

# The Uncertain Future of Human Papillomavirus Vaccination School Requirements

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Ten years after the approval of the first human papillomavirus (HPV) vaccine, vaccination rates in both males and females continue to fall short of the 80% coverage goals included in *Healthy People 2020*.<sup>1</sup> In 2015, 62.8% of girls and 49.8% of boys aged 13 to 17 had received at least 1 dose of HPV vaccine, and 41.9% of female adolescents and 28.1% of male adolescents had completed the 3-dose series, according to the US Centers for Disease Control and Prevention.<sup>2</sup> Although recent increases in HPV vaccination rates have been observed (perhaps a result of coordinated recent efforts by vaccination advocates to emphasize the role of these vaccines in cancer prevention) the identification of innovative approaches to promoting widespread use of HPV vaccines remains a priority.<sup>3</sup>

School vaccination requirements have long been viewed by proponents of vaccination as effective and essential tools in promoting and sustaining high vaccination rates.<sup>4</sup> In this issue of *Pediatrics*, Moss and colleagues show that requirements for meningococcal and tetanus, diphtheria, and pertussis vaccines result not only in substantial direct effects in coverage for those vaccines among adolescents but are also associated with indirect spillover increases in HPV vaccination rates.<sup>5</sup> Although the observed spillover increases are far smaller than the direct effects of requirements, these findings suggest that further implementation of meningococcal vaccination requirements, currently

adopted in only 25 states, would benefit meningococcal vaccination efforts and, at the same time, improve HPV vaccination rates.

These results are consistent with the view that childhood and adolescent vaccination is best understood as a tightly connected system, not a series of discrete interventions or programs. This notion of integration is deeply embedded throughout the design of US vaccination activities, from the cohesive recommended vaccination schedule, to the robust vaccine safety surveillance mechanisms, to the communication approaches developed for patient-provider interactions regarding vaccines and vaccine hesitancy. That a school entry requirement for a particular vaccine is also associated with greater use of a nonrequired vaccine like HPV, particularly one that typically can be administered during the same office visit, follows from this networked view of vaccination in the United States.

The results of Moss and colleagues suggest that HPV vaccination rates can be improved through spillover increases that result indirectly from school requirements for other adolescent vaccines. It remains uncertain, however, what role direct HPV school vaccination requirements can or should have in future efforts to prevent cervical cancer and other HPV-related diseases. More than 2 dozen states considered vaccination requirements shortly after approval of the first HPV vaccine in 2006, but amid substantial controversy, few proposals

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were passed and implemented.<sup>6</sup> The 2 requirements established during this period, in Virginia and Washington, DC, originally applied only to females and included exceptionally broad nonmedical exemption provisions specific to this vaccine.<sup>7</sup> Accordingly, the effects that these policies have had on HPV vaccination coverage have been negligible, as Moss and colleagues report.

After several years in which no states approved HPV school vaccination requirements, Rhode Island introduced such a policy in the summer of 2015. It applies to both boys and girls entering seventh grade, and medical and religious exemptions are available only through the state's normal procedures. Although Rhode Island already had comparatively high rates for HPV vaccination initiation and completion among both males and females, Centers for Disease Control and Prevention data for 2015 show that vaccination coverage there now far surpasses that of all other states.<sup>2</sup> Health officials in Rhode Island have credited the new requirement as a contributor to its high HPV vaccination rates, noting the benefits of the new law in increasing public awareness of the vaccine in addition to its formal provisions.<sup>8</sup>

The successful passage and implementation of additional HPV vaccination requirements may be quite difficult in some states, and health officials and elected representatives may wish to avoid miring HPV vaccines in political controversy once again. However, those political considerations need not preclude the pediatric, public health, and cancer prevention communities from first engaging in a reappraisal of the merits and drawbacks of school requirements

as 1 component of a comprehensive approach to HPV vaccination efforts.<sup>9</sup>

Requirements have long been common for vaccine-preventable diseases that affect school-age children, including for diseases not frequently or easily transmissible in a school setting. Recent efforts to promote HPV vaccination have emphasized that the vaccine should be treated as a typical, routine component of adolescent preventive care.<sup>10</sup> Yet school requirements for other recommended adolescent vaccines were far more common at comparable points in those vaccines' histories.<sup>11</sup>

Compelling reasons for treating HPV vaccines differently in this regard may exist, but without an explicit justification for why a unique approach is appropriate, the current status of HPV vaccination requirements complicates, if not undermines, efforts by vaccination advocates and the cancer prevention community to reject HPV vaccine exceptionalism and to normalize the vaccine in the minds of providers and parents.

#### ABBREVIATION

HPV: human papillomavirus

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