

# HPV Vaccination: Improving Clinical Systems to Increase HPV Vaccine Uptake

## What's Known

Healthcare systems own and manage networks of hospitals and clinics, and thus, can influence the provision of care for large numbers of patients. In pediatrics and family medicine, healthcare systems increasingly dominate the market, making them important partners in efforts to increase HPV vaccine uptake. To date, research suggests that systems-level interventions can improve HPV vaccination, with effects typically being modest in size and dependent on implementation.

- **Reminder/recall** interventions use text, email, phone, or mail to let parents know their child is due for HPV vaccination.<sup>1-10</sup> Almost all evaluations find that reminder/recall interventions yield small to medium increases in HPV vaccination rates for at least some doses or populations.<sup>1-10</sup> However, these interventions can be expensive to implement.<sup>11</sup>
- **Provider prompts**, such as EHR alerts, remind providers to recommend HPV vaccination during a patient visit.<sup>6, 9, 12, 13</sup> Provider prompts have shown small increases in HPV vaccination rates, with “elaborated prompts” that suggest language to recommend HPV vaccine demonstrating greater increases than simple prompts without recommended language.<sup>6</sup>
- **Assessment and feedback** interventions give providers data on their immunization rates to help them improve their performance.<sup>12, 14, 15</sup> Such interventions typically demonstrate small increases in HPV vaccination rates,<sup>12, 15</sup> but sometimes only among younger adolescents.<sup>14</sup>
- **Multi-level interventions** may be especially effective,<sup>9, 12, 14-17</sup> particularly when they combine clinical system interventions with provider communication training.<sup>13, 18</sup>

## What's New

Recent studies have focused on increasing the reach and impact of systems interventions:

- Interventions that target both providers and systems can create improvements in vaccination rates that are sustainable beyond the active intervention phase.
- Engaging clinical champions within systems is a promising approach for maximizing providers' participation.<sup>19</sup>

## What's Next

In the coming years, ongoing studies will tell us more about how to deliver systems-level interventions effectively, including:

- How can interventions tested at the clinic level be successfully disseminated in large integrated delivery systems?
- How can we best motivate and support systems with low vaccination rates and in rural settings to undertake multi-level interventions?
- How can existing programs, like the CDC's Immunization Quality Improvement for Providers (IQIP, formerly known as AFIX), support systems' efforts to improve HPV vaccination rates?

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<sup>2</sup> Matheson EC, Derouin A, Gagliano M, Thompson JA, Blood-Siegfried J. Increasing HPV vaccination series completion rates via text message reminders. *Journal of Pediatric Health Care*. 2014;28(4):e35-e9.

<sup>3</sup> Patel A, Stern L, Unger Z, Debevec E, Roston A, Hanover R, et al. Staying on track: A cluster randomized controlled trial of automated reminders aimed at increasing human papillomavirus vaccine completion. *Vaccine*. 2014;32(21):2428-33.

<sup>4</sup> Rand CM, Vincelli P, Goldstein NP, Blumkin A, Szilagyi PG. Effects of phone and text message reminders on completion of the human papillomavirus vaccine series. *J Adolesc Health*. 2017;60(1):113-9.

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<sup>7</sup> Chao C, Preciado M, Slezak J, Xu L. A randomized intervention of reminder letter for human papillomavirus vaccine series completion. *J Adolesc Health*. 2015;56(1):85-90.

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<sup>11</sup> AvSmulian EA, Mitchell KR, Stokley S. Interventions to increase HPV vaccination coverage: A systematic review. *Hum Vaccin Immunother*. 2016;12(6):1566-88.

<sup>12</sup> Perkins RB, Zisblatt L, Legler A, Trucks E, Hanchate A, Gorin SS. Effectiveness of a provider-focused intervention to improve HPV vaccination rates in boys and girls. *Vaccine*. 2015;33(9):1223-9.

<sup>13</sup> Rand CM, Schaffer SJ, Dhepyasuwan N, Blumkin A, Albertin C, Serwint JR, et al. Provider communication, prompts, and feedback to improve HPV vaccination rates in resident clinics. *Pediatrics*. 2018;141(4):e20170498.

<sup>14</sup> Gilkey MB, Dayton AM, Moss JL, Sparks AC, Grimshaw AH, Bowling JM, et al. Increasing provision of adolescent vaccines in primary care: a randomized controlled trial. *Pediatrics*. 2014;134(2):e346.

<sup>15</sup> Moss JL, Reiter PL, Dayton A, Brewer NT. Increasing adolescent immunization by webinar: A brief provider intervention at federally qualified health centers. *Vaccine*. 2012;30(33):4960-3.

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**The HPV Vaccination Roundtable convenes, communicates with, and catalyzes member organizations to increase HPV vaccination rates and prevent HPV cancers.**

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