

# Driving Change in Adolescent Immunizations: A Health System's Quality Initiative Program to Improve Meningococcal Vaccination Rates

Meningococcal disease is a rare, often potentially fatal disease that leaves 11%-19% of survivors with permanent sequelae.<sup>1</sup> Although it can affect people of all ages, adolescents are one age group that is at increased risk for the disease.<sup>2</sup> The Advisory Committee on Immunization Practices (ACIP) recommends one dose of quadrivalent meningococcal conjugate vaccine (MenACWY) between 11 or 12 years of age and a second dose (booster) at age 16.<sup>3</sup>

In 2016, Texas Children's Pediatrics (TCP), part of one of the largest pediatric health systems in the nation, initiated a program to improve its MenACWY immunization rates among adolescents. Determined to make a difference, Stanley Spinner, MD, Chief Medical Officer and Vice President of TCP, led this 2-year initiative. Initially, the health system's rates for the number of patients who are up-to-date<sup>a</sup> or series complete<sup>b</sup> for MenACWY was 64.9%. As a system accredited as Level III by the National Committee of Quality Assurance (NCQA), TCP's long-term quality improvement was an important focus. Its program helped to improve the institution's overall value-based care as a result of increased immunization rates.

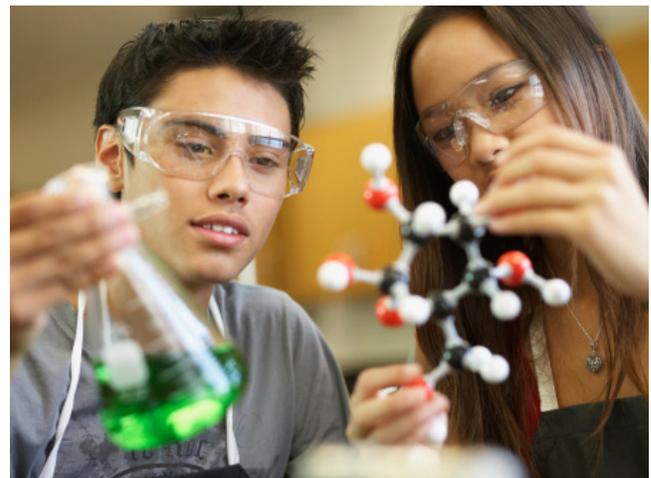
## Challenges to Improving Meningococcal Immunization Rates

The first step was to address the main challenges within TCP:

- Older adolescents not coming in for their well-check appointments
- Providers missing opportunities to immunize adolescent patients when they come for visits other than well-checks

According to Dr. Spinner, the majority of the time, older adolescent patients have only been coming into the office for acute visits. The providers may be pressed for time and tend to focus on the immediate matter at hand. Consequently, the provider may not be assessing that patient's current vaccine status. Regardless of the reason, the missed opportunity on the provider's end along with the lack of well-check visits by older adolescents have been the main drivers for lower than desired MenACWY vaccination rates at TCP.

**"Providing immunizations is pretty much at the top of the list of excellent care and best practice." —Stanley Spinner, MD**



## TCP's Response: A Multipronged Approach

In order to overcome these challenges, TCP implemented the following internal changes:

### Reminder-recall

Step 1 was to target adolescent patients and their parents. To ensure that more patients were coming into the office for their well-check appointments, TCP employed a **reminder-recall system** that sent automated calls on a yearly basis. Timing of these calls fell one month prior to the patient's birthday with a second follow-up reminder one month after their birthday if they had not come in. In addition to the robocalls, TCP made use of the **MyChart tool**, a platform within the electronic medical record (EMR), which allows providers to send reminder messages to patients electronically. This approach enabled TCP to see an increase in the number of the adolescents that were coming in for visits.

### Focusing on Missed Opportunities

Step 2 was to ensure that all older adolescents were immunized at every visit whether that was a well-check visit, acute care visit, or sports physical. TCP decided to

<sup>a</sup> Patients who received one dose of MenACWY at 11 or 12 years of age and are awaiting their second dose.

<sup>b</sup> Patients who received one dose of MenACWY at 11 or 12 years of age followed by a booster dose at 16 years, or a dose at 16 years alone if primary vaccination was missed.

make use of **Vaccine Forecaster**, a program that already existed in their institution's EMR system. This tool allowed clinical staff to view all vaccinations that a patient had received in the past as well as vaccinations that were due or overdue. A select team of nurses at TCP were assigned the role of training clinical staff members, which included registered nurses, licensed vocational nurses, medical assistants (MAs), and providers, on the importance of reviewing Vaccine Forecaster at the start of *each and every* patient visit. The use of this platform was convenient, accessible, and importantly, not a major financial expense incurred by the institution.

