SECTION 2

Practical Advice

DOES YOUR STAFF NEED TRAINING IN IMMUNIZATION?

See pages 27–28 for a list of immunization training programs for nurses and other members of the office practice team.

Applying the Chronic Care Model and PDSA Cycle to Any Immunization Setting

Patients receive vaccines in many different settings. Each setting is unique and the success of vaccination strategies is affected by each particular setting.

In this section, two types of vaccination settings are described—the Residency Clinic and the Private Practice. These discussions provide examples that may be used as a resource when embarking on immunization practice improvement projects. Please keep in mind that these examples are provided to illustrate the practice improvement process, and that actual efforts devised by physicians and their team may differ based upon individual needs. Some examples pertain to any practice setting and are thus noted. Regardless of the setting, these examples can be used as springboards to guide the planning of any immunization quality improvement project.

Residency Clinic Settings

Residency is an ideal time to teach quality improvement skills and apply them to situations in the "real world." Residency establishes the learning processes that physicians will continue to apply over the course of their careers. Residency provides an opportunity to develop good habits when residents are most open to learning new concepts and working in teams—both key to practice improvement.

The Accreditation Council for Graduate Medical Education requires internal medicine residencies to provide training in a continuity clinic setting. While practice improvement can be exercised in many different aspects of residency training, the continuity clinic is ideal for several reasons. Typically, many residents spend at least one-half day per week in this setting, allowing for the development of an ongoing relationship with the faculty that supervise their clinic practice over the duration of their training.

Additionally, residents typically have the opportunity to follow assigned patients on a regular basis, thus providing a sense of continuity for both the patients and their doctors.

IDEAS FOR GETTING STARTED

The CCM can be used to design a practical system of care delivery in any setting. When getting started, it is always best to start with basics. Here are some key elements to focus on first:

1. Form a team.

Practice Setting

Designate a non-physician champion to provide leadership and direction on a day-to-day basis. Because it can be difficult for team members to attend scheduled meetings, consider communicating through weekly e-mail updates or quick "huddles" on a regular basis.

Residency Setting

Designate a physician champion to provide leadership and direction, such as a faculty physician who oversees residents in the outpatient clinic. Get administrative buy-in from the hospital leadership. Include a resident from each clinic day who is enthusiastic and influential among his or her peers as well as a member from the nursing, scheduling, and medical records staff.

2 Evaluate current performance.

Perform an initial chart review to provide a baseline snapshot of current performance. Be prepared to be surprised. Use the data from a baseline assessment to identify an area needing improvement to tackle first.

Paper Charts Example

If the baseline chart audit took weeks longer than expected because of poorly organized charts and a lack of consistent documentation of vaccinations by providers, start with a chart organization tool or a new immunization worksheet that will organize the patient's vaccination history at a glance. The first PDSA cycle may be to make sure that this sheet is placed in every chart, is updated when the charts are pulled and prepped for the day, and then is updated again by everyone in the practice who orders or gives vaccines.

EHR Example

Ensure that all staff are aware of the correct fields to use for documentation of vaccination status. If a flow sheet for vaccines is not evident, contact the IT department or the EHR vendor for additional support.

Many EHRs have the ability to run reports. These "queries" of the system can be used to gain awareness of performance during the PDSA interval.

3 Set the aim.

Set a well-defined goal and a specific time-frame.

Any Setting

To attain an influenza vaccination rate of at least 80% in patients with asthma within the next year.

4 Plan the practice's first PDSA.

Pick one idea that seems straightforward and break it down into smaller steps.

Practice Setting

Plan: Provide influenza VIS to 100% of patients before receiving the vaccine.

Do: MA to provide VIS to all Dr. Jones' patients who agree to receive the vaccine on Tuesday. The MA will document on the chart that the VIS was given.

Study: Office manager will sample 10 charts (determined by billing codes), compute the percentage of patients provided with a VIS, and display the data on a run chart in the break room.

Act: Implement or adapt as needed.

Residency Setting

Plan: Reduce patient refusals for influenza by 25% in six months.

Do: When a patient refuses a vaccine, the patient care technician who is placing the patient in a room makes a note and, if possible, the reason for refusal, in the patient's medical record to promote discussion between the patient and the resident.

