



**World Health
Organization**

European Region

Roadmap to accelerate the elimination of cervical cancer as a public health problem in the WHO European Region 2022–2030

**Draft for the Seventy-second Regional Committee for Europe
Background document**



ABSTRACT

Cervical cancer is a preventable and curable disease if detected early and managed effectively. Yet each year, more than 66 000 women across WHO European Region are newly diagnosed with cervical cancer and more than 30 000 die from it. The *Global strategy to accelerate the elimination of cervical cancer as a public health problem* was adopted by the World Health Assembly in August 2020 and marks the first time the world has committed to eliminate a cancer. This Roadmap to accelerate elimination of cervical cancer as a public health problem in the WHO European Region 2022–2030 offers a vision for the path towards cervical cancer elimination in the Region through universal access to human papillomavirus vaccination and appropriate cervical cancer screening and treatment services. Achieving the ambitious 90–70–90 global targets by 2030 will require a collective effort across countries and disciplines to ensure no one is left behind in the drive to eliminate cervical cancer.

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INTRODUCTION

Cervical cancer is a preventable and curable disease if detected early and managed effectively. Yet each year, more than 66 000 women across WHO European Region are newly diagnosed with cervical cancer and more than 30 000 die from it (1). A roadmap to accelerate elimination of cervical cancer as a public health problem in the Region is therefore needed.

The *Global strategy to accelerate the elimination of cervical cancer as a public health problem* (2) was adopted by the World Health Assembly in August 2020 and marks the first time the world has committed to eliminate a cancer. Elimination can be declared once incidence is below four per 100 000 woman-years. While cervical cancer mortality is decreasing overall in European Union (EU) countries, mainly due to increased cervical cancer screening, it has been on the rise in other countries in the Region. Cervical cancer screening programmes and human papillomavirus (HPV) vaccination rates vary widely both across and within countries in the WHO European Region, with further disparities existing among certain underserved or higher-risk populations. This signals the need to adapt the global strategy to the European context and to develop a regional roadmap that responds to all Member States' needs with subregional guidance on specific interventions.

In line with the global strategy and acknowledging the need to develop a roadmap tailored to the needs and priorities of the 53 Member States of the WHO European Region, the WHO Regional Office for Europe developed this Roadmap to accelerate elimination of cervical cancer as a public health problem in the WHO European Region 2022–2030. The roadmap offers a vision for the path towards cervical cancer elimination in the Region through universal access to HPV vaccination and appropriate cervical cancer screening and treatment services. Its principles are aligned with that of “leaving no one behind” of the European Programme of Work 2020–2025 and its flagship initiatives relating to immunization, behavioural and cultural insights (BCI), and mental and digital health.

HPV vaccination and cervical cancer screening are best-buy interventions. The immediate returns on investment are illustrated by a reduction in prevalence of highly oncogenic HPV types, high-grade precancerous lesions and cancers detected through screening, which contributes to reductions in mortality rates.

Achieving the ambitious 90–70–90 global targets by 2030 (2) will require a collective effort across countries and disciplines to ensure no one is left behind in the drive to eliminate cervical cancer as a public health problem in the WHO European Region.

REGIONAL CONTEXT

Elimination is within reach for the WHO European Region if the opportunity to unite behind a common goal and utilize the available tools and knowledge is seized. The WHO Regional Office for Europe is committed to supporting Member States in taking action to accelerate the elimination of cervical cancer as a public health problem. To this end, it has provided technical assistance and developed guidance and informational documents (including *A short guide to cancer screening: increase effectiveness, maximize benefits and minimize harm* (3)) and policy briefs. The Regional Office has also developed educational tools for parents and caregivers on HPV vaccine (4) and advocacy tools such as a factsheet on cervical cancer testing in the WHO European Region (5) to help policy-makers and researchers address the problem of low testing levels among some populations. Box 1 shows some of the Regional Office resources on cervical cancer.

Member States across the WHO European Region have taken action against cervical cancer in recent years and many countries are at, or are within reach of achieving, the elimination target of four new cases per 100 000 woman-years. Approximately 75% of countries in the Region have added the HPV vaccine to their national immunization programmes and others are in the process of doing so. Member States have invested in improving screening pathways and increasing access to effective treatment.

Despite this progress, more than 66 000 women across the Region are newly diagnosed with cervical cancer every year and more than 30 000 die from it. Cervical cancer incidence varies between countries in the Region, from 3.4 to 26 per 100 000 women annually.

Mortality rates vary by subregion: 2.0 deaths per 100 000 inhabitants in western Europe, 2.2 in northern Europe, 2.3 in southern Europe, 6.1 in central and eastern Europe and 7.0 in central Asia (1). Similar variations exist within countries. These disparities point to subregional specificities that warrant adaptation of the global strategy to the regional context in a way that responds to the needs of all Member States.

