A cervical cancer cell is in the final stage of cell division. SPL/sciencesource.com

Medical News & Perspectives
Why US Cervical Cancer Survival Rates Haven’t Improved for Decades
Melissa Suran, PhD, MSJ

Although screening has been on the frontlines of the battle against cervical cancer for more than 60 years, the disease’s survival rate has barely budged since the 1970s. That’s in stark contrast with the overall cancer mortality rate in the US, which the American Cancer Society (ACS) reported has decreased by 32% since 1991.

“It’s truly upsetting every time I diagnose cervical cancer, because with adequate screening, it’s very preventable,” Elena Pereira, MD, a gynecologic oncologist with Lenox Hill Hospital at Northwell Health, said during an interview. More than 10 women die every day from the disease, translating to about 4280 estimated deaths expected this year, according to the ACS. The ACS has also reported that, after breast cancer, cervical cancer remains the second leading cause of cancer death among US women aged 20 to 39 years.

The World Health Organization (WHO) also has weighed in, estimating that “screening can reduce cervical cancer mortality by 80% or more.” Yet research published earlier this year in JAMA Network Open demonstrated a 14-year decline in screening in the US. The analysis of data from 20,557 women eligible for cervical cancer screening found that the percentage who didn’t receive timely screening increased to 23% in 2019 from 14.4% in 2005. The most common reason women weren’t up to date? They didn’t know that they needed screening, the authors wrote.

No Vaccine, No Screening, No Progress
Treatment for cervical cancer is often successful if the disease is detected early through regular screening. Guideline recommendations typically advise women to be screened every 3 to 5 years with a human papillomavirus virus (HPV) test, a Pap test, or a combination of both. Eligible patients should also be vaccinated against HPV, which, according to the Centers for Disease Control and Prevention (CDC), likely accounts for about 91% of cervical cancer cases diagnosed annually in the US.

Although most cervical cancer recommendations support screening beginning between age 21 and 25 years, the HPV vaccine is often administered to youths as young as 9 years old; the ACS reports that vaccine effectiveness is highest when given between the ages of 9 and 12 years. And it’s important for females and males to get vaccinated against the virus: HPV can linger and infect the cells of organs other than the cervix, including the anus, penis, and throat, and can cause a range of cancers as well as genital warts.

But many people remain wary of the HPV vaccine. Although proven safe for more than a decade, concerns stemming from misinformation have long persisted, including disproven claims such as the vaccine causing autism. A 2021 Morbidity and Mortality Weekly Report analysis showed that in 2020, about 75% of teenagers aged 13 to 17 years had received at least 1 HPV vaccine dose and almost 60% were up to date. Yet the rates remain lower than for other recommended vaccines such as those for tetanus, diphtheria, and acellular pertussis.

Pereira, also an assistant professor of gynecologic oncology at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, noted that HPV vaccine hesitancy has arisen “among parents feeling falsely that protecting their children from HPV might make them more promiscuous.”

Because HPV is transmitted mainly during sexual activity, abnormal results from HPV testing means that the patient was likely sexually active. In some communities, the taboo nature of contracting HPV through intercourse may lead to missed screenings that can influence stagnating mortality rates, said Electra Paskett, PhD, MSPH, director of the Division of Cancer Prevention and Control in the Department of Internal Medicine at The Ohio State University (OSU) College of Medicine.

"With HPV being so closely linked to cervical cancer, we’re seeing a reluctance to get screened in rural communities because of the fear that if HPV is detected, what that stigma brings," Paskett explained during an interview. "That impedes the uptake by women, and I think there’s still bias among some providers."
The CDC notes that it can take several years for cervical cancer to develop after a patient contracts HPV. But once the cancer becomes more invasive, the disease progresses quickly. "Patients presenting with cancer now, it’s hard to say that they have cervical cancer because they didn’t go to the gynecologist last year—they probably haven’t gone to the gynecologist in like 10 years," Pereira said.

**Underfunded and Underscreened**

In an interview, Melissa Simon, MD, MPH—an obstetrician-gynecologist with Northwestern Medicine as well as founder and director of the Center for Health Equity Transformation at Northwestern University’s Feinberg School of Medicine—said that in 2021, a conference requested by Congress highlighted stagnant cervical cancer survival rates as 1 of 3 women’s health topics that the National Institutes of Health (NIH) could advance through research.

“The opportunities for cervical cancer research—the whole continuum from HPV vaccination all the way through treatment trials—it’s completely underfunded,” said Simon, who serves on an advisory committee for the NIH’s Office of Research on Women’s Health and is an immediate past member of the US Preventive Services Task Force (USPSTF). “To have such a stagnant rate of mortality for decades, it just goes to show you that it’s not a priority in research, and it’s not a priority for policy makers.”

The COVID-19 pandemic complicated matters further for women needing routine or overdue cervical cancer screening. “There are patients still concerned about coming into the doctor because they don’t want to get COVID,” Pereira said.

According to a 2021 *Preventive Medicine* study, cervical cancer screenings received through the CDC’s National Breast and Cervical Cancer Early Detection Program dropped by 84% for the month of April from the previous 5-year average of 18,347 to 2880 in 2020. Although the cervical cancer screening rate began to rebound, it remained 40% below the 5-year average in June 2020.

And a retrospective analysis presented at the Society of Gynecologic Oncology’s 2022 Annual Meeting on Women’s Cancer found that 39.5% fewer women with an abnormal Pap test result who were referred to a colposcopy clinic during the pandemic went to their appointment as scheduled than women who received a referral a year before the pandemic hit.