Study: At the end of the day, records of all noted patients will be checked by the patient care technician to determine whether the vaccine was given. A simple table is kept with "Given," "Not Given" and "Reason Refused" for all relevant charts. The percentage of vaccines given over the course of each week is displayed on a visual run chart in the resident conference room. If the number of refusals is low (i.e., less than three per week), the data can be displayed every two weeks, or even every month, on the run chart.

Act: Revise PDSA or move on to another vaccine.

5 Maintain momentum

Once the practice or residency clinic finishes the first PDSA, take what is learned and plan the next cycle. Do not be afraid to scrap ideas that did not work well. Show appreciation to the team and all involved parties. Administration's recognition of practice improvement can be a great motivational tool; this can be as simple as sending an e-mail to the department praising the quality improvement team.

Any Setting

Using the VIS example in the Practice Setting above, if the practice was reporting only 60% success on the run charts, a "huddle" (as opposed to a formal sit-down meeting) with the MA may be in order to try to determine the barrier. For example, if the MA reports that documenting the information onto the chart is proving cumbersome, a PDSA cycle concentrated on documentation would be a natural next step. Education on the federal requirements of VIS distribution may also be necessary.

CASE STUDY—PRIVATE PRACTICE

Wellington Medical Practice is a small practice with two physicians, an office manager, two MAs, and two support staff. The office is located in a diverse community, and has a payer mix that is one-third private insurance and/or Medicare and two-thirds HMO or medical assistance. The practice has just completed its chart audits. The data suggest a large gap: only 60% of the practice's diabetic patients have received the pneumococcal vaccine.

To develop its first PDSA cycle, the staff first set a goal of vaccinating 80% of their patients with diabetes with the pneumococcal vaccine in the next six months. It is late August and they feel this vaccine could easily be given at the same time as the seasonal flu vaccine. They need to design a way to educate patients about the need for this vaccination and then implement a systems change that will capitalize on every opportunity for vaccination.

A team meeting is scheduled. In attendance is one physician champion, the office manager, an MA, and a member of the support staff. They decide to have the physician write standing orders that include vaccine administration for every patient with diabetes. They then begin to identify opportunities for every team member to improve this vaccine rate among these patients. Because they have already attached yellow labels to the edge of all applicable charts, they decide to first look at these charts for patients who have not had a pneumococcal vaccine. Office staff will hand these patients vaccine brochures at check in. When the MA calls the patient back to the exam room, he will begin a dialog with the patients who have not been vaccinated. By the time the physician enters the exam room, patients who have reservations or questions are prepared to talk about vaccination. The visit will be used as an opportunity to bring these patients up to date before they leave the office. The team also decides that staff will utilize the standing orders for all patients with diabetes who will receive reminders to visit the office for a flu shot.

They decide to pick two charts a day to audit their progress. At the end of each week, they update a run chart to ensure that the system they have designed is working and keep it posted in the kitchen. They agree to meet monthly to assess their progress and to make adjustments as needed to help stay on track with their goals. Plans are put in place to meet sooner if the chart audits reveal they are falling short of their goals.

CASE STUDY—RESIDENCY SETTING

Dr. Jones at Smithville Hospital wants to help her residents understand the rewards of participating in quality improvement. She regularly points out the long-term gains in terms of knowledge, lifelong practice, etc., but knows it will be easier if the residents experience it firsthand. Rather than making a dictum that residents be involved, Dr. Jones taps into their natural competitiveness and sets up a "Which clinic day is performing best?" challenge. She also displays run charts in the break room and keeps them updated. In addition, she offers short-term incentives such as pizza parties and visible recognition such as "Resident of the Week" status for obtaining PDSA goals.

Dr. Jones knows that efficiency is key in a residency clinic. She initiates the use of flowsheets to help keep information organized. She makes sure that the flowsheets are readily available and easily updated to ensure that the process of keeping vaccination records is easy and efficient.

Dr. Jones knows that the tasks associated with PDSA—reviewing charts, keeping statistics, and reporting results—are time-consuming. However, she explains to her residents that the process of reviewing charts can reveal differences between the self-perception of care and what is actually documented in the chart. Physicians, however, do not need to perform the data collection; in fact, some programs may benefit from having other team members provide the ongoing measurement.

