

## Key Points



### ABOUT THIS PAPER

- This paper is based on a presentation given by Tracy Bieber, RN, at a meeting of the Adolescent Immunization Initiative (A/I) in June 2018. Ms. Bieber is the clinical services manager for Enterprise Clinic Services at Sanford Health in Sioux Falls, South Dakota.
- Sanford Health is a rural, not-for-profit health system based primarily in the Dakotas, with regions in Minnesota and Iowa. Serving about 300 communities, Sanford Health includes 44 hospitals, 291 clinics, 28,000 employees, and 1300 physicians.
- A/I is a multidisciplinary group of experts in adolescent health and immunization whose mission is to collaborate with stakeholders to promote an immunization platform at 16 years of age. Nationally, immunization rates for adolescents are well below desired levels. The immunization platform at 16 years of age is an opportunity to combine vaccination with other preventive services important to the overall well-being of the older adolescent. For more information, visit [www.16yearoldvisit.org](http://www.16yearoldvisit.org).



### WHAT WORKED WELL AT SANFORD HEALTH

- Engaging all levels of the organization to improve immunization rates.
- Assessing rates and performance improvement—a critical component accomplished by measuring rates, breaking them down by provider, and sharing those data in an unblinded fashion with all providers and staff.
- Emphasizing the need to take advantage of every opportunity to vaccinate.
- Empowering frontline staff to take ownership of immunizations.
- Building a unique curriculum that develops leadership skills and immunization champions, thereby expanding the reach and impact of immunization strategy across the enterprise.
- Implementing standing orders to allow staff to immunize independently.

# Championing Adolescent Immunizations: How a Leading Health System Increased Vaccination Rates

When a large health system looked at its adolescent vaccination rates, it discovered it needed to do a better job. The organization has done just that—by developing a culture that expects no missed opportunities, nurturing a network of immunization champions, and more. Health care facilities can apply these learnings to their own settings.

At Sanford Health, preventive care is a priority. With a background in pediatric nursing, Tracy Bieber, RN, wanted to help bring vaccines to the forefront of that effort when she started in a management role in 2015. She introduced the concept of an **immunization strategy department** led by someone who would “own” immunizations throughout the organization. That ownership included staff education, vaccine practice standardization, gathering and sharing of data, implementation of interventions, and assessment of outcomes.

Step one was to garner the support of senior management. Vaccinations are very important to the leadership at Sanford Health, but what really sold them on creating a new department with a dedicated position of Immunization Strategy Manager was **showing them data** from internal assessments. Data pulled from some of the health system’s primary care clinics revealed that vaccination rates for adolescents fell short, in some cases well below *Healthy People 2020* targets. In addition, the data showed that many adolescents were not receiving all (or sometimes any) of the vaccines that were due, even during well visits.

**“You won’t know how you are doing if you don’t look; everyone thinks their vaccination rates are better than they actually are.”**

—Tracy Bieber, RN

## Focusing on Missed Opportunities

With the go-ahead from management on a new immunization strategy department, an enterprise immunization committee was assembled consisting of health care provider (HCP) immunization champions, nursing staff, supervisors, and employees from pediatrics, infectious diseases, internal medicine, and pharmacy. Members of the group all have the same passion about immunizations and want the organization to make a real impact in the community. The adolescent population presented a huge opportunity.

The committee serves as a governance body for immunization decisions and a source of immunization content experts system-wide.

The immunization strategy department kicked off in 2015 with the aid of a 2-year grant from the South Dakota Comprehensive Cancer Coalition to increase human papillomavirus (HPV) vaccination rates in 7 of Sanford Health’s family medicine clinics. Grants are one of several ways the immunization strategy department obtains financial and other resources (see the box below).

### Tip: Gaining Resources and Expertise

In addition to using funds from grant-making organizations to help kick off initiatives, Sanford’s immunization strategy department partners with the state health department, the pharmaceutical industry, and third-party educational organizations. A few examples of the many organizations that offer valuable educational resources are listed below.