The COVID-19 pandemic significantly affected cancer care in the Region. HPV vaccine uptake declined by 10–24% in some countries. Forty-seven per cent of countries indicated some level of disruption in screening, and 41% in treatment (8). Other health emergencies, such as the escalating humanitarian crisis in Ukraine and the population displacement it has triggered, are likely to further affect timely access to essential cancer services.

VISION

This roadmap envisions a European Region in which cervical cancer is eliminated as a public health problem through universal and equitable access to HPV vaccination, appropriate cervical cancer screening and timely diagnosis, and quality treatment and palliative care for all women.

IMPLEMENTING THE GLOBAL STRATEGY IN THE EUROPEAN REGION

The roadmap aims to implement the global strategy in the context of the Region. It contextualizes the strategy's priority actions to regional specificities. As stated, its principles are aligned with the principle of "leaving no one behind" of the European Programme of Work, 2020–2025 and its flagship initiatives relating to immunization, BCI and mental and digital health. It places people at the centre, engaging target populations in the development and implementation of interventions while also emphasizing the importance of ensuring services are delivered as part of a pathway, thereby mainstreaming the care continuum.

Box 1. WHO Regional Office for Europe resources on cervical cancer

[Questions and answers about HPV vaccine. Information for parents and caregivers](#) (4)

[Cervical cancer testing in the WHO European Region](#) (5)

[Screening programmes: a short guide. Increase effectiveness, maximize benefits and minimize harm](#) (6)

[Screening: when is it appropriate and how can we get it right?](#) (7)

[A short guide to cancer screening: increase effectiveness, maximize benefits and minimize harm](#) (3)

[Palliative care in the WHO European Region: a call for action](#) (6)

[Cancer and cardiovascular health inequities in prison settings: a rapid literature review](#) (7)

[Eurohealth: commercial determinants of cancer control policy](#) (8)

Through its equity-based approach targeted at underserved populations, refugees, migrants, minorities, people living with HIV and other key populations, the roadmap seeks to ensure equitable access to services and reduce disparities within and between Member States. It provides a mechanism via the Regional Multistakeholder Committee for convening regional stakeholders and facilitating the development of regional and subregional networks to foster transfer of evidence-based knowledge and best practices.

The roadmap is in line with the pan-European United Action Against Cancer movement, which envisions eliminating cancer as a life-threatening disease. It will contribute to achieving this ambition by enhancing collaborations and uniting partners, calling on leaders to elevate cervical cancer elimination to the highest levels, engaging civil society and fast-tracking implementation of what is known to work in the effort to eliminate cervical cancer. It draws on the WHO Signature Solutions, a set of cost-effective evidence-based policies and measures accompanied by technical guidance and tools for implementation. The Signature Solutions align WHO expertise and resources to achieve real impact at country level.

The priority actions in this regional roadmap are linked to the European Immunization Agenda 2030 and will significantly benefit from the policy framework for realizing the potential of primary health care (PHC). It complements regional action plans on prevention and control of noncommunicable diseases (NCDs), sexual and reproductive health, and ending HIV, viral hepatitis and sexually transmitted infections, and the strategy for middle-income countries in the Region.

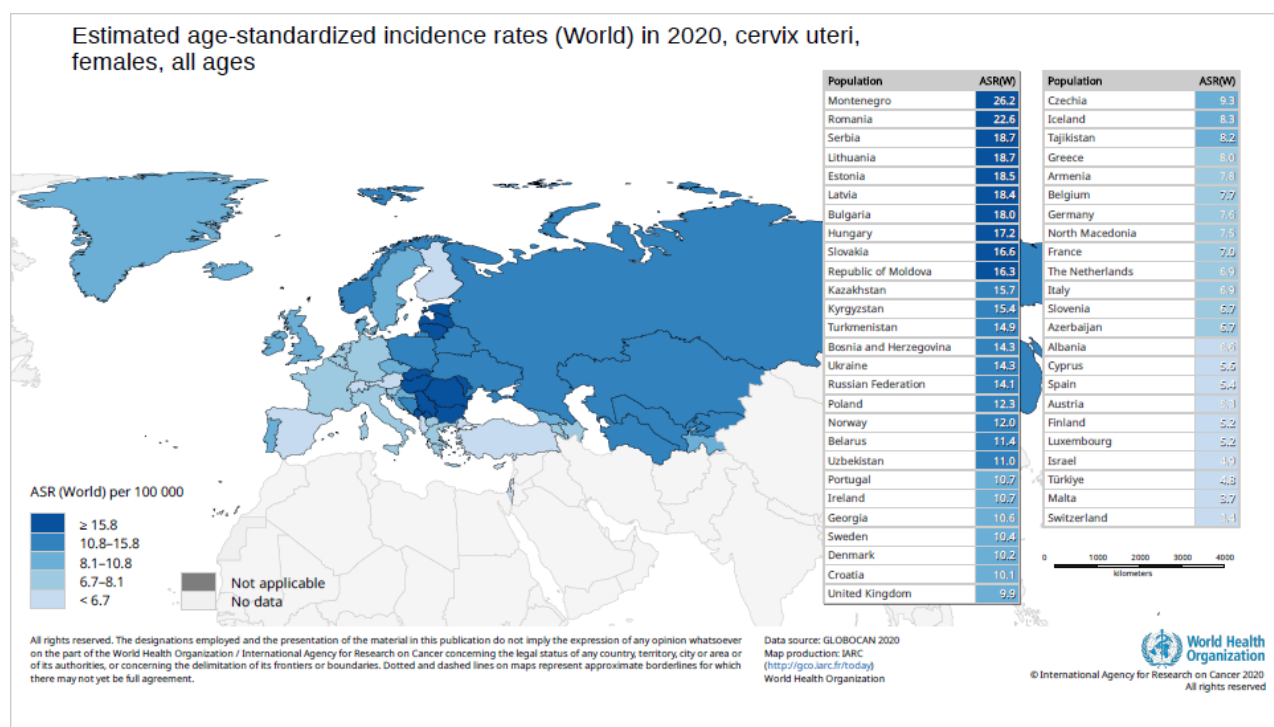
By striving to achieve the ambitious 90–70–90 global targets by 2030 (2) (Fig. 1), all countries in the European Region are setting themselves on a pathway to achieve cervical cancer elimination as a public health problem.