Dr. Jones incorporates data collection into the daily work flow. For example, she asks each resident to review one chart each week for documentation of flu vaccination during the course of his or her continuity clinic. The resident can choose to do the review either while waiting for a patient to be roomed, while waiting to present to an attending physician, or at the end of the panel. Dr. Jones assigns one resident to update the run charts. The charts are displayed in the conference room where all residents can track their progress.

Both Private Practice and Residency examples meet all of the criteria of a great PDSA cycle because the staff have:

1. Identified the gap;
2. Set a timely goal to accomplish their progress;
3. Chosen a team that represents each process of the office during a patient encounter;
4. Engaged patient feedback about information materials;
5. Delegated responsibilities across team members equally so no one member is overburdened; and
6. Evaluated their progress on an ongoing basis, and shared the results in a visible format to help ensure the team stays on track with its goals.

Practice Management Issues

In the practice setting it is important to design a program for delivering immunization services that can be sustained long-term. The key to system redesign is to incorporate change into everyone's job, often little changes that do not overburden anyone. Below are some tips for increasing efficiency with immunization procedures in the office setting.

STANDING ORDERS

Standing orders help vaccination rates by involving team members other than physicians, thereby reducing the pressure on the already time-pressed physician-patient encounter. Standing orders ensure that every team member can identify an opportunity to vaccinate every patient.

PATIENT EDUCATION

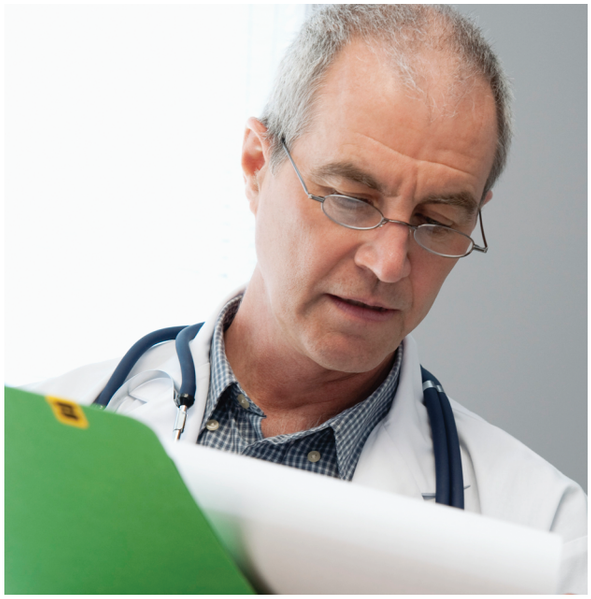
A simple first step may be to begin in the waiting room with a modest investment for a display rack offering brochures about vaccines that patients can peruse while they are waiting. When the front desk staff pulls charts for visits, they could include standing orders that allow the nurses or MAs to give the vaccine. By the time the physician sees patients, they will either have been given the vaccines or they can raise any reservations or concerns about the vaccines with the physician.

PAIRING VACCINES

Pick times of the year to encourage patients to get certain vaccines. For example, for influenza season—from October through March—focus on influenza and pneumococcal. In the spring, focus on tetanus/Tdap and herpes zoster. Audit vaccines at yearly physicals particularly noting childhood catch-up, hepatitis A and B, HPV, and meningococcal vaccines. Automatically audit charts and run labs at the visits for patients in a high-risk category such as diabetes. Use every patient visit as an opportunity for educating the patient and providing vaccinations.

VACCINE ORDERING

Vaccines are a large financial burden on medical practices so it is important to seek every opportunity for saving money with every vaccine purchase. One way is to take advantage of vaccine manufacturers' December discounts for ordering vaccines in bulk for the upcoming year. Whenever possible, arrange to be billed once the vaccines are shipped. The practice may be able to receive additional discounts if payments are made within 30 days of shipment. Track vaccine purchases and administrations on an Excel spreadsheet to assist with estimations for actual costs incurred, revenue generated, and ordering in subsequent years.



