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What we talk about when we talk about HPV coverage

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This issue of the journal presents a milestone in expanding coverage against cancers associated with human papillomavirus (HPV). Joura and coauthors' report of a randomized controlled trial of 9-valent vs. quadrivalent HPV vaccine in over 14,000 young women found vaccine efficacy of nearly 97% against high-grade cervical/vulvar/vaginal disease related to types 31, 33, 45, 52, and 58[1]. The intent-to-treat analysis found no benefit of 9-valent vs. quadrivalent vaccine, presumably because so many of the 16–26 year old study subjects had already been infected with the five additional HPV-types by the study's onset. The rationale for vaccination at 11–12 years is to provide protection before HPV acquisition.

What HPV researchers talk about when they talk about "coverage" is the distribution of HPV-types in cancers. Earlier formulations targeted the most common oncogenic types, 16 and 18, responsible for about 70% of cervical cancers. The 9-valent vaccine's additional types are expected to target up to 15–20% more cervical cancers and 5–20% more of other HPV-related cancers[2,3]. While HPV-related cancer coverage can now expand, other types of coverage present ongoing challenges.

What many Americans talk about when they talk about "coverage" is health insurance. HPV vaccine has been included in the Vaccines for Children (VFC) program since 2006[4]. The VFC entitles uninsured children through age 18 years to vaccines recommended by the Advisory Committee on Immunization Practices (ACIP) for free. Since 2010, the Affordable Care Act (ACA) requires private health insurers to cover HPV and other ACIP-recommended vaccines and has prohibited copays or deductibles when vaccines are delivered by an in-network provider. On paper, insurance coverage for HPV vaccines is now comprehensive. The limited availability of in-network providers in some rural jurisdictions and persistence of some grandfathered plans not required to follow the ACA preventive care provisions represent remaining barriers to access. HPV vaccine is the most expensive series currently recommended in the VFC program[5]; private sector catalogue prices are even higher. Initial costs for clinicians to stock this product for privately insured patients while awaiting reimbursement and concerns regarding out-of-pocket expenses among those without access to in-network providers may mean that insurance coverage constraints inhibit vaccine uptake in practice if not statute.

What the immunization community talks about when we talk about "coverage" is the proportion of the targeted population that gets a vaccine. By any metric, HPV vaccine coverage in the US is a problem. At 57%, first dose HPV vaccine coverage among girls 13–17 years old lags by ~20–25 percentage points compared with other vaccines recommended for 11–12 year olds[6]. If every time teenagers received another vaccine, they were offered and

accepted HPV vaccine, first dose coverage would exceed 90%[7]. Despite private doctors' offices stocking vaccines, and parents and teens visiting the offices and accepting other immunizations, four out of ten adolescent girls have not even begun HPV vaccination. Formative research suggests parents hear mixed messages about HPV vaccination; pediatricians communicate less urgency and give weaker recommendations for this vaccine. When clinicians present HPV vaccine together with Tetanus-diphtheria-acellular pertussis and meningococcal vaccines and make strong recommendations, there is greater acceptance.

It's possible a three-dose series is daunting to parents of teens and their clinicians, whether due to cost (even if borne by private insurance or the VFC program) or the difficulty of making three office visits during a stage when school and extracurricular activities can be all-consuming. Expanding in-network insurance coverage to pharmacies could present a convenient option for completion of multi-dose series during the teenaged years, but immunization data for these encounters should be made accessible to primary care physicians through immunization information systems. Regulatory authorities in several countries have approved two-dose series for young adolescents for both the quadrivalent and bivalent HPV vaccine based on non-inferior immunogenicity for two doses given six months apart[8]. The ACIP has reviewed available data for two-dose schedules and will review forthcoming data on the immunogenicity of alternative schedules for the 9-valent vaccine.

Even with the availability of another highly effective and safe HPV vaccine, now targeting additional cancer-causing virus types, vaccination of much higher proportions of preteens is needed. Otherwise, decades from now oncologists will still be talking about HPV-associated cancers with thousands of new patients every year. A few decades from now, it would be nice if we were able to tell a generation of adults who never developed HPV-associated cancers or pre-cancers that when they were teenagers, we had them covered.

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