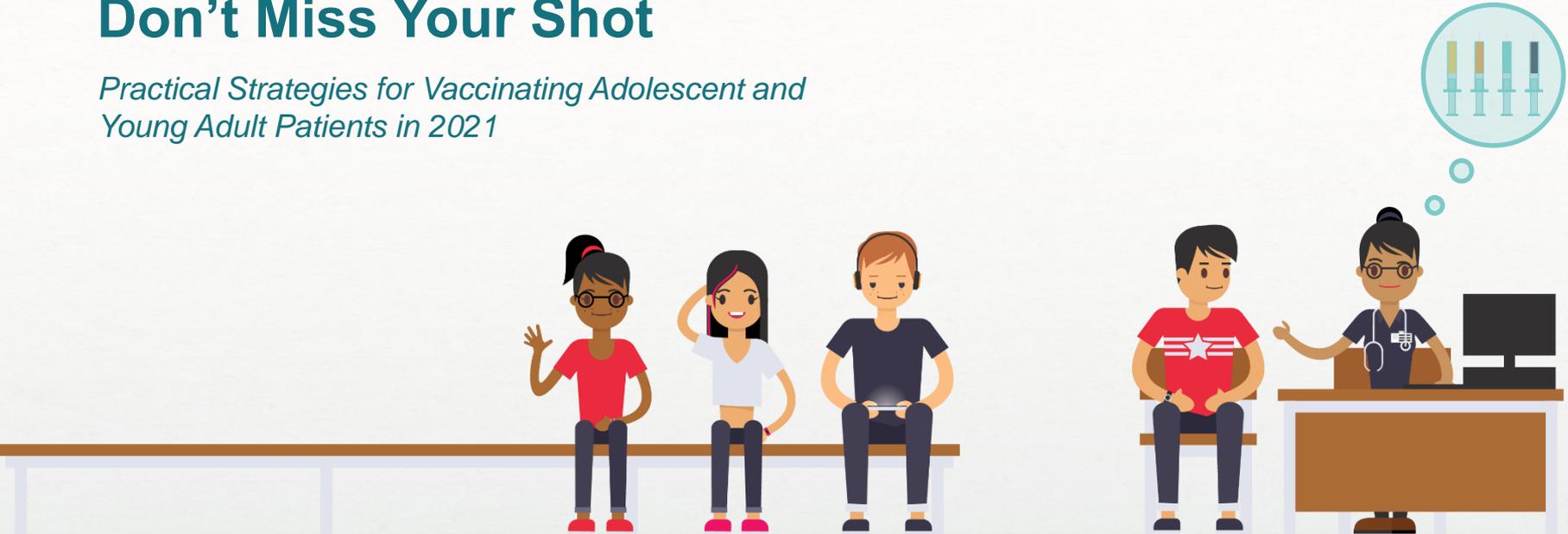


Don't Miss Your Shot

Practical Strategies for Vaccinating Adolescent and Young Adult Patients in 2021



The background features a stylized cityscape with several buildings of varying heights and shapes, some with grid patterns representing windows. In the foreground, there are several rounded, green shapes representing trees or bushes. The overall color palette is light and muted, with shades of green and grey.

No specific products/brands will be discussed during the course of this presentation.

Xx xx is an employee and shareholder of the GSK group of companies.

Adolescent Patients Present Unique Challenges on Their Transition Into Adulthood

Adolescent behaviors can make it difficult to ensure uptake of preventive healthcare^{1,2}

Desire for greater independence and responsibility, and to disengage from parental control¹



Risk perception changes and likelihood of risky behaviors increases due to developmental, social and emotional changes¹



Increased incidence of some infectious diseases due to changes in daily activities¹



Vaccination Is an Important Foundation of Adolescent Healthcare

Adolescents are at risk from many of the vaccine-preventable diseases which cause morbidity and mortality in the US each year, and their vaccination should be prioritized^{1,2}



Preventive healthcare such as vaccination during adolescence can help protect against infectious diseases, and promote positive lifelong health habits^{1,2}

