The Global Experience in Addressing Cervical Cancer

CSIS Conference Summary

Katherine Peck*

Overview

Cervical cancer is caused by the human papillomavirus (HPV), an infectious disease that far too often strikes young women in the prime of their lives. But one stark fact is indisputable and the basis for considerable hope: this cancer is preventable. The vaccine Gardasil, first approved for use in 2006, and Cervarix, debuted in 2009, can prevent 70 percent of cases in three doses. Yet in spite of this tool, there is cause for alarm: global deaths due to cervical cancer, totaling over 266,000 annually, are increasing. If current trends continue, cervical cancer deaths will soon surpass maternal deaths. While highly treatable if caught early on, the disease remains an especially pernicious, silent killer in sub-Saharan Africa among women living in poverty. Effective use of safe and available vaccines, backed by sustained high-level political will; coherent messaging to parents, girls, and young women; and strong institutional delivery can save lives.

On April 24, CSIS convened a day-long conference, “The Global Experience in Addressing Cervical Cancer,” to answer two major questions: what has been achieved since the introduction of the HPV vaccine in 2006, and what is needed next to address the unfinished agenda? Panelists discussed the major achievements and challenges in expanding access to methods to prevent, diagnose, and treat cervical cancer, with a special focus on the role of the HPV vaccine. In conjunction with the conference, CSIS published a compelling report from the London School of Hygiene and Tropical Medicine, HPV Vaccination in Japan: The Continuing Debate and Global Impacts, that details how the exceptional, still-unresolved controversy over the vaccine’s safety in Japan triggered a virtual collapse in uptake, despite evidence establishing its safety and appeals from professional groups.

Participants voiced a strong narrative of the gains realized over the last decade. Since the introduction of the HPV vaccine, over 185 million doses have been distributed around the world. Over the past decade, the vaccine has become a viable global tool, with prices falling to $11 per dose in lower-income settings. Currently, 65 countries have national plans for HPV vaccination, including nearly half of high-income countries and a third of lower-middle-income countries. The safety of the vaccine has been widely established. Cancer patients, advocates, physicians, and public health officials are increasingly moved by this issue, and have mobilized.

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But major challenges remain. The situation surrounding global dissemination of the vaccine can be seen as a glass half-full or half-empty. While many countries have adopted the vaccine, Rwanda is the only lower-income country to have national HPV vaccination plan. High-income countries, such as the United States, have disconcertingly low uptake rates: according to the President’s Cancer Panel, only 33 percent of adolescent girls have received all three recommended doses of the HPV vaccine, and just 7 percent of boys. There are common barriers across country experiences: social and cultural sensitivities surrounding sexual norms; lack of high-level political leadership; inadequate public messaging, in particular regarding true risks; and weak institutional delivery capacity.

A number of discussions centered on how countries can learn from one another in adopting the vaccine, including cases where the pursuit of smart approaches has led to high coverage. The United Kingdom, Australia, and Rwanda stood out as examples of highly effective and successful programs. All three countries benefited from an alignment of political leadership, the medical community, media, and parents; utilized school-based platforms for vaccine distribution; and employed careful messaging and marketing to address the concerns of parents, providers, and adolescents. It has been established that when these factors are in force, almost universal coverage follows. Rwanda achieved 90 percent coverage for all three doses among young girls in record time following the vaccine’s introduction in 2011.

Conversely, the evolving controversy surrounding HPV vaccination in Japan demonstrates how weak messaging, conflicting opinions, and a lack of leadership can in combination create a dangerous scenario. Following the Ministry of Health, Labour and Welfare’s suspension of its active HPV vaccination recommendation in 2013, coverage dropped from nearly 80 percent to less than 5 percent among adolescent girls. The government’s subsequent inaction enabled anti-vaccination groups to stoke public fears.

Several practical measures can reliably expand use of the HPV vaccine. It is useful to systematically estimate the true financial burden of cervical cancer, comparing productivity losses against the costs of prevention. Greater transparency and candor surrounding vaccine safety has considerable value, as do efforts to more effectively engage providers and communicate with the public at large. Preventing and treating cervical cancer can be achieved through basic improvements to infrastructure and the utilization of existing health platforms. Arguably most important, an active coalition of political leaders, the private sector, public health organizations, and communities is essential to champion the cause.

