Reimagining flu vaccine clinics

A primary care network innovates during a global pandemic.

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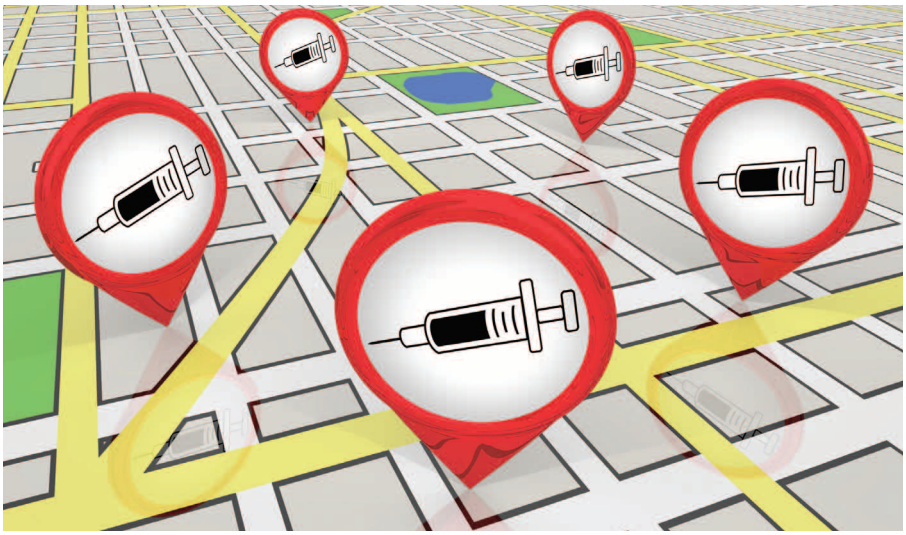
In 2020, primary care practices faced unprecedented challenges to their usual seasonal flu vaccination routines. Social distancing requirements and office space constraints created safety and scheduling hurdles, even as the need for immunizations was as strong as ever and as healthcare organizations scrambled to find creative ways to sustain basic services.



In our hospital-affiliated network of primary care offices, which serve a large area of metropolitan Philadelphia, an interdisciplinary team of nurses and physicians collaborated to address these challenges. We rapidly constructed a regional "Flu Hub" system to provide 30 individual urban and suburban practices with an alternative means of vaccinating thousands of patients over 2 months. We maximized social and geographic access equity and also maintained staff and family safety.

Our fast-tracked operational innovations serve as a model for creative organizational adaptation during crisis and illustrate the key role nurses play in this process. Our experience offers lessons for future vaccination programs in the primary care setting.

Motivated by urgency

From the start, we were motivated by a sense of urgency, realizing that by early summer we would have fewer than 12 weeks to prepare for a mixed viral season. We prioritized access equity because our network, affiliated with Children's Hospital of Philadelphia, serves a wide socio-economic spectrum and includes both inner-city and suburban locations across two states. With no pre-existing roadmap for responding to this unprecedented crisis, we turned to the work of leadership theorist John Kotter, whose widely referenced change model offered a framework for rallying a team, anticipating obstacles, and coordinating multiple organizational and institutional stakeholders. (See *8 steps to change*.)

Building the team

Our initial project leadership team included a primary care pediatrician, a pediatric nurse practitioner, and a practice management director. Interdisciplinary representation was crucial to providing a foundation of clinical, operational, and organizational expertise and decision-making authority. The team outlined a strategic vision based on an understanding that our dozens of offices differ in

square footage, floor-plan layout, and staffing volume. Each practice has a distinct internal management structure, clinical workflow, supply-chain process, and routine for providing vaccination clinics. We needed to address all these factors, as well as the problem of insurance capitation, and to reconfigure staff training, communications, and documentation protocols.

We designated a master's-prepared RN as clinical operations manager (COM) to oversee staff recruitment, orientation and training, shift assignments, and process protocol development. With shifts running 5 days a week at five different locations, we felt a position combining clinical oversight and coordination was crucial for project success.

Designating hubs

We identified five primary care offices that met our criteria of sizable floor plans and geographic accessibility to a range of patient communities. We designated these offices as "hubs" and created a hub-and-spoke model in which patients from space-constrained offices could be referred to larger, regional locations.

This approach provided smaller offices with an alternative location where patients could receive the flu vaccine in a socially distanced setting at convenient times of the week. We staffed each hub with two to four nurses and created appointment slots every 5 minutes during weeknight and weekend hours. To push for early vaccination, we agreed that the program would run for 8 weeks between October and December with an option to extend if needed.