Recommended vaccines for adolescents in the US:^{3,4}

- HPV
- Meningococcal ACWY
- Meningococcal B^a
- Tdap
- Influenza
- COVID-19^b

^a A MenB vaccine series is recommended based on shared clinical decision making

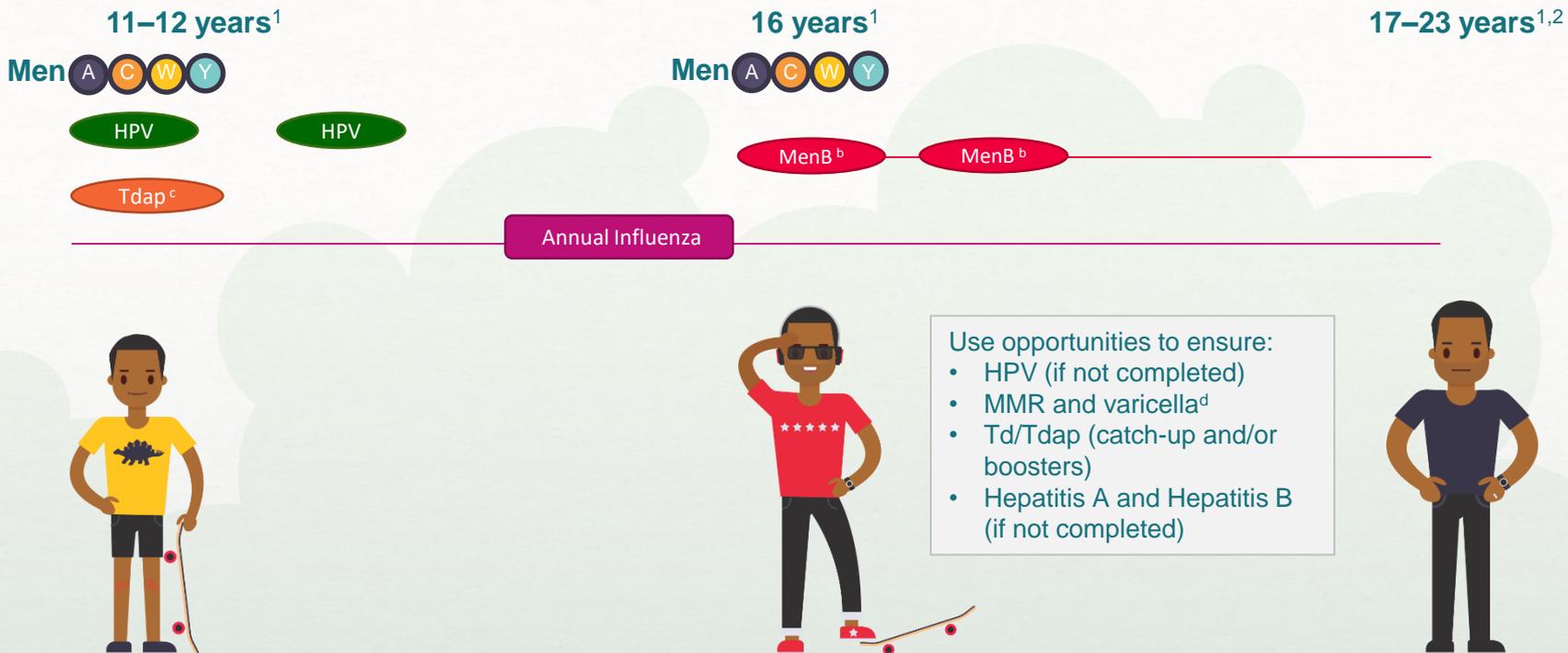
^b Under Emergency Use Authorization

HPV, human papillomavirus; Tdap, tetanus, diphtheria, acellular pertussis

1. UNITY, 2017. Vaccines for teens. <https://www.unity4teenvax.org/resource/vaccines-for-teens-infographic/>; 2. Bernstein HH *et al. Pediatrics* 2017;139:e20164186; 3. Centers for Disease Control and Prevention (CDC), 2021. Recommended child and adolescent immunization schedule for ages 18 years or younger, United States 2021. <https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf> (Accessed May 19, 2021); 4. Centers for Disease Control and Prevention (CDC). Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States. <https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html> (Accessed May 19, 2021).

In the US, Several Vaccinations Are Recommended for Adolescents and Young Adults

ACIP-recommended vaccinations for healthy adolescents and young adults:^a



^a Adolescents who are not in a high-risk category; ^b Adolescents may be vaccinated with a 2-dose MenB vaccine series based on shared clinical decision making; ^c Booster dose of Td or Tdap recommended every 10 years; ^d For individuals who lack documentation of vaccination or lack evidence of past infection.

ACIP, Advisory Committee on Immunization Practices; ACWY, meningococcal serogroups A, C, W, Y; HPV, human papillomavirus; MenB, meningococcal serogroup B; MMR, measles, mumps, rubella; Td, tetanus and diphtheria; Tdap, tetanus, diphtheria, acellular pertussis

1. Centers for Disease Control and Prevention (CDC), 2020. Recommended child and adolescent immunization schedule for ages 18 years or younger, United States 2020.

