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Accelerating cervical cancer elimination

Report by the Director-General

CERVICAL CANCER: A GLOBAL PUBLIC HEALTH PRIORITY

1. Vaccination against human papillomavirus, screening and treatment of pre-cancer, early detection and prompt treatment of early invasive cancers and palliative care have proven to be effective strategies to address cervical cancer across the care continuum. These interventions are embedded in the targets and indicators of the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020, support realization of the 2030 Sustainable Development Goals and are aligned with the Global Strategy for Women's, Children's and Adolescents' Health (2016–2030), the Global Health Sector Strategies on HIV, Hepatitis and Sexually Transmitted Infections (2016–2021) and health systems strengthening for social protection and universal health coverage as set out in United Nations General Assembly resolution 72/81. Each strategy is supported by cost-effectiveness recommendations and WHO technical guidance;[1] when implemented to scale and with adequate coverage in a people-centred and rights-based approach, they offer the opportunity to eliminate cervical cancer as a public health problem.

2. Despite these efforts, cervical cancer is the fourth most common cancer among women globally, with an estimated 570 000 new cases and 311 000 deaths annually as of 2018.[2] Projections indicate that without urgent scale-up of services, the burden will increase to almost 460 000 deaths by 2040, a nearly 50% increase over 2018 levels. This increase will also be inequitable, with lower-income countries having the greatest relative increase in the annual number of cases in the period 2012–2040 and compounding the current wide variation in rates of cervical cancer incidence and mortality across the world, with nearly 90% of deaths occurring in low- and middle-income countries.[2]

3. Since inequities also exist within countries, it is important to approach cervical cancer as a disease of social, economic and political disadvantage.[3] Co-morbidities are significant: for example,

[1] See Saving lives, spending less: a strategic response to noncommunicable diseases. Geneva: World Health Organization; 2018 (http://apps.who.int/iris/bitstream/handle/10665/272534/WHO-NMH-NVI-18.8-eng.pdf?ua=1, accessed 11 November 2018); and Tackling NCDs "Best buys" and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: World Health Organization; 2018 (http://www.who.int/ncds/management/best-buys/en/, accessed 11 November 2018).

[2] Based on IARC/WHO Global Cancer Observatory's GLOBOCAN 2018 figures, drawn from available population-based cancer registry; and cervical cancer fact sheet (http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx).

[3] See Doo Wook Shin et al., Disparities in cervical cancer screening among women with disabilities: a national database study in South Korea, Journal of Clinical Oncology 2018 36:27, 2778-2786; and Bradley CJ et al., Health care disparities and cervical cancer, Am J Public Health. 2004 December; 94(12): 2098–2103.

women living with HIV are four times as likely to develop cervical cancer and at a younger age, while women infected with human papillomavirus are two times as likely to acquire HIV infection.

Current status of prevention and control of cervical cancer

4. **Vaccination against human papillomavirus.** Safe and effective vaccines are available to prevent infection with human papillomavirus and hence cervical cancer, in addition to health promotion/health education. The WHO-recommended primary target population for human papillomavirus vaccination is girls aged 9–14 years, prior to their becoming sexually active.[1] Currently, introduction of human papillomavirus vaccine and vaccination coverage are inequitably distributed by geography and income: 84% of high-income countries have introduced the vaccine versus 31% and 12% in middle- and low-income countries, respectively.[2]

5. Some middle-income countries are particularly challenged by affordability of human papillomavirus vaccine, since they are either outside eligibility for, or soon graduating from, support from Gavi, the Vaccine Alliance. Within countries, there are often inequities in access and coverage between subpopulations. There are currently only two suppliers of human papillomavirus vaccines and supply will be insufficient to meet demand at least until 2024. Three products are currently in advanced clinical development.

6. **Screening and treatment for pre-cancerous lesions.** Effective screening and treatment of pre-cancer for women aged 30 years and above can prevent women from developing cervical cancer. Only 22 countries, mainly with high income, reported screening programmes achieving 70% coverage or above. The majority of countries report participation rates below 50%, some as low as less than 10%, due to lack of organized programmes, ineffective population outreach, fragmented service delivery, unavailable infrastructure and limited financial resources.[3] Barriers to increased coverage relate to both supply and demand, with the latter including cultural, social and financial barriers. Further, many countries face challenges relating to poor-quality screening and follow-up of positive cases.