The project team visited each hub and brainstormed with practice staff to create office-specific processes to ensure social distancing for larger patient volumes across multiple shifts. The workflow had to support check-in, vaccine administration, and departure completely separate from concurrent office operations. We encouraged each office to be as innovative as necessary to accommodate its local conditions. As needed, they rearranged waiting areas, designated pop-up check-in spaces or special screening areas, posted signage, and used alternate floor levels and entry and exit points to limit cross traffic. This approach fostered diverse and creative local adaptations to a unified overarching concept.

We needed to ensure that all patients, regardless of their type of health insurance, could be vaccinated at one of our hub locations without fear of insurance denials. Typically, patients with capitated health insurance plans must receive their vaccines at their primary care office to be covered. To remove this barrier, the project team met with multiple participating insurers to discuss the benefit of allowing children to receive flu vaccines in an atypical fashion this year. Every insurer understood the reasoning behind our new model and agreed not to bill patients vaccinated at a hub location.

Communicating with the community

Communication with the community began with online town hall–type meetings with patients and staff in which we explained the project. Partnering with the hospital's marketing and public relations departments, we then created live web- and social media–based patient and family education about the upcoming flu season, which introduced our regional hub option for vaccination. We also used our patient portal system to circulate information

8 steps to change

We used Kotter's eight-step process for leading change as a framework for our flu vaccine project.

1. **Create a sense of urgency.** Use bold, aspirational statements to describe the importance of the project and inspire others to participate.
2. **Build a guiding coalition.** Recruit from within to build a team to guide, coordinate, and communicate the project.
3. **Form a strategic vision and initiatives.** Make clear how the project will affect change and tie all activities to that vision.
4. **Enlist a volunteer army.** Big change requires an army of volunteers, all moving in the same direction, who have bought into the importance of the project.
5. **Enable action by removing barriers.** Find ways to work around inefficient processes so people can work together without hindrance.
6. **Generate short-term wins.** Celebrating small wins can help you track your progress and motivate volunteers.
7. **Sustain acceleration.** As each success is achieved, press harder to move onto the next goal.
8. **Institute change.** Communicate the direct connection between change and organization success until new behaviors replace old habits.

Source: The 8-step process for leading change. Kotter. kotterinc.com/8-steps-process-for-leading-change/#step-1

about the hub's locations, appointment times, and instructions for electronic self-scheduling.

Addressing staffing issues

The pandemic affected staffing throughout the system, particularly at the secondary and tertiary levels of care, where specialist visits and hospital admissions declined dramatically. This created an opportunity for temporarily furloughed employees to fill our need for additional staff. The COM partnered with the human resources department to enlist employees from a redeployment cohort.

We created a project-specific master electronic staff schedule that captured shift staffing requirements for all hub locations. The COM was responsible for overseeing the hub-wide staff schedule, taking shift change requests and call outs, and finding staff coverage when needed. The COM also monitored daily appointments and called off staff based on patient volume. This overlay of a dedicated project-management infrastructure kept us attuned to what was happening in each practice without adding task burden to the office staff in each hub.

Onboarding staff

One of the biggest challenges the project team faced was how to successfully onboard a diverse group of over 100 nurses, medical assistants, and patient services representatives who had signed up to participate in the hub program. Because the pandemic halted all in-person training, we shifted to a virtual format. The COM recorded a 1-hour orientation webinar that was assigned as mandatory training through the hospital-wide department of nursing and clinical care services. Orientation included reviewing vaccine administration procedures, patient comfort holds, vaccine ordering, documentation, and tasks related to the start and end of a shift.

Optional learning modules were created for clinic staff who need to select appropriate vaccine stock and document patients who qualify for the federally funded Vaccines for Children program. Staff also were encouraged to sign up for a "shadow" shift at one of the hubs so they could experience the office layout, clinic workflows, and documentation processes. The COM communicated with lead nurses at each hub location to arrange this element of the training.

Supplying hubs

Supply flow to the hubs was complicated by a national shortage created by the pandemic. We ordered extra vaccine doses for our privately insured patients and worked with our Vaccines for Children representatives to ensure adequate supply for qualified patients. Leveraging benefits from membership in a large provider network, we consulted with our supply chain representatives to arrange for distributing extra gloves, needles, and syringes to all hub locations. Then we created a data-tracking tool to monitor the number of patients from each primary care office who visited each hub site. This created a just-in-time supply management system that allowed us to transfer vaccines and supplies as needed between primary care practices and hub locations.