<https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf>; 2. Centers for Disease Control and Prevention (CDC), 2020. Recommended adult immunization schedule by age group, United States, 2020. <https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf> (URLs accessed June 2020)

Despite Recommendations, Vaccination Rates Are Low Amongst Older Adolescents

Younger adolescents have higher vaccination rates, highlighting a need to increase vaccination coverage of older adolescents

In 2019, the percentage of adolescents who had completed:

At least the **first dose** of MenACWY vaccine (13-17 years old)^{a,1}



89%

At least the **second dose** of MenACWY vaccine (17 years old)^{a,1}



54%

at least **one dose** of MenB vaccine (17 years old)^{a,1}



22%

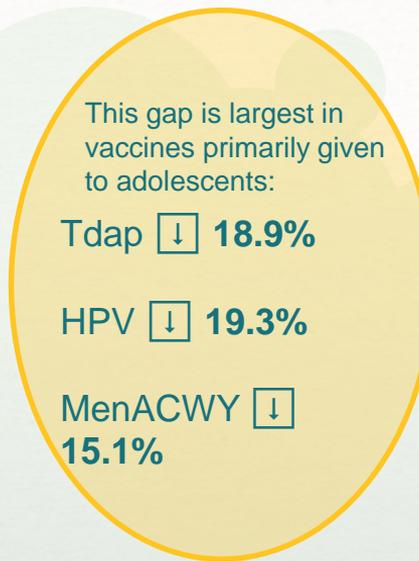
^a NIS-Teen includes adolescents ages 13–17 years; MenB and the second dose of MenACWY may be administered at >17 years, so coverage may be underestimated; IMD, invasive meningococcal disease

1. Elam-Evans LD, et al. *MMWR Morb Mortal Wkly Rep* 2020;69:1109-1116

Immunization Rates for Adolescents Have Decreased During the COVID-19 Pandemic



As of May 2, 2021, overall VFC provider orders (other than influenza) are down by **11.7 million doses** compared with 2019



This gap is largest in vaccines primarily given to adolescents:

Tdap ↓ **18.9%**

HPV ↓ **19.3%**

MenACWY ↓ **15.1%**



Importance of Immunization Services During the COVID-19 Pandemic



Interim Guidance for Immunization Services During the COVID-19 Pandemic

Purpose of Guidance +

Importance of Immunization Services During the COVID-19 Pandemic -

Efforts to reduce transmission of SARS-CoV-2 have led to a decrease in routine preventive medical services, including [immunization services](#). Ensuring that routine vaccination is maintained or reinitiated during the COVID-19 pandemic is essential for protecting individuals and communities from vaccine-preventable diseases and outbreaks. Routine vaccination prevents illnesses that lead to unnecessary medical visits and hospitalizations and further strain the healthcare system. For the 2021-2022 influenza season, the CDC will continue to encourage individuals to get their flu shot.

“Efforts to reduce transmission of SARS-CoV-2 have led to a decrease in routine preventive medical services, including immunization services.”

Ensuring that routine vaccination is maintained or reinitiated during the COVID-19 pandemic is essential for protecting individuals and communities from vaccine-preventable diseases and outbreaks”

Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in The United States – May 14, 2021 Update

The Advisory Committee on Immunization Practices' (ACIP) interim recommendations for use of Pfizer-BioNTech COVID-19 vaccine in adolescents ages 12–15 years

On May 12, 2021, ACIP issued an interim recommendation for use of Pfizer-BioNTech COVID-19 vaccine in adolescents ages 12–15 years under the Food and Drug Administration's Emergency Use Authorization. The estimated efficacy of Pfizer-BioNTech COVID-19 vaccine was 100% in preventing symptomatic, laboratory-confirmed COVID-19 in adolescents ages 12–15 years without evidence of previous SARS-CoV-2 infection. The immune response of adolescents in this age group was similar to that observed in adolescents and young adults ages 16–25 years. Among adolescent vaccine recipients ages 12–15 years, reactogenicity symptoms during the 7 days after vaccination were frequent (90.9% of vaccine recipients reported any local reaction and 90.7% reported any systemic reaction) and mostly mild to

moderate fatigue, headache, and muscle aches. Local reactions included redness, swelling, and pain at the injection site. Systemic reactions included fever, fatigue, and muscle aches. No severe allergic reactions were identified.

“On May 12, 2021, ACIP issued an interim recommendation for use of Pfizer-BioNTech COVID-19 vaccine in adolescents ages 12–15 years under the Food and Drug Administration's Emergency Use Authorization.”

Providing rapid and equitable access to COVID-19 vaccine for adolescents will require a range of approaches, including augmenting existing infrastructure for vaccination, increasing enrollment of providers caring for adolescents into the COVID-19 vaccination program, and applying school-focused strategies to ensure vaccination opportunities for a diverse population.



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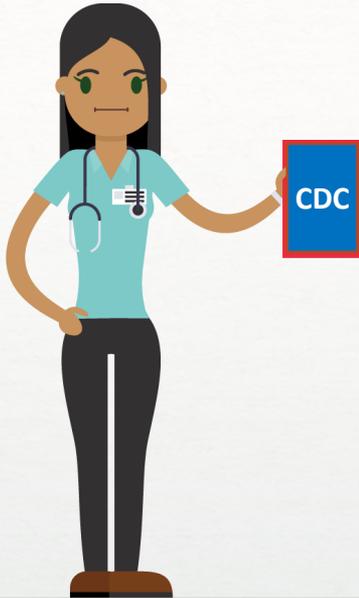
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Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in The United States – May 14, 2021 Update



*“COVID-19 vaccines and other vaccines may now be administered without regard to timing. This includes **simultaneous** administration of COVID-19 vaccines and other vaccines on the same day, as well as coadministration within 14 days.*

It is unknown whether reactogenicity of COVID-19 vaccine is increased with coadministration, including with other vaccines known to be more reactogenic, such as adjuvanted vaccines or live vaccines.

