

We have a vaccine for six cancers; why are less than half of kids getting it?

February 3 2017, by Electra D. Paskett



Credit: National Cancer Institute

Early in our careers, few of us imagined a vaccine could one day prevent cancer. Now there is a vaccine that keeps the risk of developing six Human Papillomavirus (HPV)-related cancers at bay, but adoption of it has been slow and surprising low.

Although it's been available for more than a decade, as of 2014 only [40](#)

[percent of girls](#) had received the full three doses of the [vaccine](#), while only [22 percent](#) of boys had received all three. That is far lower than the [87 percent vaccination rates for the Tdap vaccine](#), which prevents tetanus, diphtheria and acellular pertussis. Rates of uptake are low in all population groups.

Some of the reasons include misinformation about the vaccine and why it's administered to children. Because it is transmitted sexually in almost all cases, many parents assume their children do not need it until they are sexually active. Some believe that giving it will encourage early sexual behavior. Three separate doses on three separate doctor visits place a burden to many working parents. And, of course, there are those few who believe that vaccines are not good for children.

Now, however, with the approval of a [two-dose regimen](#) for children under age 15, we have an opportunity to revisit the conversation with providers and parents and reinvigorate efforts to expand HPV vaccination. If successful, we may save tens of thousands of Americans from cancer every year.

A common virus with an uncommon risk

Oncologists and cancer control researchers, including my colleagues at [The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute](#), regard HPV as the leading cause of many cervical, anal, vaginal, vulvar, penile and oropharynx cancers, or head and neck cancers. In fact, studies are now revealing [how HPV damages the genes in our cells](#) and triggers the mutations of cancer.

The U.S. Centers for Disease Control and Prevention (CDC) tracks HPV infections and trends, and the numbers are daunting: 79 million Americans are currently carriers for at least one type of HPV, and about

[14 million](#) become newly infected each year. Most infections are benign, and nine of 10 fade within two years. Several strains have been directly linked to cancers, however, inflicting [more than 30,000](#) Americans annually.

HPV is almost universally transmitted through sexual activity, but it can also be [transmitted through kissing](#). For the vaccine to be most effective, immunity must develop well before exposure, which is why it's important that young people get the vaccine.

The full schedule should be completed at an early age, well before engaging in these risky behaviors. Clinical trials have shown that when administered correctly, the HPV vaccine provides close to 100 percent protection against cervical precancers and genital warts, and over the last decade there has been a [64 percent reduction](#) in the HPV infections the vaccine targets.

The first HPV vaccine, [Gardasil](#), launched with U.S. Food and Drug Administration (FDA) approval in the summer of 2006. Almost immediately it became embroiled in dangerously incorrect assumptions – even more prevalent at that time – about vaccines, and a persistent political debate that confuses the recommended HPV vaccination age (as young as nine) with when young people become sexually active (much later).

Despite those challenges, the publicity surrounding the vaccine helped health care providers raise awareness, and vaccination rates have grown.

The current formulation, Gardasil 9, requires three doses over six months for [young people](#) aged 15 to 26. However, the CDC recently recommended Gardasil 9 as being [equally effective in two doses](#) for adolescents nine to 14 years old, with the dosages separated by as much as a year. As parents consider HPV vaccine options, the two-dose

approach will likely prove more convenient and easier to provide.

Two doses, many lives

Recently, the U.S. National Cancer Institute (NCI)-designated Cancer Centers – 69 world-leading research and treatment facilities distributed across the country – called on Americans to universally [endorse the vaccines](#) and follow the CDC's new two-dose recommendation when appropriate.

The new two-dose push is critical. Any cancer is bad, but many of the cancers caused by HPV are particularly difficult. Head and neck cancers are disfiguring and can cause tremendous problems with swallowing and with speaking. In turn, those problems can render patients unable to eat and can dramatically affect a person's desire to socialize.

After more than a decade of use, it is clear that HPV vaccines are safe and effective. Providers must talk to parents and patients about the vaccine, understand concerns, and respond with clear information and strong recommendations. Parents and guardians, too, should talk to their health care provider to learn more about the HPV vaccine and its benefits.

There are HPV resources for both patients and physicians, such as a [CDC fact sheet for patients](#) and a [series of resources for clinicians](#), but the most impact will come from one-on-one conversations. In trusted communication with patients, providers can emphasize the [HPV vaccine's universal safety](#) – in both clinical trials and widespread global use – and explain why the vaccination must come well before a child is sexually active, not as an adult. Ultimately, as with MMR or the flu shot, this is about a virus, not about sex.

All parents and guardians should have their sons and daughters complete

a two-dose 9-valent HPV vaccine series before age 13, or complete a catch-up vaccine series as soon as possible in older children, including three doses in those older than 15. The ideal time is when a child is receiving other childhood vaccines at age 11-12. If this bundling had been done, the HPV vaccination rate would be over 90 percent in this country.

Young men and young women up to age 26 who were not vaccinated as preteens or teens need to complete a three-dose vaccine series to protect themselves against HPV.

As a cancer control researcher, and as a parent of three boys, I have closely followed the arrival of HPV vaccines. There is no room for equivocation – these vaccines exist, they work and if they can prevent my children from developing cancer later in life, I had them vaccinated. During the last century, vaccines helped bring many diseases under control, and eradicated smallpox. There is a vaccine that may help eradicate several cancers in this century – but only if we act.

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