The Big Picture

Ted Trimble, director of the National Cancer Institute Center for Global Health, presented the following slides in his keynote address. We have chosen to highlight a selection of slides that related to the major themes of the day.
These slides relay the global significance of cervical cancer, with the highest number of deaths concentrated in the developing world, specifically in the regions of South Asia and sub-Saharan Africa. These are the regions that also have the lowest coverage of the HPV vaccine.
Infectious agents cause nearly a quarter of cancers in the developing world. As we can see from the yellow bars in the first slide, a significant percentage of these cancers are due to HPV, a vaccine-preventable virus. The second slide powerfully conveys that cancer prevention is highly effective, but it takes time for these impacts to be seen. However, large-scale introduction of the HPV vaccine has the potential to drastically change cervical cancer prevention in low-income settings.
We understand some of the major risk-factors contributing to this disease and how these may manifest differently in various regions. High rates of HPV and HIV in sub-Saharan Africa are closely linked to high rates of cervical cancer among African women. The second slide reinforces the varied entry points for reducing cervical cancer deaths. It demonstrates that the HPV vaccine stands as the first line of defense against developing cancer, but that screening, early treatment, and palliative care also stand as crucial elements in the continuum of care.
A major development in prevention of cervical cancer emerged from a series of discoveries in the 1970s and 1980s surrounding its linkages with HPV. The HPV vaccine has proven highly effective in preventing HPV strains 16 and 18 (responsible for 70 percent of cervical cancer cases) when distributed prophylactically to adolescent girls and boys. Since its initial release in 2006, the HPV vaccine has been widely recommended by national immunization programs and global institutions. These recommendations have advanced the status of the vaccine, with some 185 million doses distributed globally, a great success in addressing this preventable cancer. Acceptance of the HPV vaccine has also stemmed from the firm establishment of its safety. No causal link has been scientifically established between the HPV vaccine and adverse effects, though safety concerns persist in countries such as Japan, where anti-vaccination groups have stoked public fears.
In spite of the HPV vaccine’s proven safety, efficacy, and widespread promotion, there remain major challenges to improving access and uptake. As we can see from the first graph, the platform for vaccine distribution can play a large role, as the United Kingdom and Australia have successfully utilized a school-based approach, in combination with careful messaging and marketing of the vaccine, to achieve phenomenal coverage rates. Conversely, cost, provider-based distribution of the vaccine, and social and cultural concerns surrounding sexuality have kept rates of vaccination for all three doses low in the United States. However, the second graph demonstrates that high coverage of a newly recommended vaccine in a short period of time is possible in the United States. Improving incentives for providers has been suggested as one way for improving uptake of the HPV vaccine in the United States, as they have been identified as the biggest “lever” in influencing parental attitudes.

Abbreviations: Tdap = tetanus, diphtheria, acellular pertussis vaccine; MenACWY = meningococcal conjugate vaccine; HPV = human papillomavirus vaccine; 3d = 3 doses; HPV = human papillomavirus; 3d = 3 doses.

* Tdap and MenACWY vaccination recommendations were published in March and October 2015, respectively.
† HPV vaccination recommendations were published in March 2007.
Panel Highlights

Country Experiences: Advanced and Emerging Economies

Dr. David Salisbury, associate fellow, Centre for Global Health Security, Chatham House, London, and former director of Immunisation, Department of Health, London, UK
Dr. Akihiko Saitoh, professor and chairman, Department of Pediatrics, Niigata University Graduate School of Medical and Dental Sciences
Dr. Jon Andrus, vice president, Sabin Vaccine Institute
Dr. Melinda Wharton, director, Immunization Services Division, National Center for Immunization and Respiratory Diseases
Moderator: Ambassador Sally Cowal, senior vice president, Global Health, American Cancer Society

- The United Kingdom has seen impressive results since the initiation of its HPV immunization program in 2008–2009. All females under 18 receive the vaccine free of charge, predominantly through a school-based system of distribution. There has been regular and close monitoring of coverage as well as strategic communications and marketing of the vaccine focused on cancer prevention. As a result, the United Kingdom achieved a coverage rate of 86 percent for all three doses by the end of 2013 among 12- to 13-year-old girls.

- The Japanese government introduced the HPV vaccine in 2010 and quickly began to subsidize its delivery—by April 2013 it was added to the list of nationally recommended vaccines, and rapidly achieved a coverage rate of nearly 80 percent for adolescent girls.

- However, Japan has seen a rapid decline in use of the vaccine since the Ministry of Health, Labour and Welfare suspended its active recommendation in June 2013. In the midst of fears surrounding psychogenic adverse reactions, the government has remained largely silent on the issue, allowing for anti-vaccination groups to capture public attention through social media and protests. As a result, coverage has dropped to less than 5 percent.

- Many countries in the Americas have achieved coverage of 80 to 90 percent with the first dose of the HPV vaccine but are unable to sustain these rates for the second and third doses. The United States is not immune to this phenomenon: the lack of a single-payer system, the complexity of health care financing, and a reliance on provider recommendation and distribution of the vaccine has proved challenging in achieving high uptake among adolescent girls and boys.

