

Program improves adult immunization rates at primary care offices

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A University of Pittsburgh-developed program successfully boosts vaccination rates in adult patients seen at primary care offices, two recent studies demonstrated.

Physician offices participating in the [4 Pillars Practice Transformation Program](#) had nearly three times the increase in patients getting the Tdap vaccine for protection against pertussis ([whooping cough](#)) compared to non-participating offices, according to research published in the journal *Vaccine*.

Another study, published in the *Journal for Healthcare Quality*, demonstrated that certain characteristics already embedded into some [primary care](#) practices, such as open leadership and staff communication, organizational flexibility and experience with quality improvement, predicted which practices would garner the most vaccination rate improvement from the 4 Pillars program.

"Vaccination is the single best way to prevent communicable diseases," said Richard K. Zimmerman, M.D., M.P.H., professor in the Pitt School of Medicine's Department of Family Medicine, and senior or co-author on the two studies. "In recent years, we've seen surges in cases of whooping cough, which can be deadly in newborns who can contract it from unvaccinated adults. And we recently learned from federal health officials that the rate of people getting vaccinated against the flu—another virus that kills hundreds annually—fell last season. We need to find ways to get more people immunized."

The 4 Pillars program is a step-by-step guide, backed by decades of research, for increasing adult immunizations at primary care clinics by using an online tool that tracks [vaccination rates](#). It's based on four key pillars: convenient vaccination services; communication with patients about the importance of immunization; enhanced office systems to facilitate immunization; and motivation through an office "Immunization Champion" who is charged with implementing the strategies and maintaining the program.

In the first-ever study to focus on increasing Tdap immunization rates since it was universally recommended for all adults by the federal Advisory Committee on Immunization Practices in 2012, the researchers enrolled 25 primary care practices in Pittsburgh and Houston. Half received the 4 Pillars program in the first year, while the other half acted as a control group and didn't receive the program until the second year.

At the beginning of the study, the practices had Tdap immunization rates ranging from a low of 6.8 percent to a high of 79.5 percent. With the 4 Pillars program, the practices increased their immunization rates by an average of 7.6 percent in the first year compared to a national increase of about 3 percent. One practice increased by 17 percent in the first year.

In a different analysis using the same enrolled practices, Mary Hawk, Dr.P.H., assistant professor of behavioral and community health sciences at Pitt's Graduate School of Public Health, examined factors that made the 4 Pillars program more effective at some practices.

Those that had the highest implementation of the 4 Pillars program strategies, resulting in the best immunization rate improvement, were those with:

- Extensive experience with previous quality improvement

initiatives.

- Two-way communication in which information between physicians and staff members flowed in both directions, reflecting a mutual respect for ideas.
- An Immunization Champion who was respected for his or her leadership and was able to guide and motivate staff in making office systems changes.
- An organizational flexibility that was nimble and amenable to embracing positive changes.

"The ability to implement change within primary care settings requires more than simply intent to participate, especially when it comes to improving immunization rates," said Dr. Hawk. "Even with a proven, research-backed program like 4 Pillars, practices also may need to make internal adjustments for the program to work to its full ability."

More information: Mary Patricia Nowalk et al. Success of the 4 Pillars Toolkit for Influenza and Pneumococcal Vaccination in Adults, *Journal For Healthcare Quality* (2014). [DOI: 10.1111/jhq.12020](https://doi.org/10.1111/jhq.12020)

Mary Patricia Nowalk et al. Using the 4 Pillars Practice Transformation Program to increase adult Tdap immunization in a randomized controlled cluster trial, *Vaccine* (2016). [DOI: 10.1016/j.vaccine.2016.07.053](https://doi.org/10.1016/j.vaccine.2016.07.053)

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