Why Aren’t People Clamoring for a Vaccine That Prevents Cancer?

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SPEAKERS
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Maggie Fox 00:01
Hello and welcome to One World, One Health where we take a look at some of the biggest problems facing our world. I’m Maggie Fox. This podcast is brought to you by the One Health Trust with bite-sized insights into ways to help address challenges, such as infectious diseases, climate change, and pollution. We take a One Health approach that recognizes that everything on this planet — the animals, plants and people, and the climate and environment — are all linked.

HPV is short for human papillomavirus, and it's the main cause of cervical cancer. It can also cause cancers of the mouth and throat, as well as anal cancer and cancer of the penis. HPV is the most common sexually transmitted infection. In fact, it's so common that almost everyone gets it at some point. It doesn't cause cancer in most people, but when it does, it's often deadly.

Cervical cancer kills 340,000 women a year, the World Health Organization has found. So now that there's a vaccine to prevent it, these cancers should have started disappearing. But while they're less common than before, they are not going away. It's partly because nowhere near enough people are being vaccinated yet.

In this episode of One World One Health, we're chatting with Dr. Grace Ryan, Assistant Professor of Population and Quantitative Health Sciences at the University of Massachusetts Chan Medical School. She's been studying the vaccine and its benefits. And she has also been looking at why people sometimes are hesitant about getting the vaccine for their kids.

Dr. Ryan, thanks so much for joining us.

Grace Ryan 01:55
Yeah, of course, I'm happy to be here.

Maggie Fox 01:57
A vaccine that protects against cancer. It's such a cool concept, but just how do viruses cause cancer?

Grace Ryan 02:04
Yeah, so viruses can cause cancer in a number of ways. Once you get the HPV virus, it can sometimes cause your cells to change in a way that causes them to replicate really quickly and turn into cancers. I'll say this process

actually takes a number of years from the time that you would get an HPV infection to the time that it would turn into something like a cancer, almost 10 to 15 years, and in that time, over 90% of infections, I believe, actually clear on their own. So, while HPV infection is very common, a very, very small number of those infections actually turn into cancers.

Maggie Fox 02:42
So why is it so important to vaccinate children against HPV?

Grace Ryan 02:47
So, the HPV vaccine was introduced in 2007. And we started targeting children for the vaccine. You know, it's really important to get this vaccine before you initiate sexual contact. HPV is a virus that is transmitted through skin-to-skin contact, which can happen during sexual activity. And so, taking this vaccine in early adolescence gives kids the best chance to protect themselves against future cancers that develop later in life. We also have really strong data that shows that vaccinating kids early leads to strong and very lasting protection. So, it's an easy thing to do when you're an adolescent, that can just be one thing that you don't have to worry about when you're later in life about getting those cancers.

Maggie Fox 03:25
When is it too late to get the HPV vaccine? Do we even really know?

Grace Ryan 03:31
Yeah, people have been starting to study that a little bit more traditionally. Kids between 9 and 13 have been the target of HPV vaccination, and we are seeing evidence that it may be beneficial for adults who are older. So right now, I think the recommendations are that we should absolutely focus on children and adolescents aged 9 to 13 for vaccination.

If you're older than 13, you can do (a) catch-up vaccination. Right now, I think the recommendation is that you might need three doses of the vaccine instead of two; if you get it later, you know, 13, 14, or 15, up until your early 20s.

And then if you're an adult who's 27 or older, I believe it's 27 to 45, you can talk to your provider about HPV vaccination and whether it might be beneficial for you right now. There are no recommendations if you're over age 45.

Maggie Fox 04:16
And that's because the assumption is (that) you have been exposed to the virus already.

Grace Ryan 04:21
Exactly. Most of your exposure traditionally occurs in your teens and 20s. That's where we see most of the new, or we estimate that most of the new HPV infections are happening. And that's why we say, talk to your provider if you're over (the) age (of) 27.

Maggie Fox 04:35
So, why would you want to vaccinate kids even younger?

Grace Ryan 04:39
So, a lot of research is coming out that while the vaccine was originally recommended for 11 to 13, it is appropriate and certainly beneficial to vaccinate at age 9 and 10. And that's where a few reasons (come in). One,

it's giving you more opportunity and more visits between that critical, you know, try to get vaccinated by age 13. So, if you get one vaccine at nine, then you have a few more years to get that second vaccine and complete the series.