**Centers for Disease Control and Prevention (CDC) Preteen and Teen Vaccine Resources**  
[www.cdc.gov/vaccines/parents/resources/teen.html](http://www.cdc.gov/vaccines/parents/resources/teen.html)

**Immunization Action Coalition (IAC)**  
[www.immunize.org](http://www.immunize.org)  
[www.Give2MenACWY.org](http://www.Give2MenACWY.org)

**National Foundation for Infectious Diseases (NFID)**  
[www.adolescentvaccination.org](http://www.adolescentvaccination.org)

**Unity Consortium—United for Adolescent Vaccination**  
[www.unity4teenvax.org](http://www.unity4teenvax.org)

At the start of the grant, baseline rates for completion of the HPV vaccine series in the 7 clinics ranged from 15%-29%. Moreover, among patients eligible for HPV vaccination, 57%-79% had received no doses. Rates for vaccination with tetanus, diphtheria, and acellular pertussis (Tdap) vaccine and the first dose of quadrivalent meningococcal conjugate vaccine (MenACWY) were much higher than the HPV vaccine rates, but they were still below *Healthy People 2020* goals.

For the grant project, the immunization strategy department did the following:

- **Handed each provider his or her immunization rates** after analyzing the baseline data. In addition, providers’ names and rates were listed on a slide so that all HCPs could see how they were doing in comparison with each other, engendering a sense of competition that helped promote change.

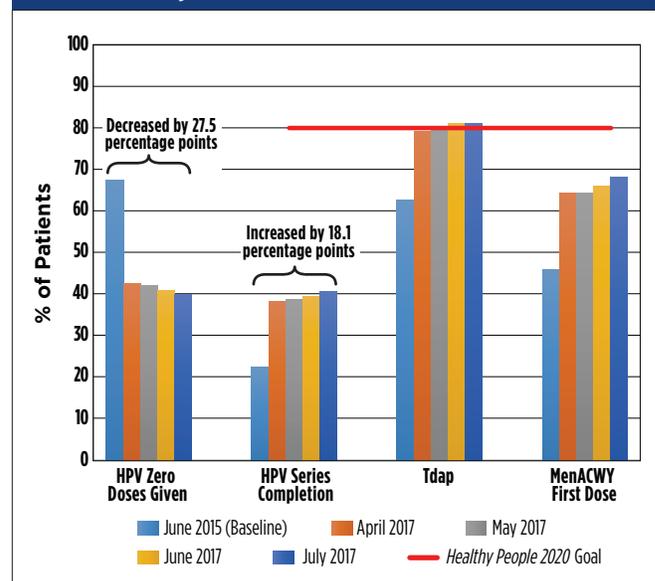
- **Emphasized a “no-missed vaccination opportunities” culture** through face-to-face education of clinic providers and nurses. The mantra: Assess immunization status in *every patient, every time*. Whether a patient is being seen for an ingrown toenail, acne, mild acute illness, or something else, vaccination needs to be a priority.
- **Supplemented educational efforts by sending reminder and recall** letters to the parents of adolescents.

The department’s efforts paid off. Over the 2-year period, HPV vaccination **series completion rates increased an average of 15 percentage points** among patients 11-26 years of age across the 7 clinics, and **zero-dose rates decreased on average 22 percentage points**. Every clinic saw their numbers improve, in some cases dramatically (**Figure 1**). At all 7 clinics, rates for Tdap vaccine and the first dose of MenACWY improved in conjunction with HPV vaccination rates.

### Building Immunization Champions

As the rates improved at the clinics participating in the HPV-grant project, Sanford Health began bringing other primary clinics on board with the same approach. And the organization took it further, putting protocols in place that allowed frontline staff—RNs, LPNs, MAs—to vaccinate independent of a clinician. Sanford added **standing orders** for every vaccine on the Advisory Committee on Immunization Practices (ACIP) immunization schedule except for those with a Category B recommendation, such as meningococcal B (MenB) vaccine for healthy adolescents, which would require a provider to discuss with the patient whether or not vaccination was appropriate.

