Cervical cancer burden remains high in many countries; scale-up needed to meet 2030 elimination target

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High grade dysplasia (carcinoma in situ) in the uterine cervix. The abnormal epithelium is extending into a mucus gland to the left of centre. This disease can progress to invasive cancer (squamous cell carcinoma) of the cervix. Credit: Haymanj/public domain

There were over 600,000 new cases of cervical cancer and over 340,000 deaths worldwide in 2020, according to an observational study published
in The Lancet Global Health journal.

Although cervical cancer has decreased in many world regions over the past three decades—notably in Latin America, Asia, western Europe and North America—the burden remains high in many low- and middle-income countries.

The development of effective HPV vaccination and screening programs have made cervical cancer a largely preventable disease. In 2020, the World Health Organization (WHO) announced a target to accelerate the elimination of cervical cancer as a public health problem, aiming to reduce incidence below a threshold of four cases per 100,000 women per year in every country by 2030. This study tracks the progress on cervical cancer rates and identifies the countries and regions where efforts require scaling up to reach WHO targets.

Dr. Deependra Singh, International Agency for Research on Cancer (IARC) / WHO, France, says, "HPV vaccination and screening technologies mean that cervical cancer is now largely preventable. Our study finds encouraging decreases in some high-income countries following successful implementation of HPV vaccination programs and screening—such as in Sweden, Australia, and the UK—but globally the burden remains high. All over the world, women should be free from the risk of preventable cancer, and with development of effective vaccines and screening over the past 20 years, we have the tools to make this a reality."

The study used IARC's GLOBOCAN 2020 database to estimate the burden of cervical cancer incidence and mortality rates in 185 countries. Additionally, the study analyzed the relationship between cervical cancer cases and deaths in relation to national levels of socioeconomic development. Finally, the authors looked at data from 1988 to 2017 to identify increase and decrease trends.
In 2020, rates of cervical cancer cases were 13 per 100,000 women per year and there were seven deaths per 100,000 women per year. Incidence rates in 172 out of 185 countries, still exceeded the four cases per 100,000 women per year threshold for elimination set by WHO.

Rates varied significantly between countries, with a 40 times difference in cases and 50 times difference in deaths. Case rates ranged from two cases in Iraq to 84 cases in Eswatini per 100,000 women per year; while mortality rates ranged from one death in Switzerland to 56 deaths in Eswatini per 100,000 women per year.

There was substantial socioeconomic inequality in cervical cancer globally, with a clear socioeconomic gradient in incidence and mortality, along with higher rates observed in countries with lower socioeconomic development.

When looking at the trend data from 1988 to 2017, the authors observed major declines in cases in some Latin American countries, including Brazil, Colombia, and Costa Rica. A similar pattern was observed in Asia in India, Thailand, and South Korea, as well as in Eastern Europe in Poland, Slovenia, and Czechia. However, there were increases in cases in Eastern Europe, in Latvia, Lithuania, and Bulgaria, and Eastern Africa in the past decade, as well as in The Netherlands and Italy. The reasons for recent increases might include increased prevalence of HPV among the younger generations of women and lack of effective screening programs.

Countries with the largest average declines in incidence rates per year included Brazil (8%), Slovenia (7%), Kuwait (7%), and Chile (6%); whereas the highest increases in rates were in Latvia (4%), Japan (3%), Ireland (3%), Sweden (3%), Norway (2%), Northern Ireland (2%), Estonia (2%), and China (2%).

Dr. Valentina Lorenzoni, Scuola Superiore Sant'Anna, Italy, says,
"Cervical cancer cases are much higher than the threshold agreed by the WHO initiative on cervical cancer elimination in most countries, indicating that there is still much work to be done before 2030. While a decrease in screening intensity due to the COVID-19 pandemic might have left a new group of susceptible women, the pandemic also boosted the introduction of self-administered HPV testing, offering new possibilities to increase screening coverage. Other new advancements, such as thermal ablation for treating cervical pre-cancer, the use of mobile phones to improve follow-up after screening, and machine learning to improve visual assessment, can also be used in low resource settings to lower cervical cancer rates."

Finally, the authors note that the estimates were based on the best available cancer data in each country, but caution that these may be incomplete or inaccurate. For instance, cases may appear low in countries where there are no effective screening programs or there is limited local population-based cancer registry data available.


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