We're also seeing that parents are sometimes very responsive to it at that age 9 or 10 visits; they don't have to get their kids the three shots at the age 11-12 visit that come with the other, you know, recommended vaccines, and you can sort of take care of it early and have it out of the way. So, I think it's really exciting. It gives pediatricians a few more years to talk about that vaccine and a few more years to do, you know, parental education around it.

Maggie Fox 05:26
The HPV vaccination program has traditionally focused on girls, but should boys be included as well?

Grace Ryan 05:33
We're recommending a gender-neutral approach to vaccination now (but not) when the vaccine first came out. I think this is a great example of how science just evolves over time and our understanding of viruses, infections, and vaccines evolves. So traditionally, we think of HPV and cervical cancer, but HPV can actually cause cancer in many different areas and in both females and males.

So, HPV can cause anal cancer, oropharyngeal cancer, penile, vaginal, and vulvar cancers. And so, we now recommend a gender neutral approach to vaccination is the best to protect everybody against cancers, because boys can both get HPV infections that turn into cancers, but certainly also spread it.

Maggie Fox 06:13
So, you would think that people will be jumping all over this opportunity to protect their children, but uptake has been slow, how come?

Grace Ryan 06:21
I think there are a couple of reasons. When the vaccine was first rolled out in 2007, partly because we were talking about it for cervical cancer prevention only, and so, it was seen as a vaccine just for people with cervixes to get. But also, we started talking about the vaccine as being a vaccine against a sexually transmitted infection. And it is certainly that. But as I think our understanding of what messaging for parents and communication about the vaccine, we really now talk about it as a vaccine for cancer prevention.

Understandably, talking about sexually transmitted infections with parents of, you know, 9, 10, or 11 year olds can be a little bit trickier. But we're talking about this for vaccines later in life. And that's not uncommon for vaccines, younger children get the hepatitis B vaccine. Hepatitis B can be caused by behaviors that a young child is not engaging in, but we're vaccinating them early. So, we really like to talk about it now as cancer prevention rather than a sexually transmitted infection prevention vaccine. And I think that that did certainly lead to some slow uptake. At first, it was that framing of it, and our ability to frame that and sort of our understanding of messaging has improved over the last decade or so.

Maggie Fox 07:31
There's also another factor, I think it's a vaccine that many areas don't require as a condition for attending school, do you think vaccine requirements help uptake as well?

Grace Ryan 07:42
I think vaccine requirements are one tool that can help uptake. The thing about vaccine requirements is that

they're only as strong as whatever the exemption laws in your state are. And that is on a state-by-state basis. So, states that have pretty lenient personal exemptions, which are vaccine exemptions, that you don't really need to have a documented medical reason, you don't need to have a religious reason that you are not getting the vaccine. And those are perfectly with reasonable exemptions. But the states of personal exemptions, those mandates aren't going to be quite as powerful. And so that's why I say they're just one tool in combating vaccine hesitancy and increasing vaccine uptake.

I think, in some ways, the more important part is doing some of the education and communication and combating things like misinformation on social media, so that we're not just requiring people to get a vaccine, actually, they're excited to get that vaccine, and they understand the benefits of it.

Maggie Fox 08:32
So this is an area you've looked at a lot, what are some of the tools you can use to educate people and get them to understand why the vaccine is beneficial?

Grace Ryan 08:41
I think, by and large, provider recommendation for the vaccine is one of the best ways to promote vaccine uptake. That's not to say that all the responsibility falls on our pediatricians' shoulders to be doing this education. There's certainly community education that can go on, integrating this into school curriculums and talking about HPV vaccination in all venues where it's appropriate.

But by and large, we see that if a provider recommends that vaccine and gives what we call a strong and presumptive recommendation. That's to say, (if) the provider says, you know, "I see your child is here for their 11 year old visit, they're due for a couple of vaccines today, Tdap, meningococcal, and HPV vaccine, I strongly recommend that you get them — all three, to protect their health as best as possible." And so, you're putting that vaccine, you're not making an optional choice. You're saying, you know, "I strongly recommend this. This is what we're doing." We've seen some amazing research that says that that (this approach) is, by and large, one of the best ways to promote vaccine uptake for HPV.

Maggie Fox 09:38
Well, as a parent myself, who's raised a child through all the vaccine years, it was very useful to have the visit be like, 'At this visit, this is what we're doing,' as opposed to 'Would you like this?'