- These stories demonstrate the importance of country context and the need for engagement at all levels of society (from the health system to the individual) to ensure acceptance of immunization.

- Ultimately, the situation in Japan is political, and will require a political solution.
Pink Ribbon Red Ribbon Initiative

Dr. Doyin Oluwole, executive director, Pink Ribbon Red Ribbon
Sandra Thurman, chief strategy officer, Office of the U.S. Global AIDS Coordinator & Health Diplomacy
Dr. Kennedy Lishimpi, executive director, Cancer Disease Hospital, Lusaka
Moderator: Lisa Carty, director, U.S. Liaison Office, UNAIDS

• Cervical cancer is a silent killer in Africa. Women are often more fearful of developing cancer than contracting HIV, and the disease remains highly misunderstood and stigmatized. The burden of this disease is increasing among young women, and cervical cancer deaths will soon exceed pregnancy- and childbirth-related deaths. HIV positive women are four to five times more likely to develop cervical cancer than their HIV negative peers.

• Pink Ribbon Red Ribbon (PRRR) is an innovative public-private partnership launched by the George W. Bush Institute, UNAIDS, the U.S. government, and Susan G. Komen for the Cure, with the goal of reducing deaths due to cervical cancer and breast cancer.

• PRRR works in countries that have at least one cancer treatment center and partners closely with government to align with national plans, policies, and strategies, helping to fill in gaps. It seeks to leverage already-existing resources, including HIV programs, national civil society organizations, and family planning clinics to reach women most at risk, and works to build local capacity and expand access to methods of prevention and treatment.

• PRRR currently operates in Botswana, Ethiopia, Namibia, Tanzania, and Zambia, and contributes in various ways to the continuum of cancer care, from mobilizing community leaders to aiding in distribution of the HPV vaccine to expanding access to palliative care.

• Private-public partnerships represent a promising approach to tackling the issue of cervical cancer, as they are vital to building country capacity and allow for local adaptation and variation in programming.

Developing Country Experiences

Natasha Bilimoria, director of U.S. Strategy, Gavi, the Vaccine Alliance
John Yang, senior program officer in vaccine delivery, Bill & Melinda Gates Foundation
Dr. Susan Wang, associate director for research & implementation science, Global Immunization Division, CDC Center for Global Health
Moderator: Katherine Bliss, senior associate, CSIS Global Health Policy Center

• Less than one-half of lower-middle-income countries have an HPV vaccine implementation plan in place. But it is important to recognize that lower-middle-income
countries are not the only ones facing challenges in prioritizing, implementing, and scaling up HPV vaccine programs—many middle-income, and even high-income, countries have not yet added HPV to their provided vaccines.

- To facilitate HPV vaccine access, the Gavi Board approved adding HPV to the list of vaccines offered to eligible countries in 2008. In 2011, Gavi opened a "funding window" for the HPV vaccine, contingent on reaching an agreement with vaccine manufacturers for an acceptable price, now about $11 a dose.

- To date, more than 25 Gavi-eligible countries have requested HPV vaccine support. Countries must have demonstrated satisfactory progress in expanding immunization coverage and an ability to reach adolescent girls with health services. Commitment of political leadership is crucial.

- Adolescent girls in developing countries often represent a neglected population when it comes to delivering health services, so reaching this group with three doses of vaccine can be a challenge. Adolescent girls are not always in school, so it is important to consider a variety of ways to reach them, including clinic-based services and even mobile outreach.

- Strengthening the immunization and health systems can help ensure success of HPV vaccine programs. There is a need to integrate HPV into routine immunization programs, and it is important to carry out impact studies to identify factors that contribute to program success or failure.

- In the future it will be important to help strengthen the ability of developing countries to locally produce the HPV vaccine, both to reduce cost and improve accessibility.

What’s In Store for the Future?

Dr. Julie Gerberding, executive vice president for strategic communications, Global Public Policy and Population Health, Merck
Simon Godfrey, director of government affairs, GlaxoSmithKline
Dr. Stephen Resch, deputy director, Center for Health Decision Science, Harvard School of Public Health
Moderator: Dr. J. Stephen Morrison, senior vice president and director, CSIS Global Health Policy Center

- We can approach HPV and cervical cancer from two complementary perspectives. On the one hand, we have proof of concept for the continuum of cervical cancer prevention and treatment, including a preventive vaccine we know can reduce risk, inexpensive screening tools, and treatment that is increasingly affordable and accessible.