Fig. 1. The 90–70–90 global targets by 2030



Source: WHO (2).

Achieving the coverage targets by 2030 sets all countries in the Region on a pathway to elimination (Fig. 2). As the goal of decreasing incidence is approached, access to quality treatment of invasive cancers remains a key goal of the roadmap, as it is essential to ensuring quality care and clear pathways throughout the care continuum.

Fig. 2. Estimated age-standardized incidence rates in 2020, cervix uteri, all ages

ASR: age-standardized rate.

Source: International Agency for Research on Cancer (1).

ACTION FRAMEWORK

The roadmap has five cross-cutting strategic pivots and three pillars for action guided by five core principles (Fig. 3).

Fig. 3. Roadmap: core principles, strategic pivots and pillars for action

Together, they serve as an action framework to guide Member States in developing or updating their national action plans based on their respective national cancer control plans and immunization priorities. These should outline clear strategies and mechanisms to achieve the targets and goals outlined in the roadmap, which identifies priority areas for Member States to consider in costing comprehensive national action plans and a monitoring, evaluation and accountability framework.

Achieving the global targets will require a collective effort across countries and disciplines to ensure no one is left behind in the effort to eliminate cervical cancer as a public health problem in the WHO European Region. To this end, the WHO Regional Office for Europe will support a regional information and knowledge-exchange platform to facilitate functional links between national focal points, the Regional Office and other partners engaged in cervical cancer elimination, while also providing technical assistance to Member States.

The active engagement of civil society, including survivor and advocacy groups, professional associations, the media and a range of local networks, is essential across all five strategic pivots and the pillars for action to ensure successful uptake of services at community level. Investing in partnerships and networks is fundamental to the successful and equitable expansion of services.

CORE PRINCIPLES

The following principles will guide the development and implementation of evidence-informed national plans of action to achieve cervical cancer elimination:

- **people-focused:** engaging target populations in the development and implementation of interventions;
- **life-course-based:** promoting and ensuring access to early interventions, from HPV vaccination of adolescents to organized cervical cancer screening of women;
- **multisectoral:** pursuing a participatory approach through active engagement of sectors within the government and beyond to ensure inclusiveness and accountability;
- **equity-based:** adopting strategies and designing specific interventions targeted at underserved populations, refugees, migrants, minorities, people living with HIV and other key populations to ensure equitable access to services; and
- **evidence-based and research-driven:** relying on clinical, public health, implementation and BCI research to inform policies, communication and interventions.

STRATEGIC REGIONAL PIVOTS

Achieving the ambitious targets and goals towards cervical cancer elimination in the Region will require strategic pivots to facilitate implementation of the regional roadmap. The following strategic pivots were identified following wide consultation with Member States and non-state actors in the Region.

Strategic Pivot 1. Strengthened health systems governance and care pathways for quality and coordinated care

Improving governance and coordination of cervical cancer services is a strategic priority across the cancer-care continuum. Governance and coordination includes allocation of financial resources and coordination mechanisms to promote equitable access to systematic evidence-based cervical cancer prevention, control and treatment within an integrated PHC package, and a comprehensive national cancer control programme and NCD strategy.