7. **Diagnosis, treatment and palliative care of invasive cancer.** Early detection of cervical cancer is critical since women diagnosed with invasive cancer in the early stages have a much higher probability of cure and treatment at an early stage is also cost-effective. Currently, the majority of cases in low- and middle-income countries are being diagnosed at late stage and many countries lack adequate diagnostic, treatment or palliative care services. As a result, the five-year probability of

[1] See http://www.who.int/immunization/policy/position_papers/pp_hpv_may2017_summary.pdf?ua=1.

[2] WHO Immunization, Vaccines and Biologicals database as of 31 August 2018.

[3] Assessing national capacity for the prevention and control of noncommunicable diseases: report of the 2017 global survey. Geneva: World Health Organization; 2018.

surviving from cervical cancer varies across the world, from 37% to 77%,[1] while a disproportionate number of cancer patients die with poor access to pain relief.[2]

8. **WHO support to date.** The United Nations Joint Global Programme on Cervical Cancer Prevention and Control was established in 2016 and brings together seven United Nations agencies and other partners. Through this and other responses to political commitments made in World Health Assembly resolutions, such as resolution WHA70.12, WHO has supported Member States in implementing cervical cancer programmes. These efforts include the development of global normative guidance (e.g. C4-GEP),[3] an investment case (e.g. Saving lives, spending less)[4] and regional commitments and capacity-building (e.g., Regional Office for Africa planning and communication toolkits; Regional Office for the Eastern Mediterranean, Pan-American Health Organization (PAHO) and Regional Office for South-East Asia regional frameworks; Regional Office for the Western Pacific cancer leadership workshops and national cytology training; PAHO and Regional Office for South-East Asia screening and management of cervical pre-cancer training and Regional Office for South-East Asia Package of Essential Noncommunicable Disease Interventions (PEN) modules; and Regional Office for Europe support to develop comprehensive national strategies).

Elimination of cervical cancer as a global public health problem

9. **Call to action.** In May 2018, the Director-General of WHO announced a global call to action towards the elimination of cervical cancer, underscoring renewed political will to make elimination a reality, and called for all stakeholders to unite behind this common goal. He highlighted the need for cervical cancer services to be embedded in strong health systems and included in approaches to universal health coverage. The call to action was met with strong support from all stakeholder groups, including a number of Member States, heads of United Nations system agencies, leaders of civil society and academic organizations, private-sector representatives and people living with cervical cancer.

10. **Feasibility and acceleration of elimination.** Academic groups commissioned by the Secretariat in 2018 have modelled the impact of combined human papillomavirus vaccination and screening and treatment strategies, examining different scenarios of cervical cancer incidence and mortality over time. WHO convened a series of technical and consultative meetings to assess the modelling outputs and develop a definition of the elimination of cervical cancer as a public health problem. Key indicators and interim targets to impact both cervical cancer incidence and mortality are being developed for the period 2020–2030, which will shape the pathway to elimination for all countries. In the case of countries which are close to or have already achieved elimination, the focus should remain on maintenance of their status and robust monitoring.

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[1] Allemani C, et al., Global surveillance of trends in cancer survival 2000–14 (CONCORD-3): analysis of individual records for 37 513 025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. The Lancet, 391(10125), 1023-1075; and Assessing national capacity for the prevention and control of noncommunicable diseases: report of the 2017 global survey. Geneva: World Health Organization; 2018.

[2] Knaul FM, et al. Alleviating the access abyss in palliative care and pain relief – an imperative of universal health coverage: the Lancet Commission report. The Lancet, Vol. 391, No. 10128 2017.

[3] See http://www.who.int/reproductivehealth/publications/cancers/cervical-cancer-guide/en/.

[4] Saving lives, spending less: a strategic response to noncommunicable diseases. Geneva: World Health Organization; 2018 (http://apps.who.int/iris/bitstream/handle/10665/272534/WHO-NMH-NVI-18.8-eng.pdf?ua=1).