When deciding whether to coadminister another vaccine(s) with COVID-19 vaccines, providers should consider whether the patient is behind or at risk of becoming behind on recommended vaccines, their risk of vaccine-preventable disease (e.g., during an outbreak or occupational exposures), and the reactogenicity profile of the vaccines.”

Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in The United States – May 14, 2021 Update



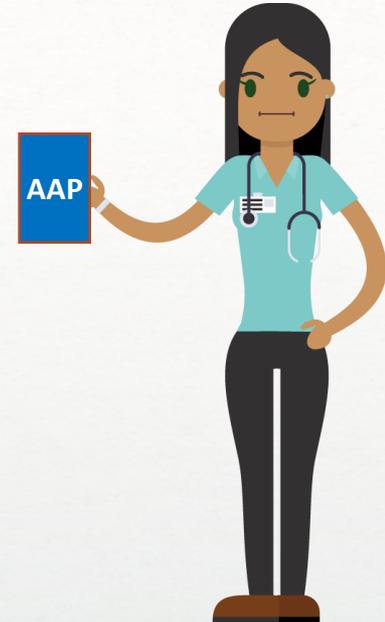
“If multiple vaccines are administered at a single visit, administer each injection in a different injection site. For adolescents and adults, the deltoid muscle can be used for more than one intramuscular injection.”

“Best practices for multiple injections include:

- Label each syringe with the name and the dosage (amount) of the vaccine, lot number, the initials of the preparer, and the exact beyond-use time, if applicable.*
- Separate injection sites by 1 inch or more, if possible.*
- Administer the COVID-19 vaccines and vaccines that may be more likely to cause a local reaction (e.g., tetanus-toxoid-containing and adjuvanted vaccines) in different limbs, if possible.”*

American Academy of Pediatrics: COVID-19 Vaccines in Children and Adolescents

“Given the importance of routine vaccination and the need for rapid uptake of COVID-19 vaccines, the AAP supports coadministration of routine childhood and adolescent immunizations with COVID-19 vaccines (or vaccination in the days before or after) for children and adolescents who are behind on or due for immunizations (based on the CDC/AAP Recommended Child and Adolescent Immunization Schedule) and/or at increased risk from vaccine-preventable diseases.”



Barriers to Adolescent Vaccination

Challenges in an Adolescent Population



Adolescents Tend to Have Infrequent Well Visits and Lack Awareness of Necessary Vaccinations

More than half of US adolescents do not attend the recommended number of preventive well visits, and/or are unaware of the need for vaccination^{1,2}

A US national survey shows that only **48%** of adolescents aged 10–17 years attend their recommended preventive well visits, where immunizations could be discussed and administered¹

Waiting room



In a survey of pediatricians and family physicians, **64–65%** reported that adolescents aged 14–21 years are not aware of the need for immunization²



Healthcare Providers Do Not Consistently Recommend Vaccination to Eligible Adolescents

One third of all opportunities to offer MenACWY to older adolescents^a were missed by healthcare providers in the US in 2011–2016^b

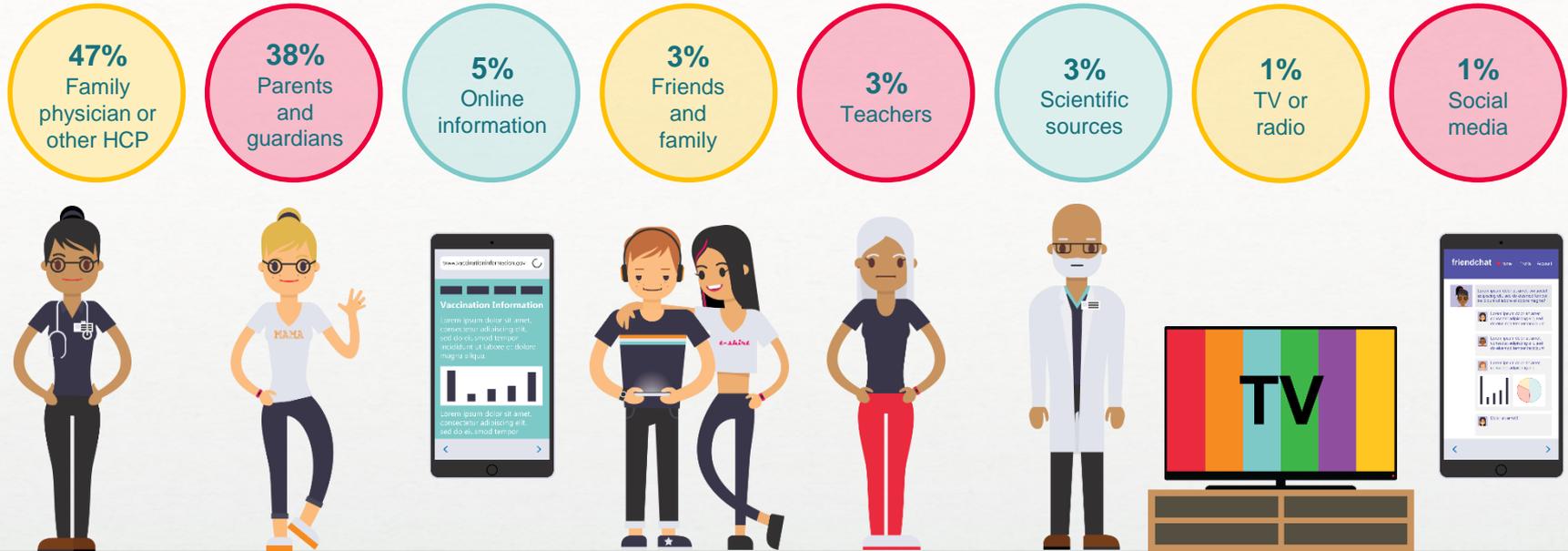
Healthcare utilization among older adolescents, 2011–2016