Strengthen leadership and governance

Member States should:

- review and update national cancer control and immunization plans to ensure they are in alignment and reflect the latest evidence, including policies and practices for catch-up vaccination;
- strengthen programme management capacity at national and subnational levels, with clear delineation of roles and responsibilities;
- establish coordination mechanisms to facilitate multisectoral engagement within the government (in departments such as health, education, finance and labour) and beyond (including civil society, the media and associations) to ensure an inclusive and strategic approach to achieving the targets and to mobilize resources and share knowledge, experience and expertise;
- monitor the resilience of routine services, including immunization and health screening, to ensure they are protected against health emergencies such as the COVID-19 pandemic and are in alignment with the European Programme of Work;
- strengthen governance and accountability of programmes related to cervical cancer and conduct regular reviews to help ensure that national strategies, plans and resource allocations reflect local needs; and
- establish strong quality-assurance mechanism to ensure programmes meet the required standards.

Establish coordinated care pathways and integrated services

Member States should:

- establish well defined care pathways with bidirectional people-focused referral mechanisms that minimize inconvenience and link organized screening programmes to diagnosis, treatment and monitoring of outcomes to deliver the expected benefits and reduce harm;
- establish organizational linkages and communication between immunization and cancer programmes (and other health programmes) to support appropriate referral, communication and coordination and promote equitable access to services across the health system within an integrated care package; and
- ensure immunization and cervical cancer screening programmes are delivered as part of the package of essential health services through PHC-based health systems to achieve universal health coverage.

Strategic Pivot 2. Competent and trained health workforce to deliver high-quality, integrated care

Ensuring the appropriate workforce is trained and available to deliver high-quality and evidence-based services in a timely, coordinated and equitable manner is a strategic priority.

Expand and build capacity of the health workforce to detect, diagnose and treat cervical cancer

Member States should:

- ensure that national policies, practice guidelines, standard operating procedures and training curricula are regularly updated to reflect the latest data and evidence;
- develop planning, recruitment, deployment and retention strategies (that include support for continuing professional development) for core health-care workers involved in cervical cancer prevention, early detection, diagnosis, treatment and palliative care;

- define core capabilities and competencies required in the health system to deliver cervical cancer services across the cancer continuum;
- invest in training and strengthening the PHC workforce and health-care providers at all levels to improve capacity to deliver high-quality, people-centred and integrated care, with specialized training for multidisciplinary teams; and
- integrate training into health-care training curricula with due reflection of the need for continuous medical education on cervical cancer treatment and care, including specialized training across multidisciplinary teams coordinated by tertiary centres (cancer reference centres) in partnership with key professional organizations.

Strategic Pivot 3. Evidence- and BCI-informed policy and communication strategies to reduce disparities

Building capacity among policy-makers and health-care workers and seeking insights into target populations to develop tailored interventions that create positive behaviour change which will contribute to elimination of cervical cancer is a strategic priority.

Improve awareness and reduce disparities through evidence-based communication and policies

Member States should:

- build the institutional capacity of national and regional research and public health institutes to conduct operational and formative research to understand contextual and individual factors and consequently be able to improve health literacy and inform the design of communication materials, policies, interventions and services;
- develop and implement evidence-informed communication strategies that draw on BCI, are tailored to the needs of target audiences (policy-makers, health-care workers, targeted population groups and, if relevant, parents or carers) and are based on local contexts and existing platforms (such as schools) to create and sustain acceptance of, and demand for, HPV vaccination, cancer screening, treatment and palliative care;
- provide health professionals with clear communication materials from trusted sources on the benefits of preventing cervical cancer through immunization and cervical cancer screening and treatment; and
- engage survivor groups in patient-awareness, health-literacy and stigma-reduction initiatives to ensure they are appropriate, relevant and acceptable.

Strategic Pivot 4. Enhanced data, surveillance, monitoring and evaluation to demonstrate impact

Improving the collection, analysis and utilization of data to enable monitoring and evaluation of efforts to accelerate the elimination of cervical cancer across the Region and ensure no one is left behind is a strategic priority.

Leverage data to improve impact and reduce disparities

Member States should:

- invest in strategic health information systems and training in data collection, management and analysis (in areas such as big data) to generate high-quality data intelligence to support quality assurance and decision-making;

- establish high-quality national registries with granular data on equity and adequate data interoperability of vaccination, population-based screening and hospital-care services;
- utilize data and evidence to update national policies and practices and support innovative approaches to close immunization gaps and improve coverage of screening and treatment interventions;
- use coverage-monitoring data and formative research to tailor policies and programmes to meet the needs of underserved and marginalized populations; and
- establish linkages between vaccination and screening registries and between vaccination and cancer registries to provide high-quality information on the effect of vaccination on the residual risk of HPV and cancer and on the remaining need for screening.