11. The modelling work demonstrates that elimination of cervical cancer is feasible in all countries with the tools we currently have available. In keeping with the pillars of comprehensive cervical cancer prevention and control, three accelerators are proposed:

> **Accelerator 1.** A concerted multistakeholder effort is needed between governments and non-State actors, particularly the private sector, to overcome current human papillomavirus vaccine supply constraints and negotiate more affordable prices through market shaping;
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> **Accelerator 2.** A concerted multistakeholder effort to establish a sufficient, affordable supply of human papillomavirus screening tests and treatment technologies for cervical pre-cancer is required to accelerate the impact of screening programmes in terms of test effectiveness and simpler delivery;
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> **Accelerator 3.** Technical assistance and support to Member States is required to scale up their capacity for coordinated and integrated delivery of diagnosis, cancer surgery and radiotherapy, systemic therapy and palliative care services.

12. **Health systems support for accelerators.** Elimination will also require the leverage of existing health infrastructure and the integration of services throughout and beyond the field of health (e.g. education); the strengthening of regulatory, procurement supply and maintenance systems; health workforce capacity-building, including assessment to maintain performance and quality standards; high-quality communication and community mobilization for demand creation; regular updates of evidence-based guidance for national policy-making; and financial risk protection and inclusion of cervical cancer control in existing national universal health care packages or similar policy mechanisms.

13. **Political will.** Achieving elimination will require collective effort from Member States over a number of decades. Political understanding of national elimination plans is essential to secure immediate investments to reach all women and girls by 2030 as well as continued commitment to push incidence rates in all countries down to the elimination threshold. The 2018 political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases highlights cervical cancer and Member States committed to scale up their efforts in this regard. The PAHO Directing Council Plan of Action for Cervical Cancer Prevention and Control 2018–2030 is an example of leveraging the WHO regional infrastructure to support the urgent translation of political support to national action and scale-up that is now required.

14. **Global coordination towards elimination.** WHO and the United Nations Interagency Task Force on the Prevention and Control of Non-Communicable Diseases can play a coordination role for all stakeholders, ensuring coherence in the implementation of key actions and the development of national elimination plans. Non-State actors are important advocates for accountability, service demand creation and community-based service delivery.

15. **Financing and return on investment.** Eliminating cervical cancer will yield a high return on investment by reducing the cost and health system burden of treating pre- and invasive cervical cancer and preventing the loss of productivity among women at the peak of their working and social lives.

16. Governments and donors have invested significantly in health advances for women, such as sexual and reproductive health and HIV management, but those gains may be lost if the same women

die from cervical cancer. Integrating cervical cancer services into existing services, such as family planning or HIV services, has been shown to be synergistic and will improve cost-efficiency.[1]

17. Resource mobilization will be needed nationally and globally to support the sustained roll-out of the priority interventions that will lead towards elimination. Development of costed national elimination plans is a prerequisite for securing sustainable financing from national governments and international development partners. Robust financial planning also ensures that financing across the care continuum is at an appropriate level for results-oriented sustainable financing of services.

18. **Monitoring and evaluation.** A national surveillance system is important for the purposes of advocacy, programme design and evaluation as it contributes to assessment of the effectiveness of existing programmes and supports health system prioritization to improve patient services. Establishing and sustaining population-based cancer registries for reporting incidence and mortality data is critical for monitoring of national progress towards elimination. Integration of health information systems to ensure linkage of data from vaccination, screening, cancer and HIV registries will be supportive in this regard.

19. In addition, global monitoring will facilitate the achievement of interim milestones towards elimination after 2030; support tracking of progress against national commitments; and encourage sharing of good practices and identification of key actions to support countries on the pathway to elimination.

20. **Research and innovation.** A coordinated basic clinical and implementation research agenda can identify new or improved interventions for more rapid realization of elimination. The current research pipeline includes new options for human papillomavirus vaccination, screening and treatment technologies and novel treatments for invasive cancer. Digital and mobile technology solutions (e.g. mHealth) can further support programme effectiveness.

ACTION BY THE EXECUTIVE BOARD

21. The Board is invited to note the report. It is also invited to focus its discussions on providing further guidance regarding next steps to accelerate the elimination of cervical cancer as a public health problem.

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[1] White HL et al. Integrating cervical cancer screening and preventive treatment with family planning and HIV-related services. Int J Gynecol Obstet 2017; 138 (Suppl. 1): 41–46.