Grace Ryan 09:50
Exactly. You know, that's why parents should absolutely be making informed choices about their children's health and making those decisions collaboratively with their pediatricians. We have such strong evidence that the HPV vaccine works. And it's one of the, I'd say, most studied vaccines that we have. The safety and efficacy data are very powerful when you look at it, and we know a lot about its ability to provide the protection that, you know, it is going to.

Maggie Fox 10:19
It's clear that the vaccine worries have been worse since the COVID pandemic. Why do you think that's happened?

Grace Ryan 10:26
This has been a topic I've been thinking about and starting to research a lot. I've done a lot of research recently on COVID-19 vaccination as well. And I think there are a couple of things. One, the COVID-19 pandemic has come at a time when we're really at a peak in social media, and misinformation on social media. We saw an enormous

amount of misinformation about the COVID-19 vaccines and (we) continue to see that. We know that there was already misinformation floating around about HPV (vaccine), but I think that some of those platforms have really been amplified during the pandemic, and that those misinformation (and) disinformation about vaccines are reaching a wider amount of people.

I also think we're in a moment where there's more focus on vaccination and on vaccine development. And you know, more worries about these vaccines being rushed, just because of the singular focus on this. Even when the HPV vaccine came out, like 15 years ago, I don't think that people were reading the news and following or seeing if it was approved or if it was an emergency use authorization. We're just in this moment where we have such amazing access to information, we're seeing something play out in real time that I think it was really right for people to focus on and start to think about in a way that, you know, vaccination was just in the background before this in some ways. So it was sort of a unique confluence of factors that, you know, I think, has produced this moment where we're seeing increased vaccine hesitancy across the board.

Maggie Fox 11:48
So it's like, it feels like something new. In different words, for decades before vaccination was just part of the background, it was just something you did.

Grace Ryan 11:57
Exactly. You know, in public health, we often say people shouldn't really know about what public health is because it should be happening in the background, protecting you all (the) time. The pandemic offered an opportunity for public health to, you know, really reflect on how we're communicating with people and how we're communicating about certain health topics. It really brought public health to the forefront in a way that it hasn't in the past.

Maggie Fox 12:20
So, going forward, who's responsible for having these conversations? And what are some of the tools they can use to make it feel a little easier for folks?

Grace Ryan 12:29
Yeah, I think anybody who is in a healthcare role can certainly have these conversations. Some of the really interesting work that I've been seeing now is certainly among how pediatricians can address vaccine hesitancy during those well child visits, but also take advantage of other opportunities when they're seeing children. You know, kids come into the doctor for really minor things throughout the year, and those are all opportunities to talk about vaccination.

But I also think that some research that we've done is thinking about who some other people are who interact with parents around this critical time period and can be sort of 'vaccine trusted messengers'. And so, there's been some really interesting work done with dentists, particularly with the link to oral pharyngeal cancer and the rise in oral pharyngeal cancer that we're seeing around. Having dentists be advocates for the vaccine, and in some cases even vaccinate for HPV in their offices themselves, is not very widespread right now, but that is certainly an option.

I've also seen work to expand pharmacists' ability to vaccinate for HPV or to talk to parents about HPV vaccination. And so, thinking about some of those other touchpoints that parents and kids have with the healthcare system, not just your pediatrician.

Maggie Fox 13:32
What it helps to talk about are the downstream benefits of the HPV vaccine, in particular, like, "Gee, your daughter might not have to worry about getting pap smears every year, and she won't have to worry about having these interventions, and your son isn't going to risk getting this very terrible cancer."

Grace Ryan 13:50
Yeah, I think talking about the downstream benefits is extremely helpful. The American Cancer Society, as you know, did a lot of work in HPV vaccine promotion. They do a lot of work with survivors' stories, and I've seen a lot of really powerful stories from men who have had oral pharyngeal cancer or another HPV associated cancer, talking about what treatment was like as a way to show (that) this is something that could very easily be prevented for your kids with just two shots when they are between ages nine and 12. And then they won't have to go through what I had to go through.

And, you know, obviously for women, we think about cervical cancer, but you also think about all the precursors to that and the expensive, emotionally, and physically very difficult treatments that we have, which are amazing and can save lives. But, you know, that's not even cancer treatment; it's just sort of the precursors to that. So, there is enormous benefit that we see from vaccination.

Maggie Fox 16:14
Dr. Ryan, thank you so much for joining us. Thank you, listeners, if you enjoyed this podcast, please share it. You can learn more about this podcast, and other important topics at onehealthtrust.org. And let us know what else you'd like to hear about at OWOH@onehealthtrust.org. Thanks for joining us.