HPV-Grant Project: One Clinic’s Dramatic Results



**Figure 1:** Immunization rates among patients 11-26 years of age at one of the clinics participating in the 2-year HPV grant project are shown here. Substantial improvements in HPV vaccination rates were accompanied by increases in Tdap and MenACWY vaccination.

Frontline staff use the electronic health record (EHR) system, particularly the health maintenance snapshot, to identify patients' immunization needs. Interoperability between Sanford's EHR system and the state immunization information system has been important, providing a more complete, up-to-date picture of the adolescent's immunization history.

By enabling frontline staff to vaccinate even before the patient is seen by the provider, standing orders eliminated many more missed opportunities. They also helped **empower the staff** to own their rates and to view patients as *their* patients just as much as they are the providers'. The immunization strategy department challenged the staff: "This is where we want your rates to be. How are you going to get there?" And with that sense of ownership, people emerged to help champion the effort to improve vaccination rates.

At the time, the immunization strategy department was considering training champions to own not just rates but the whole practice of immunization. A literature search uncovered a lot about the importance of having an "immunization champion" but not much information on that person's specific roles and responsibilities. Is an immunization champion someone just saying, "I have good rates"? What does it mean to be an immunization champion? So, Sanford Health partnered with the Immunization Action Coalition (IAC) and Sanofi Pasteur to create a curriculum to train people to be immunization champions. It is called VAX Champ.

The curriculum develops **immunization content experts** by covering everything from process improvement, to the basics of vaccines and the diseases they prevent, to the immunization schedule. The program uses IAC's Ask the Experts pages ([www.immunize.org/askexperts](http://www.immunize.org/askexperts)) to promote conversation.

What makes Sanford Health's program unique is that it trains students in **leadership principles**. Classes explore such questions as: How do you motivate and influence others? How do you talk with a provider who wants to wait until the patient is 14 years of age to give HPV vaccine when you know that giving the vaccine at age 11 is the right thing to do? How do you have difficult conversations with clinicians? (See the box on page 4 for more details on VAX Champ.)

VAX Champ has produced a **network of immunization champions**—bedside clinical staff members who are immunization content experts for each clinic. Now when there is a development, as when the new zoster vaccine recommendations were issued by ACIP, the immunization champions push that change forward, educating staff and providers. They impact immunization strategy and help implement initiatives. Small clinics, where there is

a single provider and nurse, are covered by regional VAX Champs, who visit 4 or 5 clinics. The immunization strategy department supplements the efforts of all champions with periodic face-to-face education at the clinics.

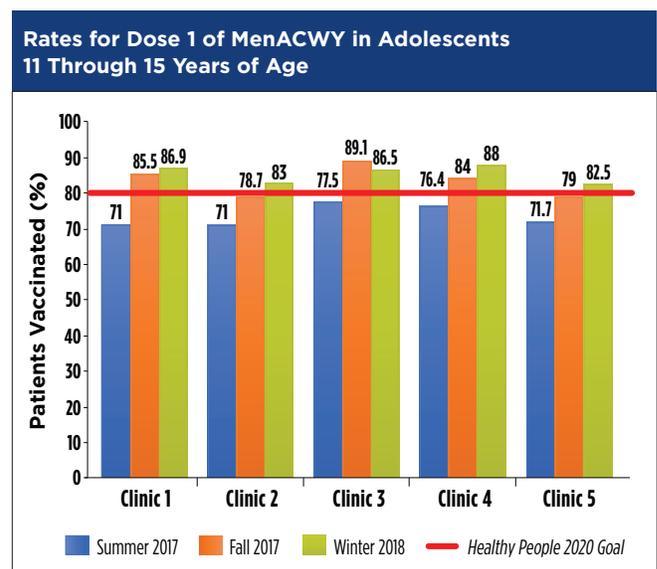
### Making Gains With Meningococcal Vaccination

When the VAX Champ curriculum was first piloted in 22 of Sanford Health's clinics in 2017, baseline rates for the first dose of MenACWY, given at 11-12 years of age, ranged from 61%-85%; rates for dose 2, recommended at 16 years of age, ranged from just 8%-38%.