Communicating among hubs

Communication among the hub locations was crucial. At each hub site, the lead nurse and the local practice manager were designated as site representatives to partner with the COM. A structure connecting clinical and business operations enabled daily monitoring of clinic workflow and immediate problem resolution. The project team also set up a weekly phone check-in meeting with all hub site leaders to pinpoint and troubleshoot emerging concerns and share success stories.

Successes achieved

At a time of unprecedented challenge, when individual primary care practices struggled to find staff and space to deliver seasonal flu clinics, our rapidly implemented regional flu hub structure provided an alternative vaccination program. We facilitated safe, socially distanced, and accessible immunization without adding significant cost, workload, logistics, or planning burdens to the network offices. Over 8 weeks, 10,572 flu vaccines were administered to patients from all 30 of our offices through the hub program.

The project provided an opportunity to redeploy furloughed staff from across the broader Children's Hospital affiliated system and establish the first undergraduate nursing clinical rotation in our primary care network's history. Hub clinics enlisted a total of 88 nurses, 12 medical assistants, and 50 patient service representatives, providing 50 temporarily furloughed nurses from nonprimary-care settings

with opportunities to continue using their skills and experience. Students from four university undergraduate nursing programs and one medical school residency program were able to meet their clinical requirements as they assisted in the project. (See *Filling a gap*.)

Lessons learned

Our fast-tracked regional framework offers a potential model for future vaccination programs in the primary care setting, but several limitations became apparent and serve as lessons learned for future applications. Although our model serves as a viable alternative for large hospital-affiliated primary care networks, some of our options wouldn't be available to independent private practices or smaller care networks. In addition, our project team could partner with organizational divisions across the network to access the resources we needed.

More advanced planning might have enhanced participation beyond what we achieved. Because of the project's tight timeline, marketing didn't begin until the clinics were already in service. We probably would have reached more patients if we had started our marketing efforts earlier.

At the end of our project, when we tallied final visitation counts, we noted a small cluster of offices in one region with somewhat lower participation rates than the rest of the network. This suggests we might have seen benefits from a more precise or refined method of predicting regional catchment areas for each hub.

A final lesson relates to the project team's workload. Team members navigated time commitments split between this project and their full-time roles. In the context of a large practice network, this required hiring a COM to ensure comprehensive and consistent oversight. Smaller practice networks might not require the same level of management investment.

The power of collaboration

For stakeholders both inside and outside the organization, the project demonstrated that rapid change is possible under the right conditions—that is, when a leadership team operates with a change-management model that emphasizes urgency, process flexibility, shared vision, consistent communication, and attention to operational details and infrastructure. The project also laid the groundwork for a new awareness within our organization about the power of creative interdisciplinary partnerships and collaboration among nursing, medicine, and administrative leadership. AN

Filling a gap

As a result of the pandemic, student clinical rotations had been paused throughout the organization, leaving many nursing and medical students unable to fulfill mandated clinical hours. When restrictions were partially lifted, the flu hubs became an opportunity to fill this gap.

Partnering with four local university undergraduate nursing programs, the project team established what has become the first clinical rotation within the organization's primary care network. Nursing students

- welcomed families when they arrived at hubs for vaccination
- ensured mask and social distancing compliance
- drew up vaccines under supervision
- restocked exam rooms.

Third-year medical students also participated by

- screening patients
- providing education
- administering vaccines.

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References

Centers for Disease Control and Prevention. CDC 2020-2021 flu vaccine campaign kickoff. October 1, 2020. cdc.gov/flu/spotlights/2020-2021/2020-21-campaign-kickoff.htm

Dinleyici EC, Borrow R, Safadi MAP, van Damme P, Munoz FM. Vaccines and routine immunization strategies during the COVID-19 pandemic. *Hum Vaccin Immunother*. 2021;17(2):400-7. doi:10.1080/21645515.2020.1804776

Gandhi S, Yeager J, Glaman R. Implementation and evaluation of a pandemic simulation exercise among undergraduate public health and nursing students: A mixed-methods study. *Nurse Educ Today*. 2021;98:104654. doi:10.1016/j.nedt.2020.104654

Jaklevic MC. Flu vaccination urged during COVID-19 pandemic. *JAMA*. 2020;324(10):926-7. doi:10.1001/jama.2020.15444

Kotter JP. *Leading Change*. Boston, MA: Harvard Business Review Press; 2012.

Pettigrew LM, Kumpunen S, Mays N. Primary care networks: The impact of COVID-19 and the challenges ahead. *BMJ*. 2020;370:m3353. doi:10.1136/bmj.m3353