SAFE VACCINE STORAGE

Best practices include separating vaccines in a refrigerator solely dedicated for medication and vaccine storage. One strategy is to use inexpensive, brightly-colored plastic bins labeled with the vaccine's name. This will separate vaccines that look or sound similar and help eliminate a chance for medical errors in the administration process. Another way to prevent errors is to add "STOP, take time out" stickers on every shelf to remind staff to stop, use two identifiers for the patient, and verify the vaccine and the dose ordered by the physician. This storage process offers the added benefit of keeping inventory at the forefront of the visual display. Assign a staff member the task of periodically examining the vaccine stocks to track expiration dates and lot numbers.

Given how much the practice invests in vaccines, it is critical to put safeguards in place to protect the investment. For less than $1,000 the practice can purchase systems that will constantly monitor the temperature inside the vaccine refrigerators. These programs record the temperature hourly or daily, and send a log to a desktop computer or designated mobile device by e-mail. If the temperature inside the vaccine refrigerator falls outside of the pre-determined acceptable range, an alarm will sound and the manufacturer will notify staff members whose contact information has been provided in the event of any system failure in the vaccine storage refrigerator.

BILLING FOR VACCINES AND INSURANCE COVERAGE

Each year insurance companies provide a list of the vaccines covered under each of their plans. This may vary by employer contracts, but that is usually the exception. It is important to have this up-to-date information annually in order to understand reimbursement and properly advise patients. Be sure that staff know which vaccines are not covered by insurance. When making appointments they should be able to tell patients what payment will be required at the time of service.

INVENTORY CONTROL

Count the practice's vaccines daily and match the number given out with the number billed. Just ten missed charges of herpes zoster or HPV vaccines in a month, for example, can cost the practice thousands of dollars.

VACCINE RECALLS

If the practice doesn't have an EHR to track recalls, keep a manual log of every vaccine administered. Date the log at the start of every day. Before giving the vaccine, update the log with the patient name, date of birth, manufacturer name, vaccine name, lot number, injection site, and the initials of the staff member administering the vaccine. Keep these logs in a binder. If there is a recall, someone can go back through the logs highlighting any suspect vaccines to identify patients that need to be notified.

ADVERSE EVENTS

To report adverse events, go to *http://vaers.hhs.gov/index*. A link there connects to the reporting form. The information the practice will need to report an adverse event should be in the vaccine logs.

Use every patient visit as an opportunity for educating the patient and providing vaccinations.

RUNNING A VACCINE CLINIC

Setting up an influenza vaccine clinic to vaccinate as many patients as possible is relatively simple if the practice is well organized. Below is a step-by-step list of how to set up and run a clinic:

1. Set dates, times, and a maximum number of patients the clinic will serve. A well-organized clinic can vaccinate as many as 300 or 400 patients in a few hours.
2. Advertise your clinic by making flyers and displaying in every exam room. If you have a website, add a message that gives information about your vaccine clinics or add a banner to every patient statement. Offer appointments early and encourage patients to sign up.
3. Begin accepting appointments at least two months prior to the vaccine clinic date. Most clinics can accommodate as many as eight patients every 15 minutes with one support staff and one tech working.
4. Pull charts and print encounter forms three days before the clinic.
5. Verify insurance of every patient when the appointment is made. Those without insurance or those whose insurance does not cover the vaccine need to know the cost and payment process they can expect at the time of the visit.
6. Make sure physician orders for each patient are complete and up to date.
7. Copy up-to-date vaccine information statements for vaccines that will be distributed. Find these at *www.cdc.gov/vaccines/pubs/vis/default.htm*.
8. If different doses are being administered of the same vaccines, the practice must have a system that clearly identifies and separates each dose.
9. Prepare gloves, alcohol wipes, band-aids, and sharps containers.
10. Make labels for charts. Be sure to include: date given, vaccine name, manufacturer, lot number, expiration date, site, and a place for the initials of the tech administering the vaccine.

    Practices using an EHR should ensure that all staff participating in the vaccination clinic are competent in correctly documenting the vaccination.
11. Prepare vaccine logs so the documentation requirement is easy for staff to complete.
12. Make sure a table is set up to receive the patients in the registration process and a place is designated to keep charts.
13. Have a table ready for the vaccine supplies and a chair available to allow your patients to sit in order to administer the vaccine safely and comfortably.