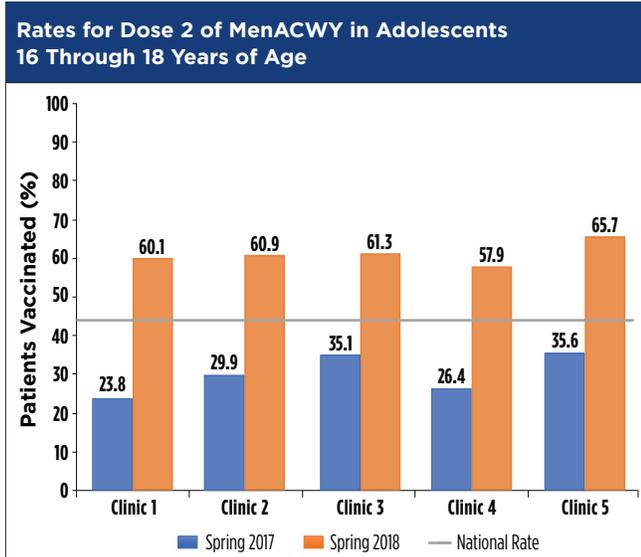
The immunization strategy department shared with each VAX Champ student the rates for the providers in their clinic and gave them target rates to meet. Students could determine for themselves which interventions to use to reach those goals. The strategies they employed included evaluating missed immunization opportunities, providing on-site education, sending out reminder-recall, designating a vaccine nurse, and creating an internal vaccine committee. The students' actions produced results: rates for administration of the first dose of MenACWY climbed steadily (**Figure 2**); rates for the second dose also rose dramatically, more than doubling in some clinics (**Figure 3**).

**"It was exciting and eye-opening to see the gains made just by educating about missed opportunities, showing people their data, holding clinics accountable, and cultivating leaders."**

—Tracy Bieber, RN



**Figure 2:** Dose 1 rates increased measurably after VAX Champ began in 2017, surpassing the *Healthy People 2020* goal of 80% by the following year in 13 of the 22 clinics piloting the program. Rates for 5 of those clinics are shown here.



**Figure 3:** Dose 2 rates increased dramatically following the start of VAX Champ, as with the 5 clinics represented here. Nationwide, the dose 2 rate among eligible 17-year-olds in 2017 was 44%. (No *Healthy People 2020* goal has been established for 2 doses of MenACWY.)

### A Focus on 16-Year-Olds

In 2017, the ACIP created a **separate column for the 16-year-old** on its immunization schedule, highlighting the importance of administering vaccines recommended at that age as well as any catch-up vaccinations. Vaccinating more 16-year-olds is a focus of Sanford Health’s current immunization efforts. Those efforts include a continued

emphasis on no missed opportunities and the use of reminders to bring in more 16-year-olds.

The Missed Opportunities Guide accompanying this paper, published by Unity Consortium, outlines steps to **reduce missed immunization opportunities in patients 16 years of age**. Other resources on vaccinating 16-year-olds are available at Unity’s Vax@16 page at [www.unity4teenvax.org/home/resources/vax16](http://www.unity4teenvax.org/home/resources/vax16) and through the organizations listed on page 2.

### A Win-Win Situation

**Engaging both HCPs and staff** and **building a network** of immunization champions have helped to not only increase immunization rates but also to advance Sanford’s broader mission to improve patients’ health. While the organization continues to develop champions who own immunizations, it plans to empower nurses to own other routine interventions as well, such as mammograms and colorectal screenings. And the **quality improvement processes** that are now taught to VAX Champ students can be applied to health care services beyond vaccination.

Sanford Health’s efforts over the past few years have taught the organization that **change is a process**; building on each step will get you where you want to go. And, although **passion** can’t be taught, it *is* contagious. Tell someone what your expectations are, show them you believe in them, and empower them to achieve their goals—and passion can start bubbling up. 

## About VAX Champ

### The program has 3 main objectives:

-  **Identify** and develop an immunization content expert in all primary care clinics.
-  **Equip** that person with a level of leadership and accountability to efficiently and effectively expand the reach and impact of immunization strategy across the Sanford footprint.
-  **Establish** a platform from which to implement initiatives, drive processes, standardize education, pull through Sanford Health directives, and identify needs and opportunities in the area of immunizations.