^a Aged 15.5–18 years; ^b In a retrospective analysis of Commercial Claims and Encounters (CCAE) and Medicaid MarketScan Databases. Potential missed opportunities were defined as any outpatient office visit coded as a preventive care, well-child or vaccine-only visit at which the adolescent was eligible for MenACWY vaccination but did not receive it. Missed preventive care encounters were defined as having had no preventive care, well-child or vaccine-only visits in any care setting; HCP, healthcare professional
Kurovsky S *et al.* *J Adolescent Health* 2019;65:107–115

Misinformation From Other Sources May Influence Vaccination Decisions¹

While the majority of older adolescents^a (62%) recognize that HCPs are the most trusted source of vaccine information, more than half of the information they receive about vaccination comes from these other sources:^{b,2}



^a Aged 15–18 years; ^b In a retrospective analysis of Commercial Claims and Encounters (CCAE) and Medicaid MarketScan Databases; HCP, healthcare professional
1. Bernstein HH *et al. Pediatrics* 2017;139:e20164186; 2. Griffin DS *et al. Heliyon* 2018;4:e01006

Improving Adolescent Vaccination

How Might This Look in Practice?

Advocate

Endorse

Educate



Educate and Motivate Your Colleagues to Advocate for Vaccination

Consistent messages from all staff help parents and adolescents feel more confident about vaccine recommendations¹



Provide **appropriate training** so that all staff have an awareness of the need for vaccination and feel comfortable to advocate²



Lead by example: make sure all staff are up to date on immunizations³



Create one or more **vaccine champions** who are responsible for all aspects of vaccination in the office²

1. Centers for Disease Control and Prevention (CDC), 2019. Foster support for vaccination in your practice. <https://www.cdc.gov/vaccines/hcp/conversations/your-practice.html>; 2. American Academy of Family Physicians (AAFP), 2018. 20 best practices for adolescent immunization. https://www.aafp.org/dam/AAFP/documents/patient_care/immunizations/adolescent-immunizations-summit/best-practices.pdf; 3. Public Health England (PHE), 2019. Vaccine Update. Issue 294, May 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805502/PHE_vaccineupdate_294_May19.pdf (URLs accessed June 2020)

Develop an Immunization Culture in Your Office

Foster vaccine support from the front desk to the exam room



Endorse Vaccination at Every Opportunity

To reduce missed opportunities, every patient encounter should be viewed as a potential opportunity to immunize^{1,2}

Well visits and annual physicals



Sports and camp physicals



Follow-up visits for other conditions or other vaccination visits, such as for influenza vaccination



1. Bernstein HH et al. *Pediatrics* 2017;139:e20164187; 2. American Academy of Pediatrics (AAP), 2013. Office strategies for improving immunization rates. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/Practice-Management/Pages/office-strategies.aspx> (accessed May 2020)

Maximize Immunization Opportunities

Implement strategies which monitor, capture and create opportunities to vaccinate

Assess immunization status at every visit and update records accordingly¹



Use standing orders, allowing pharmacists and nurses to give vaccination^{2,3}



Offer additional after-hours and weekend clinics, or vaccination-only visits^{2,3}