Strategic Pivot 5. Responsible innovation to accelerate elimination of cervical cancer as a public health problem and improve health outcomes

Identifying innovative approaches to implementing interventions that are known to work, add value, contribute to accelerating the elimination of cervical cancer in the WHO European Region and enable transformational change to improve health outcomes, cost-effectiveness and user experience is a strategic priority.

Invest in research and innovation to accelerate the elimination of cervical cancer

Member States should:

- support advanced research, including implementation research, into innovative approaches to implementing what is known to work and introducing and disseminating novel ways of working in health service delivery;
- leverage digital technologies (such as artificial intelligence, telehealth and digital pathology) to improve equitable access to services and engage hard-to-reach and marginalized populations;
- engage patients, target populations and multiple sectors (civil society, the media and associations) to develop and ensure innovative strategies are appropriate, inclusive and acceptable and to mobilize resources and disseminate knowledge, experience and expertise; and
- consider the feasibility and appropriateness of HPV self-sampling (within an organized screening programme) and switching to HPV-based testing.

PRIORITY ACTIONS FOR IMPACT

Countries can accelerate the elimination of cervical cancer as a public health problem by applying the core principles, pursuing innovative approaches and investing in the strategic pivots under each of three key pillars: increased HPV vaccination; organized screening and treatment of precancerous lesions; and access to quality treatment for invasive cancer and palliative care.

Pillar 1. Increased HPV vaccination

Background

HPV vaccination and cervical cancer screening are considered best-buy interventions, with a cost-effectiveness analysis of Int \$100 or less per disability-adjusted life-year averted in low- and middle-income countries (9). The immediate returns on investment are illustrated by a reduction in high-grade precancerous lesions and cancers detected through screening, which contributes to reductions in mortality rates resulting from invasive cervical cancers (10,11).

Many countries in the WHO European Region have achieved high HPV vaccination coverage and demonstrated vaccine impact on the prevalence of HPV infection, incidence of cervical precancerous lesions, cancer in young women and genital warts in young females and males (12,13).

As of 2020, 38 of the 53 Member States of the Region had implemented HPV vaccination in their routine immunization programmes, but uptake of vaccination in some countries remains suboptimal. While eight countries have reached 80% coverage or higher, thereby moving towards the 2030 target of 90%, some have achieved less than 30% coverage among the target population.

Access to vaccination is affected by structural and programmatic issues like social inequality and vaccine availability, but global research indicates HPV vaccine introduction can be negatively affected by medical workers and parents questioning the vaccine. Often, these groups share contextually specific concerns around HPV vaccine. The concerns are exacerbated by factors such as access to credible information and health worker confidence in discussing the vaccine (14–20). Emphasizing the safety of the HPV vaccine and its protective value, and training medical workers on HPV vaccine introduction and how to address and communicate about it, have been shown to effectively diminish barriers to vaccination through raising confidence in the vaccine, increasing recommendations for vaccination and boosting effective communication to address vaccinees' and parents' concerns (21–26).

Primary prevention of cervical cancer is best achieved by high levels of immunization among girls aged 9–14. Routine vaccination of males will provide indirect protection to females, contribute to reducing transmission of infection, and prevent other HPV-related cancers in males (27). There is also evidence that gender-neutral vaccination of early adolescents enforces overall protective effectiveness against HPV when low-to-moderate vaccination coverage applies (28), and studies conducted in some countries of the Region have demonstrated that gender-neutral vaccination was cost-effective (28–34). Gender-neutral HPV vaccination may also facilitate increased acceptance of the vaccine.

The WHO Strategic Advisory Group of Experts on Immunization recommended in April 2022 that countries may choose to use a two-dose or one-dose HPV vaccine schedule. For individuals who are immunocompromised, including those with HIV, three doses of the vaccine should be given if feasible, and if not, then at least two.

Priority areas for action

Priority areas for action include:

- initiating steps for evidence-informed decision-making on the introduction of HPV vaccine (in countries without an HPV vaccination programme);
- reducing financial barriers to vaccine coverage through improved national vaccine registration mechanisms, vaccine procurement processes and shared information between countries about the vaccine's price;
- building capacity and increasing health-care workers' confidence in HPV vaccines by providing technical training and skillsets on how to communicate with vaccinees and parents about the HPV vaccine;
- designing a comprehensive stepwise plan (prior to the introduction of HPV vaccine) that includes identifying an effective vaccine delivery strategy that is compatible with existing delivery infrastructure (in, for example, schools (35), health facilities (36), detention facilities and migrant camps) to achieve the highest possible coverage;
- ensuring equitable HPV vaccination through identifying and addressing differences, inequities and structural disadvantages and by ensuring vaccination services are tailored to meet the needs of the target population, including hard-to-reach groups;
- developing and implementing an evidence-informed communication strategy using BCI to tailor messaging to the needs of target audiences (policy-makers, health-care workers and parents of

target vaccine populations), create and sustain support from policy-makers and opinion leaders, and promote community acceptance of, and demand for, HPV vaccine;

- anticipating and being prepared to address potential vaccine safety events, including adverse events following immunization, anti-vaccine movements, low acceptance of certain vaccine products or any allegations that can have a negative effect on public acceptance of HPV vaccine and decrease trust in the immunization programme;
- investing in vaccine management and injection safety, including adapting surveillance systems to identify and respond to adverse events following immunization; and
- developing catch-up vaccination strategies to provide the HPV vaccine to individuals who have missed their doses due to the COVID-19 pandemic or as a result of population displacements (37–39).