The 6-month curriculum kicks off with a day-and-a-half meeting during which leadership principles are covered. Monthly meetings follow, with students devoting 4 to 5 hours a month to coursework.

After adding a component on quality improvement to the curriculum, Sanford Health rolled out new classes in the spring and fall. Nearly 40 students have gone through VAX Champ since it launched, and another 35 are set to graduate in early 2019. Most students are frontline staff working in primary care clinics, but a large number of staff from the health system’s specialty clinics have also voiced interest, and several supervisors and physicians have audited the class.

**Empowerment—giving frontline staff something to own—has been the most exciting piece of VAX Champ. Said one graduate, the program “went beyond what I expected because I thought we were just going to be told what we needed to do for assignments; I didn’t expect to leave there so motivated to improve and teach and make change happen.”**



# MISSED OPPORTUNITIES GUIDE



## Use Every Health Encounter\* With A 16-Year-Old As An Opportunity To Vaccinate

**PERFORM AT ALL VISITS**

### AIM

### ASK

### ASSESS

### ADMINISTER

### ACT!

#### WELL VISITS

Integrate immunization (MenACWY, MenB, and flu (seasonally)) into all 16-year-old well visits

Do I routinely recommend MenACWY (2nd dose/booster) and discuss the value of MenB at all 16-year-old well visits?

#### PHYSICALS & VAX ONLY VISITS

Incorporate immunization assessment as part of 16-year-old physicals and vaccination only visits

Do I routinely include immunization assessment as part of all sports, camp, and school physicals?

Do I routinely assess immunization status at visits for vaccine series completion or flu shots?

#### CHRONIC CARE & ACUTE CARE VISITS

Leverage chronic care/medical followups and minor illness/injury visits as immunization opportunities

Do I incorporate immunization assessment into followup visits for chronic conditions or medical issues and at minor illness/injury visits?

#### "Take 10"

Choose a visit type (e.g., physicals), and then identify the 10 most recent health encounters with 16-year-olds:

Is immunization assessment included in each of these visits?

Is immunization assessment routine (e.g., included for all encounters) or on a case-by-case basis?

If not routine, who determines whether to include as part of the visit, and how?

Are there health encounter types for which you are NOT comfortable recommending vaccination? Why?

What drives the likelihood of assessment, recommendation, and administration for this visit type? (e.g., SOPs, data availability, staff role, etc.)

If a recommendation is made, are both meningococcal vaccines recommended and/or administered? (Is flu vaccine recommended? (seasonally))

If you would like to offer MenB vaccination to a patient, recommend both meningococcal vaccines (and flu vaccine (seasonally)) during health encounters with 16-year-olds

#### Example Recommendation

*"Today you are due for two shots that can protect you from meningitis, a rare but serious brain infection. There are two vaccines because they protect you from different types of meningitis infections. Meningitis can lead to serious illness or even death so I want to protect you from as many types as I can. The nurse will be in shortly to give you your vaccines."*

Administer all due and overdue vaccines (catch-up immunization) at the same visit. *Adolescents visit less frequently as they age so take the here-and-now opportunity to bring them up to date...vaccinate!*

#### Vaccination Status

Nurse/Medical Assistant check of IIS/registry or chart, EHR prompt at health encounters with 16-year-olds

#### Vaccines Due

Patient chart notation of "vaccine(s) due", IIS/registry forecasting EHR alert

#### Implementation

Standing orders (MenACWY, MenB), vaccination-only appointment for 16-year-olds

\*Distribution of Visits (11-18 years): non-preventive care (59%), preventive care (28%), vax only (13%)  
Wong, C. et al, Missed Opportunities for Adolescent Vaccination, 2006-2011, Journal of Adolescent Health, May 9, 2013  
Funding for Unity's VAX@16 campaign is provided by our members, including vaccine manufacturers.