Training clinical staff on other effective best practices also led to increased immunization rates. The use of standing orders permitted clinical staff members such as nurses and MAs to vaccinate patients, which helped to minimize missed opportunities. Staff members were also reminded by the team of nurses that this was a chance to immunize patients with not only MenACWY, but all TCP-required immunizations. Thus staff members were encouraged to use the **bundling approach**, which involved communicating to patients that all vaccines they are due for are important by presenting them as a package. The use of these strategies together helped to drive up immunization rates of all necessary vaccinations at TCP such as Tdap, MenACWY, and HPV.

### Creating Strong Champions for Vaccination

By spreading awareness around adolescent immunization, the team of nurses at TCP served as successful vaccine champions, and trained other clinical staff to become vaccine champions in turn. As a result, TCP was able to build a strong group of immunization champions by creating a pro-immunization mindset within TCP. Furthermore, the following measures were taken to educate staff on vaccination:

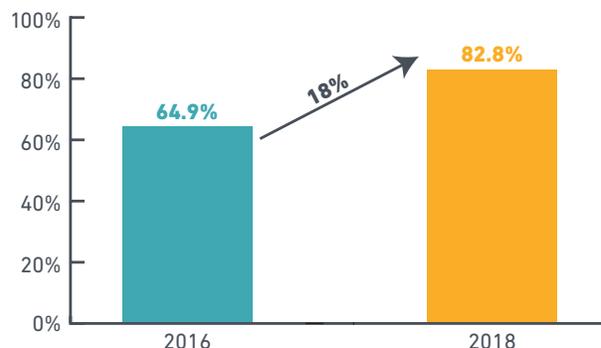
- Sanofi Pasteur representatives supported Dr. Spinner's initiative by serving as vaccine advocates during their visits to the hospital
- Regional and site leaders would communicate with their practices on a 1:1 setting
- Program lead, Stanley Spinner, MD, sent out email communications
- Support materials and handouts were disseminated to highlight the impact of disease

### Success Seen at Texas Children's Pediatrics

Substantial improvement was seen as a result of TCP's 2-year initiative. At the program's conclusion in 2018, up-to-date or series completion rates for MenACWY immunization in older adolescents had risen by 18 percentage points to 82.8%.

A large part of the success seen at TCP was due to the **sharing of immunization rate data** among providers on a monthly to quarterly basis. The chance to visualize the numbers and actually see where they fell in comparison to

Up-to-Date<sup>a</sup> OR Series Complete<sup>b</sup> Patients 11-18 Years of Age at TCP



<sup>a</sup>Up-to-date refers to patients who have had one dose of MenACWY at 11 or 12 years of age and are awaiting their second dose.

<sup>b</sup>Series completion is defined as one dose of MenACWY at 11 or 12 years of age followed by a booster dose at 16 years, or a dose at 16 years alone if primary vaccination was missed.

their peers really inspired and motivated providers to do better. The experience was eye-opening for physicians and instilled a healthy, competitive nature amongst the staff.

**“I think it’s all about the data. Show the physicians, let them see where they are in relation to their peers, both within their organization and from other organizations.”**

—Stanley Spinner, MD

### Guidance for Health Systems

Texas Children's Pediatrics made substantial improvements in their adolescent immunization rates, specifically with respect to MenACWY vaccination rates. By creating a team of qualified nurses to help train clinical staff and providers, TCP was able to educate all team members on the importance of adolescent immunizations. The 2-year initiative at TCP led to a newfound motivation in providers to make vaccination a priority, and resulted in an improvement in the value-based care they strive to maintain. As a tip to other systems seeking success in their immunization numbers, Dr. Spinner states:

**“It’s a matter of understanding where you are and making a commitment to where you want to be. Having people who are passionate about vaccination—if you’ve got that, you’ve got a pretty easy recipe.”**

**References:** 1. Centers for Disease Control and Prevention (CDC). Prevention and control of meningococcal disease: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. 2013;62(RR-2):1-28. 2. CDC. Age as a risk factor. <https://www.cdc.gov/meningococcal/about/risk-age.html>. Accessed April 27, 2019. 3. CDC. Meningococcal Disease. In: *Epidemiology and Prevention of Vaccine-Preventable Diseases*. <https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/mening.pdf>.