Pillar 2. Organized screening and treatment of precancerous lesions

Background

Cervical cancer screening is available in most Member States, but only a minority of the screening programmes can be described as adequate in terms of coverage or quality. Fourteen countries in the Region have opportunistic screening programmes and 34 have organized population-based screening programmes (40). According to the 2020 WHO cervical cancer country profiles (41), the average coverage of women ever screened for cervical cancer is 77%, but the range across countries varies from 11% to 100%. Overall cervical cancer screening coverage in the EU ranged from 41.3% to 86.3% (42), and not all EU cervical cancer screening programmes are population-based.

The situation is worse for non-EU countries. Screening coverage rates in some countries are below 10%. Quality-assurance schemes are either not in place or insufficiently developed and, as a result, screening programmes do not deliver the expected benefits in social, health or economic terms. Cytologic tests using Romanovsky-Giemsa staining are still in use in some countries of the Region, despite this method not being recommended by WHO.

Early detection and treatment of precancerous lesions prevents the development of cervical cancer. Trained PHC workers, sufficient infrastructure and clear referral systems are required to ensure timely diagnosis and treatment. As of 2021, 38 countries in the Region had such referral systems in place.

Barriers to cervical cancer screening in the Region include out-of-pocket payments (43,44), fragmented service delivery (and other barriers of complex health-care systems) (45), distance and travel costs (36,46), stigma, language (notably for migrant, displaced and refugee populations) and unprofessional treatment by health-care workers (47,48), including negative provider attitudes, insufficient knowledge and limited cultural competencies. Social inequalities in cervical screening access and participation are prevalent, with higher screening rates among women with higher education (49–52) and higher income (49–51), non-migrant/refugee/ethnic minority women (53) and women from urban areas (54).

Laypeople and clinicians tend to overestimate the benefits and underestimate the harm of screening. Training personnel on communicating risk and developing tools such as infographics, videos and decision aids can be used to facilitate understanding and promote informed consent and evidence-informed practices.

Diagnosis and treatment for cervical cancer includes pathology, surgery, radiotherapy and systemic therapy services. As of 2021, 51 countries had pathology (laboratory) services, 51 cancer surgery, 50 chemotherapy, 49 radiotherapy and 50 a cancer centre or department at tertiary level. Effective management of cervical cancer at tertiary-care level requires a well educated and trained specialized health workforce. The Region had 811 radiation oncologists, 1090 medical physicists, 39 548 surgeons, 11 067 radiologists and 742 nuclear medicine physicians per 10 000 cancer patients in 2019.

The COVID-19 pandemic accelerated the acquisition of molecular testing capabilities in major diagnostic laboratories for acute respiratory syndrome coronavirus-2 testing (55). Molecular testing capabilities built up during the pandemic can be used for HPV polymerase chain reaction tests in high throughput setups to match the demand of screening programmes. High-volume testing solutions enable increased output while allowing programmes to remain cost-efficient.

Priority areas for action

Priority areas for action include:

- establishing well defined pathways to address inequities, gaps and quality through population-based cervical cancer screening programmes (versus opportunistic programmes), enabling: the population eligible for screening to be identified; cultural and systemic barriers to be addressed to inform and invite the target age group for screening; screen-positive women to be referred for appropriate diagnosis and staging, including appropriate treatment; and the outcomes of each case to be reported;
- reviewing cancer screening capacity and capabilities to map services throughout the country and identify where gaps in coverage and quality exist, with the ability to repeat these assessments at set intervals;
- considering measures to address overscreening and how to limit opportunistic screening through appropriate policies and training of health-care providers;
- developing a fully costed implementation plan by 2025 and identifying adequate funding for the implementation and incremental scale-up to an organized population-based screening programme with the 2030 target in mind;
- developing and testing information among different groups to ensure it is correctly understood (health literacy and understanding of complex topics, such as risk, can vary across a population) and providing objective and easy-to-understand information to support informed decision-making regarding participation in screening among the entire target population, with materials available in different languages and formats; studies have also identified the need for information on the need to continue screening regardless of HPV vaccination status (56);
- implementing population-based screening programmes following WHO guidance (57) and using appropriate testing methods that can be scaled incrementally to a full national, population-based approach by 2030 with:
 - HPV DNA detection as the first-choice screening test for better detection of precancerous lesions;
 - existing programmes with quality-assured cytology as the primary screening test should be continued until HPV DNA testing is operational;
 - HPV self-sampling for women to collect their own samples where they can be instructed to use a kit as part of an organized screening programme; and
 - Romanowski–Giemsa staining is not recommended;
- ensuring equitable access to screening and treatment of cervical precancerous lesions, including follow-up visits for everyone treated for such lesions to evaluate and detect recurrence, in line with WHO guidance;
- developing tailored outreach programmes to address inequalities and increase screening effectiveness in underserved, marginalized and hard-to-reach populations;
- ensuring screening for vaccinated and unvaccinated women in all their diversity begins at 30 years of age and again every 5–10 years when using HPV DNA detection as the primary screening test, or every three years when using visual inspection or cytology as the primary screening test, until 49