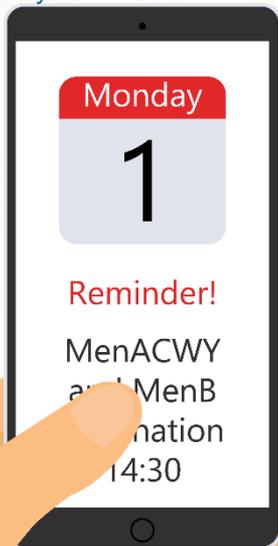


1. Centers for Disease Control and Prevention (CDC), 2019. 10 ways to create a culture of immunization within our pediatric practice. <https://www.cdc.gov/vaccines/hcp/conversations/your-practice.html>; 2. American Academy of Family Physicians (AAFP), 2018. 20 best practices for adolescent immunization. https://www.aafp.org/dam/AAFP/documents/patient_care/immunizations/adolescent-immunizations-summit/best-practices.pdf; 3. American Academy of Pediatrics (AAP), 2013. Office strategies for improving immunization rates. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/Practice-Management/Pages/office-strategies.aspx> (URLs accessed June 2020)

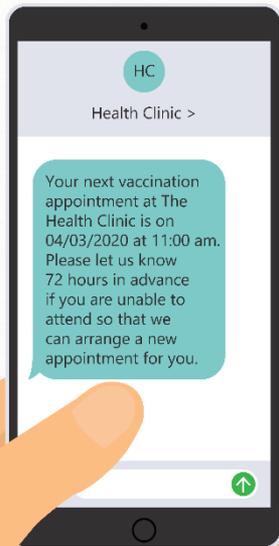
Use Technology to Track and Prompt Vaccination

Using electronic reminders and appointment scheduling helps ensure vaccination series are completed and doses received on time

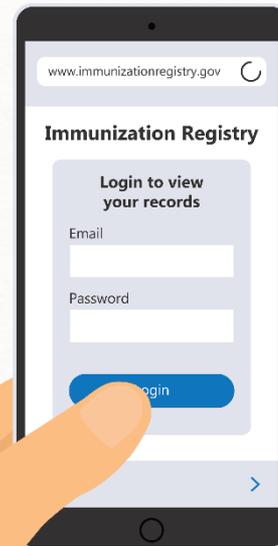
Set electronic reminders and alerts in the EMR system^{1,2}



Set up a reminder/recall system (including parents) to bring in patients who have vaccines due^{1,2}



Utilize the state or local registry to identify patients who are due vaccinations^{1,2}

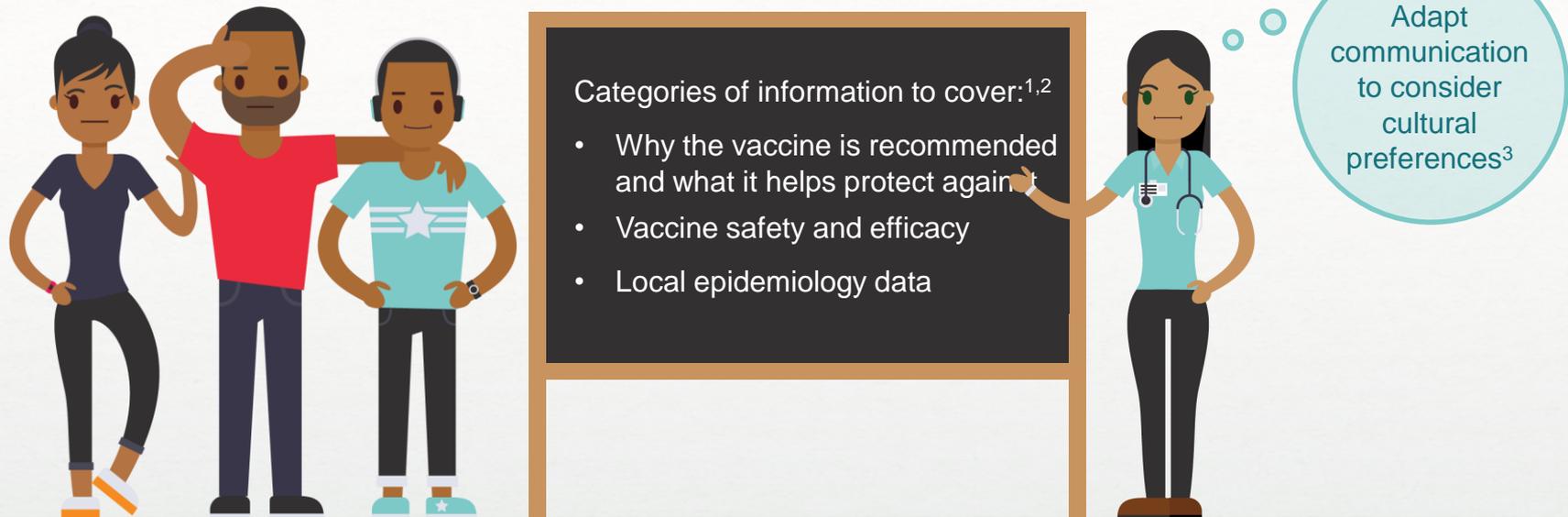


EMR, electronic medical record

1. American Academy of Family Physicians (AAFP), 2018. 20 best practices for adolescent immunization. https://www.aafp.org/dam/AAFP/documents/patient_care/immunizations/adolescent-immunizations-summit/best-practices.pdf; 2. Centers for Disease Control and Prevention (CDC), 2019. Foster support for vaccination in your practice. <https://www.cdc.gov/vaccines/hcp/conversations/your-practice.html> (URLs accessed May 2020)