- Additionally, we have utilized more than 185 million doses of the HPV vaccine and it is actively recommended in 65 countries. We have further mobilized awareness that this
cancer is caused by a virus, and while this is still not universally understood, popular understanding is improving.

• But serious obstacles persist: we have tried-and-true cancer prevention products that aren’t being used in low-resource settings, which suffer the greatest burden of this disease. HPV-related cancer is also a poster-child for health disparity: the disease is still not widely discussed or understood, and disproportionately affects the poorest women in the world.

• In moving forward, there are a number of avenues to consider. There is the public health route, which includes defining the problem, crafting a WHO agenda, and mobilizing public health agencies to action. There is the government approach, which rests on cultivating political will, crafting national plans of action, and empowering governments to champion the issue. There is the grassroots approach, which involves engagement of individuals and communities most affected. And there is the business approach, in which employers around the world, recognizing the value of their female employees and the impacts of cervical cancer on productivity, have the opportunity to make a difference. Ultimately, we need a combination of activities engaging all of these different actors and avenues.

• We also need to improve the data on the burden of cervical cancer. Specifically, there is a lot to gain from having better projections on the losses of economic productivity due to HPV and cervical cancer, as these diseases typically affect women in the prime of their working years.

• Ultimately, HPV is a preventable disease and we need to accelerate action. It is time that we stop accepting the complacency surrounding this disease: we know what we need to do to save over two million lives through the next decade, and making it happen is a matter of priority.

Closing Thoughts

A central theme was echoed over the course of the conference: the HPV vaccine is a valuable but underutilized tool in global cancer efforts. It represents a unique, “shovel-ready intervention” that can prevent cancer from striking women in the prime of their lives, but is largely unavailable in regions such as sub-Saharan Africa, where the burden of cervical cancer is greatest.

The year 2015 presents an opportunity to expand recognition of this issue. In early June, G7 leaders issued a declaration acknowledging the importance of Gavi, the Vaccine Alliance and drawing attention to their goal of expanding access to vaccines (including the HPV vaccine) to an additional 300 million children by 2020. The framework for the much-anticipated post-2015 Sustainable Development Goals includes a target specific to noncommunicable diseases (NCDs), calling for one-third reduction of premature mortality from NCDs by 2030. Expected to be ratified
at the UN General Assembly summit in September 2015, this new focus on NCDs will likely bring more attention to addressing diseases such as cervical cancer through expanded prevention and treatment.

Throughout the day, it was demonstrated that purposeful engagement and cohesive action on the part of political leaders, the private sector, public health organizations, and communities in expanding access to the HPV vaccine can lead to successful outcomes. The HPV vaccine, along with more robust screening and treatment options for cervical cancer, has the potential to save lives and strengthen communities in the process. Full deployment of these tools is ultimately a matter of high-level political choice.
Conference Program

The Global Experience in Addressing Cervical Cancer
Friday, April 24, 2015
9:00AM–3:00PM
CSIS Second-Floor Conference Center

9:00–9:05  Welcome Remarks
Dr. J. Stephen Morrison, Senior Vice President and Director, CSIS Global Health Policy Center

9:05–9:25  Opening Keynote
Dr. Ted Trimble, Director, National Cancer Institute Center for Global Health

9:30–10:45  Country Experiences: Advanced and Emerging Economies
Dr. David Salisbury, Associate Fellow, Centre for Global Health Security, Chatham House, London, and Former Director of Immunisation, Department of Health, London, UK
Dr. Akihiko Saitoh, Professor and Chairman, Department of Pediatrics, Niigata University Graduate School of Medical and Dental Sciences
Dr. Jon Andrus, Vice President, Sabin Vaccine Institute
Dr. Melinda Wharton, Director, Immunization Services Division, National Center for Immunization and Respiratory Diseases

Moderator: Ambassador Sally Cowal, Senior Vice President, Global Health, American Cancer Society

10:45–11:45  Pink Ribbon Red Ribbon Initiative
Dr. Doyin Oluwole, Executive Director, Pink Ribbon Red Ribbon
Sandra Thurman, Chief Strategy Officer, Office of the U.S. Global AIDS Coordinator & Health Diplomacy
Dr. Kennedy Lishimpi, Executive Director, Cancer Disease Hospital, Lusaka

Moderator: Lisa Carty, Director, U.S. Liaison Office, UNAIDS

11:45–12:00  Break

12:00–13:25  Luncheon: Developing Country Experiences
Natasha Bilimoria, Director of U.S. Strategy, Gavi, the Vaccine Alliance
John Yang, Senior Program Officer in Vaccine Delivery, Bill & Melinda Gates
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