prevention for both girls and boys.

Equip and prompt frontline recommenders

Frontline providers are trusted messengers who can address vaccine hesitancy and improve adherence.

- Provide training and communication tools to ensure consistent, evidence-based messaging.
- Emphasize gender-neutral framing, positioning HPV vaccination as protection against cancer for girls and boys.
- Offer incentives and prompts for providers to proactively recommend vaccination and screening during patient encounters.

Equitable access, and integration of vaccination and screening across the life course

The overarching challenge:

Preventive services in Poland remain unevenly accessible, with HPV vaccination coverage growing slowly and screening practices fragmented, particularly for rural, low-income, and migrant populations. Adopting a gender-neutral approach that recognizes HPV as a risk for multiple diseases, beyond cervical cancer, and expansion of high-risk HPV testing, will ensure advancement of national prevention goals.

POLICY ACTIONS

Expand coverage and extend cohorts

Extending the vaccination coverage and include catch-up vaccination for older adolescents and young adults (up to age 26) for both men and women, ensuring equitable reimbursement.

Close regional and social inequities

Address regional disparities in vaccination and screening, particularly in conservative eastern regions will help close the equity gaps.

- Use targeted micro-grants to empower local governments and NGOs to tackle barriers in low-coverage areas.
- Deploy mobile teams to reach rural or remote populations and implement train-the-trainer programs for local coordinators and health workers.

Implement proactive invitation and reminder systems

Introducing centralized, digital invitation and recall systems for both vaccination and screening can help reach more people. If obligatory HPV vaccination will not be accepted, opt-out approaches could be an avenue, scheduling all eligible children unless parents decline, to maximize uptake.

- Provide reminders through digital nudges to reduce reliance on self-motivation or ad hoc provider engagement.

Integrate HPV self-sampling

Offer HPV self-sampling kits through primary care, pharmacies, or mail to remove access and stigma barriers to cervical cancer screening.

- Target underserved communities, including rural, low-income, and marginalized populations, to improve screening reach and early detection.

Strengthen communication and public trust

Run comprehensive, evidence-based campaigns emphasizing cancer prevention, safety, and equity, framed for both girls and boys that tailor messaging to parents, adolescents, men, and women.

- Reframe messaging away from sexual-health language to reduce resistance and increase acceptability, and leverage community leaders.

Governance, monitoring, and research

The overarching challenge:

Progress toward HPV and cervical cancer elimination in Poland is slowed by non-robust data systems, limited transparency, and insufficient program evaluation. Publicly available, population-wide real-time data on vaccination coverage, doses and vaccine location are incomplete, and existing records in the e-Health system are not systematically analyzed to inform policy. The absence of a comprehensive HPV elimination program and weak integration of local research limit the ability to target interventions and address inequities. Strengthening monitoring through data transparency and completeness from private and public sources, and policy coherence is essential to ensure progress is measurable, research-informed, and effective.

POLICY ACTIONS

Enhance data systems and monitoring

Strengthen the HPV dashboard and cancer registries to improve data granularity, completeness, and interoperability across vaccination, screening, diagnosis, and treatment.

- Upgrade immunization data capture to add dose/series status, site of administration, routine vs. catch-up, and product to e-Karta Szczepień; backfill older cohorts and define denominators; report first-dose uptake, completion, and regional variation on the public dashboard; and de-duplicate CeZ sources (prescriptions vs. registry).
- Disaggregate data by age, region, and socioeconomic status to identify inequities, target interventions, and track progress by showing national and EU VCR targets.

Invest in operational and implementation research

Supporting operational and implementation research can provide key insights to strengthen the prevention of HPV and cervical cancer. Locally driven research to evaluate real-world effectiveness of policies, including opt-out vaccination models, self-sampling workflows, invitation strategies, and localized interventions will provide important data to inform policy.

- Incorporate cost-effectiveness and budget impact analysis to guide policy decisions and optimize resource allocation.
- Use findings to inform adaptive policymaking and build an evidence base for accelerating HPV and cervical cancer elimination.

Expand treatment infrastructure

Increasing capacity and equity in care by expanding access to innovative medicines and therapies, improving referral and care coordination pathways, and addressing workforce shortages is key to providing equitable care.

- Ensure timely treatment to reduce delays and improve patient outcomes across all regions.

Cross-sector and cross-policy approaches

The overarching challenge:

Addressing the HPV burden in Poland requires action beyond the health sector, as its social and economic impacts extend widely. Current efforts are limited by insufficient interministerial coordination, a lack of economic and fiscal framing, and underutilization of schools, employers, local governments, and NGOs in prevention efforts. Fragmented policies across the National Cancer Strategy, National Immunization Program, and public health promotion further hinder a cohesive approach. A holistic, cross-sectoral strategy engaging education, labor, digital, and local governance sectors is essential to achieve equitable and sustainable progress toward HPV and cervical cancer elimination.

POLICY ACTIONS

Build inter-ministerial collaboration

Coordinated actions across sectors, particularly between the Ministry of Health and Ministry of Education can ensure the feasibility and sustainability of school-assisted HPV vaccination program.

- Plan vaccination schedules to avoid peak periods (e.g., September school start)
- Build on existing bilateral channels at the EU level for knowledge exchange and operational support.

Engage local governments as partners

- Empower regional and municipal authorities to mobilize resources, tailor interventions to local needs, and improve outreach to underserved populations.
- Strengthen local capacity for program delivery through training, micro-grants, and ongoing support.

Promote public-private partnerships

- Leverage the expertise and outreach of NGOs, private actors, and civil society to support school director training, logistics, and community engagement.
- Collaborate with partners to enhance program reach, communication campaigns, and the overall efficiency of HPV prevention and treatment efforts.
- Implement an integrated public education strategy using trusted medical and scientific influencers to reach high-impact audiences, focusing on informing undecided and neutral individuals with clear, evidence-based messaging on HPV vaccine safety, effectiveness, and availability rather than targeting strong opponents.

Conclusion

Poland has made significant strides toward cervical cancer elimination, but achieving national and EU targets requires coordinated, evidence-driven action across multiple fronts. The roadmap presented here identifies priority actions that build on existing initiatives, international best practices, and expert consultations.

Key lessons highlight that: maintaining dual delivery channels (schools and primary care) ensures equitable access; robust, transparent data strengthens credibility and guides targeted interventions; framing HPV vaccination as cancer prevention for girls and boys maximizes acceptance; exploring bolder approaches such as opt-out or mandatory vaccination and self-sampling can accelerate progress; and local tailoring through micro-grants, mobile teams, and director support is essential to reduce persistent equity gaps.

By leveraging these enablers and continuing to advocate for supportive policy changes, stakeholders can ensure that cervical cancer elimination in Poland becomes a sustainable reality and a catalyst for broader HPV-related disease control, while also generating substantial economic returns through reduced healthcare costs, higher productivity, and fewer years of life lost.

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