Make Vaccination Education a Priority, for Parents as Well as Adolescents

Use language that is easy to understand and tailored to individual patients; consider that differences in reasons for not receiving vaccines, as well as ways of communicating about vaccination, exist between racial and ethnic groups and adapt accordingly



Categories of information to cover:^{1,2}

- Why the vaccine is recommended and what it helps protect against
- Vaccine safety and efficacy
- Local epidemiology data

Adapt communication to consider cultural preferences³

1. American Academy of Family Physicians (AAFP). *Fam Pract Manag* 2019;26:9–12 <https://www.aafp.org/fpm/2019/0700/p9.html> (accessed June 2020); 2. American Academy of Pediatrics (AAP), 2013. Office strategies for improving immunization rates. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/Practice-Management/Pages/office-strategies.aspx> (accessed June 2020); 3. Bernstein HH *et al. Pediatrics* 2017;139:e20164187

Apply the Motivational Interviewing Approach

How might motivational interviewing look in practice?

The OARS approach

O

Aim:
evoke response,
avoid doubts

Eg:
“What do
you think?”

A

Aim:
encourage, highlight
their strengths

Eg:
“You already have
a lot of knowledge”

R S

Aim:
reflect back what they
have said and allow
them to correct or refine

Eg:
“What matters most to
you is that your child is
as healthy as possible”