years of age; for HIV-positive individuals, screening should start at age 25 and be repeated every 3–5 years;

- establishing diagnostic methods to use for screen-positive women (colposcopy, biopsy or, when clinically indicated, endocervical curettage) as per the national setting, establishing quality-assurance programmes and strengthening laboratory capacities;
- considering digital tools as an integral part of screening programmes to standardize care, improve efficiency and patient outcomes: these are essential for programme managers to make data-informed decisions to potentially identify workflow inefficiencies and gaps in care, optimize disease management investment, increase patient adherence and engagement, and minimize loss to follow-up; for clinicians, digital tools can automate certain tasks and assist with clinical decision-making; and digital tools can be deployed to communicate straightforward screening results, such as negative, low-risk results, and provide the opportunity to disseminate patient educational materials on a wide scale;
- defining quality-management systems for screening activities, training health-care providers and following-up women with positive screening results to reduce loss to follow-up;
- reviewing treatment capacity and ensuring appropriate increases in capacity for treatment of detected lesions;
- determining the appropriate treatment approach of either screen and treat, or screen, triage and treat, including quality-assured methods for the treatment of cervical precancers (cryotherapy, thermal ablation, loop electrosurgical excision procedure or cold-knife conization):
 - in a screen-and-treat approach, treatment is provided based on a positive primary screening test alone, without triage (no second screening test and no histopathological diagnosis); and
 - in a screen, triage and treat approach, the triage test is done if the primary screening test is positive and the decision to treat is made when the primary and triage tests are positive: the triage tests include high-risk HPV DNA partial genotyping, cytology, visual inspection and colposcopy that may or may not include a biopsy for histological diagnosis; use of other markers and triage algorithms can be considered if sufficient evidence of accuracy and predictive value of risk exists;
- ensuring any changes to screening policy (such as cytology-based to HPV-based) are carefully designed so that changes in screening effectiveness can be accurately measured; and
- investing in implementation research on screening modalities and how to better implement what is known to work to reduce inequalities in coverage and follow-up.

Pillar 3. Access to quality treatment for cervical cancer and palliative care

Background

The risk of a woman dying from cervical cancer is 3.5 times higher in central Asia than in western Europe (1). An underestimated driver of disparities in mortality is late-stage diagnosis. Across the Region, diagnosis of early-stage cervical cancer ranges from less than 40% to over 80%. Five-year survival rates range from 54% to 80%. The quality of care in some areas is suboptimal due to limited knowledge among health-care providers and lack of medicines or treatment options. Effective management of cervical cancer at tertiary-care level requires a well trained, specialized health workforce.

Palliative care is a recognized component of universal health coverage. Palliative care services are available in many European countries (58) and should be an integral part of patient care (when required) that can be delivered alongside active anti-cancer treatment. As of 2019, 65% of the population of the WHO European Region lacked access to palliative care services (59). Barriers to palliative care include excessively restrictive regulations on access to essential medicines (opioid pain relief), poor public and professional awareness of how palliative care (including radiotherapy) can help, and cultural and social barriers.

Priority areas for action

Priority areas for action include:

- reviewing protocols and referral mechanisms (bi-directional) and the scope of work of health-care providers throughout the cancer continuum to ensure all levels are properly staffed, educated and trained and that responsible providers are adequately informed of updated guidelines and evidence-based practices;
- developing multidisciplinary tumour boards to guide invasive cervical cancer treatments (pathology, surgery, radiotherapy, chemotherapy and palliative care) and accommodate the (expected short-term) upturn in the number of cancers detected via screening;
- defining core competencies and integrating training into health-care training curricula with due reflection of the need for continuous medical education on cervical cancer treatment and care, including specialized training across multidisciplinary teams coordinated by tertiary centres (cancer reference centres) in partnership with key professional organizations;
- promoting adherence to clinical guidelines and equitable access to high-quality diagnosis (with adequate staging based on clinical, pathological and radiological examination), appropriate high-quality treatment (surgery, chemotherapy and radiotherapy (external beam and brachytherapy)), and palliative and survivorship care, regardless of stage, to support appropriate treatment;
- strengthening pathology services to ensure access in all areas of the country: in some cases, regional pathology centres and telepathology networks can be used, as access to high-quality pathology services is crucial for appropriate staging and management of cervical cancer, and to avoid overtreatment;
- supporting integrated palliative care throughout the care continuum in hospitals, long-term care facilities, community health centres and patients' homes;
- ensuring clarity in the information provided to patients about their condition and the potential side-effects of treatment, and involvement of patients in decision-making, including about procedures to preserve fertility and reproductive health, when appropriate;
- removing barriers to prescribing opioid analgesics (notably oral) and deploying equipment and human resources to treat cervical cancer and manage symptoms and pain (radiotherapy for palliation and access to morphine in late stages);
- ensuring provision of patient-centred care through active engagement of patients in their treatment, including education about the potential side-effects and enabling fully informed consent to treatment;
- ensuring mental health support and prevention and relief of psychological suffering (both acute or chronic) through counselling, psychosocial support, medications, equipment (such as adult incontinence products) and human resources such as doctors, nurses and community health workers with basic palliative care training, social workers, psychologists and grief counsellors or trained and supervised lay counsellors; and
- ensuring prevention and relief of social suffering (both acute and chronic) through social supports (such as cash transfers or resource allocation for housing, children's school tuition, transportation to health facilities and meeting funeral costs) and providing human resources such as social workers, community health workers and peer supporters.

MONITORING, EVALUATION AND ACCOUNTABILITY FRAMEWORK

Robust surveillance and health information systems are fundamental to monitoring and evaluating the impact of the roadmap. The Regional Multistakeholder Committee will deploy a consultative process to determine a set of regional indicators (drawing on the global monitoring framework for data collection and

indicator development) to monitor progress towards achieving the 2030 global goals and assessing progress on eliminating cervical cancer as a public health problem. Monitoring will rely on pre-existing collection mechanisms to avoid additional burden.

For example, the WHO cervical cancer country profiles (41) describe the current status of cervical cancer for each WHO Member State curated from multiple data sources. These profiles help to establish a baseline for countries and support the monitoring of trends toward achievement of the elimination of cervical cancer as a public health problem.

The profiles include (but are not limited to) information on:

- **the burden of cervical cancer:** cervical cancer incidence, cumulative risk of cervical cancer, total number of deaths and trends in deaths, and cervical cancer mortality-to-incidence rates;
- **primary prevention:** HPV vaccination programme coverage and programme details, related risk factors, including tobacco use, condom use at last high-risk sex and HIV incidence;
- **secondary prevention:** details of the national screening programme for cervical cancer and the cervical cancer screening rate; and
- **treatment and supportive care:** national guidelines for cervical cancer management, cancer diagnosis and treatment service availability, and availability of specialized medical staff and palliative care.

The NCD country capacity survey (60), conducted every two years (next due in 2023), serves as another source of information for reporting progress on implementation. The questionnaire covers: public health infrastructure, partnerships and multisectoral collaboration; policies, strategies and action plans; health information systems, monitoring, surveillance and surveys; and health system capacity for detection, treatment and care.

An interim report on the progress made in the Region towards eliminating cervical cancer as a public health problem (drawing on the cervical cancer country profiles and country capacity surveys) will be submitted to the WHO Regional Committee for Europe in 2026 following a review of progress in 2025.

The WHO Regional Office for Europe will facilitate collaboration of the Regional Multistakeholder Committee in supporting implementation of the roadmap through national action plans where appropriate and promote implementation with international partners, including the International Agency for Research on Cancer, the International Atomic Energy Agency, the European Commission, the Association of European Cancer Leagues, the European Society for Medical Oncology, the Union for International Cancer Control and the United Nations Population Fund.

The Regional Office and the Regional Multistakeholder Committee will promote the highest level of political engagement to ensure that cervical cancer elimination stays at the top of national health agendas. The Regional Office will also support a regional information and knowledge-exchange platform to facilitate functional links between national focal points, the Regional Office and other partners engaged in cervical cancer elimination. This mechanism will help Member States anticipate challenges and connect with other Member States to learn from their experiences.

The Regional Office will provide technical assistance to Member States including, but not limited to, increasing uptake of HPV vaccination with a focus on underserved and at-risk populations, developing organized population-based screening, strengthening clinical pathways, and improving access to high-quality diagnosis, treatment and integrated palliative care and survivor services. In addition, it will provide Member States with models for developing evidence-informed communication materials tailored to the needs of the target audience, develop a monitoring and evaluation framework and support Member States in documenting the impact of control programmes for cervical cancer.

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