# GUÍA PARA NO PERDER OPORTUNIDADES



Cada vez que tenga contacto\* con un joven de 16 años, aproveche la oportunidad para vacunarlos

## HAGA ESTO EN TODAS LAS CITAS

### OBJETIVO

### PREGUNTAS

### EVALUACIÓN

### RECOMENDACIÓN

### ¡ACCIÓN!

#### CHEQUEOS

Integrar la vacunación (contra MenACWY, MenB y, si es la temporada, gripe) en cada cita de salud con jóvenes de 16 años

¿Como parte de la rutina en todos los chequeos, recomiendo MenACWY (2a dosis/refuerzo) y hablo de la importancia de MenB con jóvenes de 16 años?

#### "Vea 10"

Escoja un tipo de cita (por ejemplo, exámenes físicos) y luego identifique los 10 contactos más recientes con jóvenes de 16 años.

¿Cada una de estas citas incluyó la evaluación para vacunación?

¿La evaluación para vacunación es parte de la rutina (se incluye en todos los contactos) o solo en algunos casos?

Si no es parte de la rutina, ¿quién determina si es parte de la rutina de cada cita y cómo?

¿Hay algún tipo de cita en la que usted NO se siente cómodo de recomendar alguna vacunación? ¿Por qué?

¿Qué haría posible que se hiciera la evaluación, recomendación y vacunación en este tipo de cita? (Por ejemplo, procedimientos operativos estándar, disponibilidad de datos o personal, etc.)

Si se hace una recomendación, ¿se recomiendan/ponen ambas vacunas contra meningococos? (¿Se recomienda la vacuna contra la gripe en la temporada indicada?)

En citas con jóvenes de 16 años, si planea recomendar MenB a un paciente, recomende también la vacuna contra la gripe si es la temporada.

#### Ejemplo de recomendación

*"Hoy te tocan dos vacunas que te pueden proteger de la meningitis, una infección poco común pero muy grave que afecta el cerebro. Son dos vacunas porque te protegen de dos tipos de infección. La meningitis puede causar graves problemas de salud y hasta puede ser mortal. Por eso quiero protegerte de todos los tipos posibles. El enfermero vendrá pronto a vacunarte."*

El paciente debe recibir en la misma cita todas las vacunas que le tocan y faltan.

*Los adolescentes casi no van al médico, de modo que ¡es crucial que aproveche cada oportunidad para vacunarlos!*

#### Estatus de vacunación

El enfermero o auxiliar médico debe examinar el registro o cuadro de sistemas de información sobre inmunización (IIS) y mensaje de la historia médica electrónica (EHR) en cada contacto con jóvenes de 16 años.

#### Vacunas que tocan

El registro IIS y mensaje de EHR le avisan en caso de que al paciente le toquen vacunas

#### Implementación

Se puede llamar a pacientes de 16 años para que acudan a una cita de vacunación solo para recibir MenACWY o MenB

#### EXÁMENES FÍSICOS Y CITAS VAX

Incorporar la evaluación para vacunación como parte de las citas para vacunación y exámenes físicos de los jóvenes de 16 años

¿Incluyo la evaluación para vacunación como parte de la rutina de todos los exámenes físicos para deportes, campamentos y escuelas?

¿Siempre reviso el estatus de vacunación en todas las citas para inmunización o para poner la vacuna contra la gripe?

#### CITAS PERIÓDICAS Y CITAS EN CASO DE ENFERMEDAD

Aprovechar para hablar de vacunación en las citas periódicas, las consultas de seguimiento y citas en caso de enfermedades y lesiones menores

¿Incorporo la evaluación para vacunación en consultas de seguimiento para afecciones crónicas, problemas médicos y enfermedades y lesiones menores?

\*Distribución de citas (11-18 años: cuidado no preventivo (59%), cuidado preventivo (28%), solo vacunación (13%)  
Wong, C. et al, Missed Opportunities for Adolescent Vaccination, 2006-2011, Journal of Adolescent Health, 9 de mayo de 2013. La financiación para la campaña VAX @ 16 de Unity es provista por nuestros miembros, incluyendo los fabricantes de vacunas