The elicit-share-elicited approach

ELICIT
Ask what they know and ask permission to inform

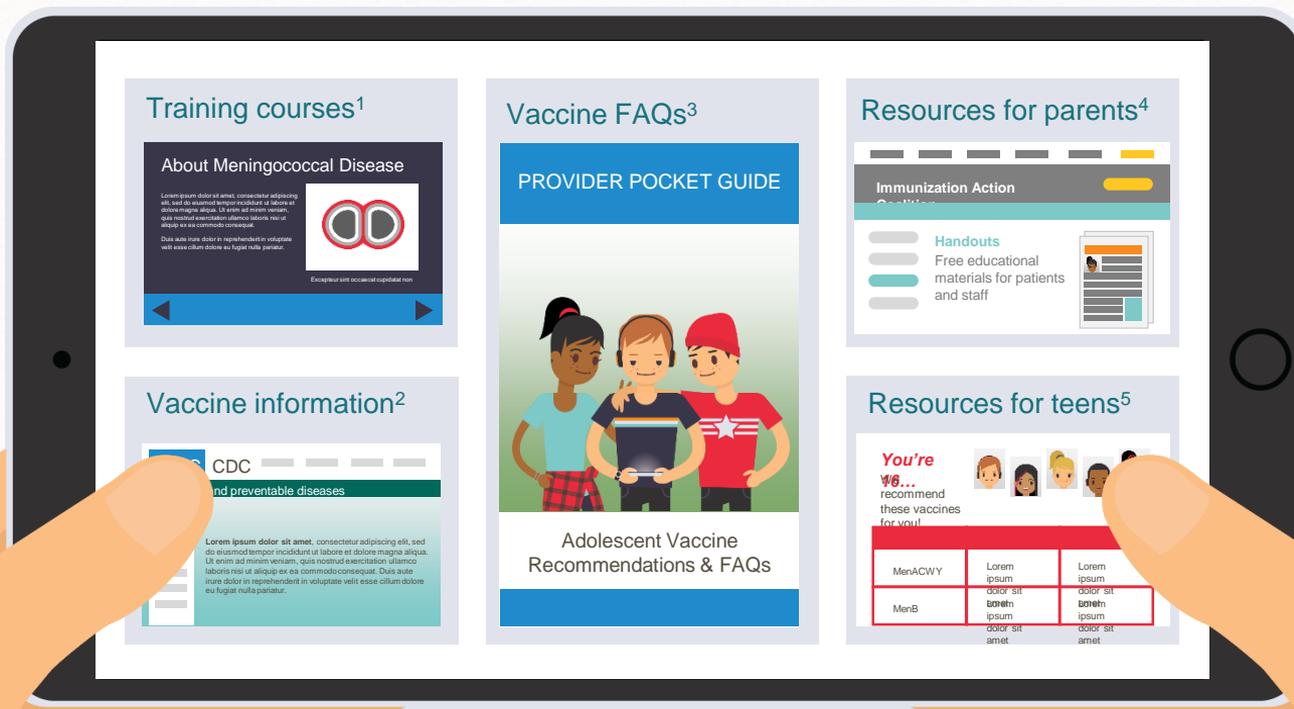
SHARE
Provide the information

ELICIT
Verify what they have understood and what they will do



Resources for Healthcare Providers, Parents and Adolescents are Widely Available

Educate

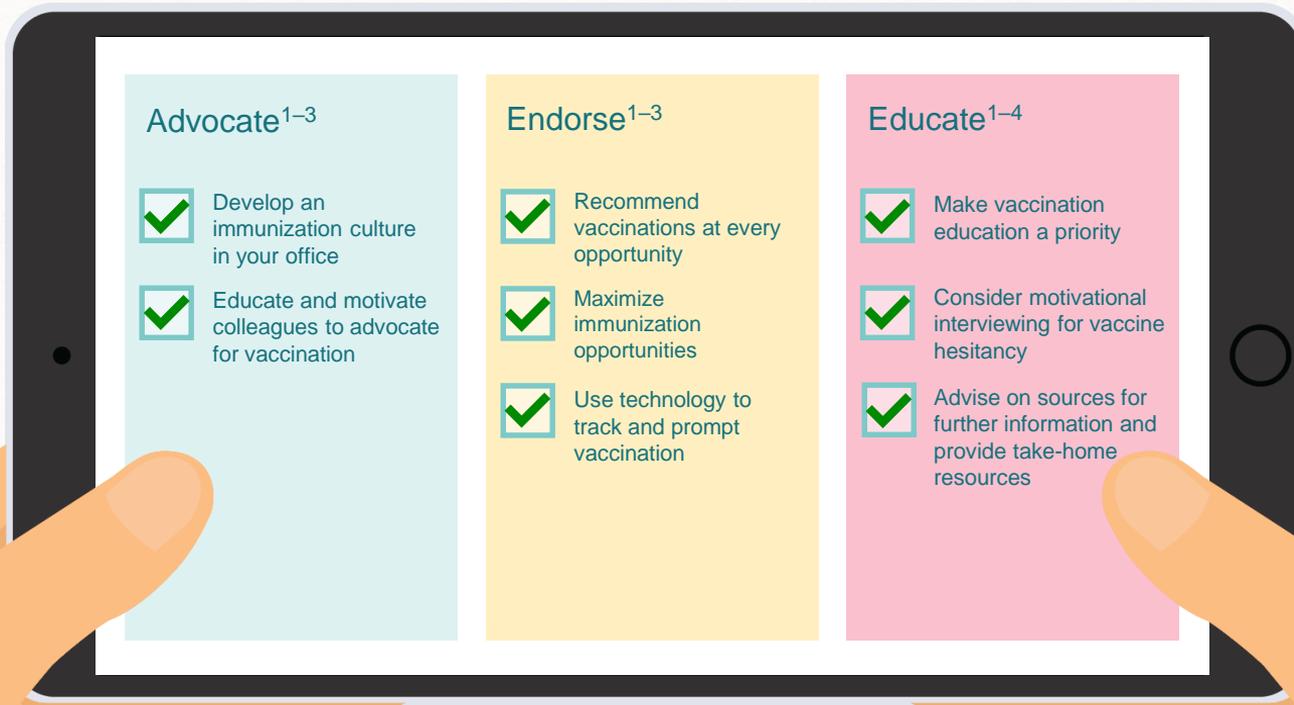


HCP, healthcare professional

1. Centers for Disease Control and Prevention (CDC), 2020. <https://www.cdc.gov/vaccines/ed/youcalltheshots.html>; 2. Centers for Disease Control and Prevention (CDC), 2019. <https://www.cdc.gov/vaccines/vpd/mening/hcp/index.html>; 3. UNITY, 2020. <https://www.unity4teenvax.org/resource/new-provider-pocket-guide/>; 4. Immunization Action Coalition, 2020. <https://www.immunize.org/handouts/adolescent-vaccination.asp>; 5. Immunization Action Coalition, 2020. <https://www.immunize.org/catg.d/p4022.pdf> (URLs accessed June 2020)

Vaccination Implementation Checklist

Maximizing adolescent vaccination



1. American Academy of Pediatrics (AAP), 2013. Office strategies for improving immunization rates. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/Practice-Management/Pages/office-strategies.aspx>; 2. American Academy of Family Physicians (AAFP), 2018. 20 best practices for adolescent immunization. https://www.aafp.org/dam/AAFP/documents/patient_care/immunizations/adolescent-immunizations-summit/best-practices.pdf; 3. Centers for Disease Control and Prevention (CDC), 2019. Foster support for vaccination in your practice. <https://www.cdc.gov/vaccines/hcp/conversations/your-practice.html>; 4. Bernstein HH *et al.* *Pediatrics* 2017;139:e20164187 (URLs accessed May 2020)

Summary



Summary

- Vaccination is an important foundation of adolescent healthcare



- The COVID-19 pandemic has impacted adolescent vaccination rates that were already suboptimal^{1,2}



- Vaccination rates can be improved by developing a vaccine culture, educating patients and parents and endorsing vaccination at every opportunity^{3,4}