**Age Matters**

Similar to screening guidelines for breast cancer, the recommended age to begin cervical cancer screening varies among organizations; there’s also a lack of consensus on how often to use each type of screening test. A 2018 *JAMA* editorial postulated that varying guidelines pose another obstacle to cervical cancer screening. All organizations concur that screening is vital to keep cervical cancer rates down. And most organizations—including the ACS and the USPSTF—agree that in most cases, it’s appropriate to stop regular screening after age 65 years.

However, “it’s worth tailoring a clinical approach to a patient who is over the age of 65, based on their history,” said Simon, who coauthored the USPSTF’s most recent 2018 guidelines in *JAMA*. A 2022 study in *Gynecological Oncology* examining Surveillance, Epidemiology, and End Results Program–Medicare data from 2004 to 2013 for women older than 65 years found that many patients diagnosed with cervical cancer didn’t receive treatment, even though it improved chances of survival. Therefore, the authors suggest reevaluating screening recommendations for women in this age range.

Pereira said there’s almost no chance of contracting HPV among patients aged 65 years who have never had an HPV-positive Pap test and are in a monogamous relationship—but not everyone can check each item off that list. Patients can begin new sexual relationships after age 65 years. “I, myself, have diagnosed cervical cancer in patients in their 70s and 80s,” Pereira remarked. “I think these patients need to be added back into the screening recommendations.”

**Overcoming Disparities**

Cervical cancer among historically marginalized communities also is an ongoing issue, and low socioeconomic status remains a major barrier to receiving up-to-date screening. Pereira mentioned that patients lacking access to health care often see physicians only when they believe it’s absolutely necessary. “Ironically, advances in cancer control, such as the availability of screening tests and improved treatment, typically exacerbate disparities,” the 2022 ACS report states.

“Being in New York City, I’m uniquely poised to see a large immigrant population, and a lot of my new cervical cancer diagnoses are either underinsured or uninsured, so they don’t frequently go for health maintenance,” she explained. Pereira added that even insured women often face difficulty when scheduling appointments because of a lack of childcare or time constraints; in some cases, their jobs don’t allow for appointments during standard business hours.

When it comes to cervical cancer risk, location also matters. A 2021 *JAMA Oncology* study of New York City found that compared with neighborhoods having the highest socioeconomic status, cervical cancer incidence rates were 73% higher in the lowest-income neighborhoods—where residents predominantly were Black and Hispanic individuals.

And teenagers living in rural areas are less likely to be vaccinated against HPV than those from big cities. Among those aged 13 to 17 years, the 2022 ACS report found unequal uptake of the HPV vaccine on a state level, ranging from 83% of teens being up to date in Rhode Island to 32% in Mississippi— the state with the highest poverty rate, according to the US Census Bureau.

Paskett—also the founding director of the James Center for Cancer Health Equity at OSU’s Comprehensive Cancer Center—and her colleagues have observed major cervical cancer disparities among women in Appalachia, a region extending from southern New York to northern Mississippi that is characterized by overall low socioeconomic status. Regions of Appalachia experience some of the highest cervical cancer incidence and mortality rates in the US, and the disparities could worsen because of the COVID-19 pandemic.

However, Paskett said OSU has a large patient navigation system to locate individuals in both rural Appalachia and urban areas “who’ve fallen through the cracks.” When they come across someone who needs to be screened, Paskett and her team first figure how the screening will be covered financially. Next is determining whether there’s a freestanding screening facility near the patient’s community; if not, a van will take them to one.

After transportation is confirmed, the team ensures that other obstacles—such as childcare access—are addressed. And all patients are reminded about their screening...
the day before it’s scheduled to occur. If there’s a positive result, “we follow up with the same things: Where are you going; how will we pay for it; what do you need?” Paskett said. “We follow them all the way through continuum of care—from cancer diagnosis out into survivorship.”

**Lessons Abroad to Use at Home**

Also on the forefront of cervical cancer initiatives is the WHO, which is committed to eradicating cervical cancer by achieving an incidence rate of no more than 4 cases per 100 000 women-years worldwide within the next century. The strategy: boost rates of HPV vaccination, screening, and treatment. But the ultimate success of this endeavor depends on the progress of individual countries.

The ACS 2022 report noted that the US lags behind other high-income countries in HPV vaccination rates among female adolescents—in 2019, the US up-to-date rate was 57%, compared with 67% in Canada, more than 80% in Australia, and more than 90% in the United Kingdom. And a 2019 modeling study in *The Lancet Public Health* projected that Australia is on target to eliminate cervical cancer within the next 2 decades, thanks to the country’s national HPV vaccination program.

In the US, researchers are searching for untraditional ways to tackle cervical cancer—like self-tests for at-home diagnoses of HPV. “It’s an applicator, just like you’re inserting a tampon, and...you put it in a little container and mail it back,” Paskett said. While the test is approved in other countries, it’s not authorized in the US. “At the beginning of COVID, it was supposed to be put on emergency use approval, fast tracked at the FDA. We’re still waiting.”

However, remote screening is an option on the horizon for women in rural and remote areas. Researchers in Canada created a smartphone app that allows for remote clinicians to provide guidance and training to patients trying to achieve an accurate, in-home diagnosis. Researchers in Canada are also positing whether HPV self-swabbing tests could reduce barriers to screening.

“Can you imagine if we could eliminate one cancer? We’d eliminate so much pain and suffering, and the resources we spent on cervical cancer, we could move over to the next cancer,” said Paskett, a 3-time breast cancer survivor whose mother was diagnosed with 4 cancers, including cancer of the breast and of the cervix. “I do what I do so that other people don’t have to hear those three words: You have cancer.”

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**Note:** Source references are available through embedded hyperlinks in the article text online.