After the clinic is complete, charge out encounter forms. Call no-show patients to schedule new appointments.

Immunization Resources

STARTING AN IMMUNIZATION PROGRAM FROM SCRATCH?

Check out the *Adults Only Vaccination: A Step-by-Step Guide,* produced by the Immunization Action Coalition (IAC) and available at *www.immunize.org/guide/aovguide_all.pdf*.

The IAC is a practical resource for user-friendly immunization information. The website houses all of IAC's informational handouts, which are available free of charge, and users are encouraged to reproduce and redistribute the materials. This website also makes available all VIS published in the United States in up to 50 languages and some alternative formats.

IMMUNIZATION TRAINING PROGRAMS FOR NURSES AND OTHER PROVIDERS

ANA Bringing Immunity to Every Community initiative

The American Nurses Association and Every Child By Two (ECBT) have partnered to produce an innovative continuing education webcast for nurses on vaccine safety and patient communication. Combining a nurse-panel presentation with patient-nurse video vignettes, this course offers practical knowledge and skills to increase immunization competency.

Developed for the nurse in any role or specialty, this course will cover:

- Impact of vaccines on society
- How the nursing profession is vital to the promotion of immunizations
- Benefits of vaccination to nurses (and health care workers)
- Vaccine safety and adverse event reporting
- Common questions and vaccine myths
- Risk communication methods to reduce concerns and increase vaccine acceptance

Faculty

- Mary Beth Koslap-Petraco, DNP, PNP-BC, CPNP
- Katie Brewer, MSN, RN

Content presented during this program was developed by a national Advisory Panel with documented expertise in immunization advocacy and education.

To access the program, visit *www.anaimmunize.org/webcast*

The Nurse Training on Immunization Project (NurseTIP)

NurseTIP recognizes that nurses play an integral role in the success of immunization programs. Nurses are often the first point of contact at any health care visit and can have considerable influence on the public health practices of a community.

Goals: Increasing the knowledge and competency of nurses in immunization by offering relevant content in a variety of distance-learning approaches.

Engaging nurses in program planning, dialogues with other nurses, and exploring strategies to promote immunization.

Target audience: Nurses working in medical offices, clinics, community health centers as well as other settings.

All programs are archived and offered free of charge and CNEs, CMEs and CHEs are available. NurseTIP is funded through a cooperative agreement with CDC #1U01IP000374.

www.nursetip.org

SCHOOL OF PUBLIC HEALTH
UNIVERSITY AT ALBANY State University of New York
Nurse Training on Immunization Project (NurseTIP)

NIP-IT

The Nursing Initiative Promoting Immunization Training (NIP-IT) is made possible by a cooperative agreement between the University of Oklahoma College of Nursing, a National League Center of Excellence in Nursing Education since 2006, and the Centers for Disease Control and Prevention. This innovative and creative web-based curriculum about immunizations and vaccine preventable diseases is intended to inform and educate nursing students and nurses nationwide.

www.nip-it.org

nip it nursing initiative promoting immunization training

IMMUNIZATION.ACPONLINE.ORG

Visit this ACP web page for:

Electronic assess to the Guide to Adult Immunization. The Guide will be available in both PDF format and will also be downloadable to electronic readers such as iPads, Kindles, and Nooks. In addition, the site will provide updates to the Guide with respect to future ACIP and FDA recommendations and announcements.

Immunization Mobile Application. A program that allows the user to search for adult vaccines and their indications will be created for download to mobile phone devices and updated regularly. (Available Fall 2011)

Content and Practice Tools. The web page will also include presentations of content and practice tools from ACP's quality improvement program Closing the Gap.

Immunization related-RSS feeds. Sign up for a number of immunization-related RSS feeds with latest immunization-related news, including updates from the CDC's Advisory Committee on Immunization Practice (ACIP).

Links to the ACP Medical Home Builder. Learn how this Guide can help your practice become a medical home.

ACIP Immunization Schedule

Since 2006, ACP has endorsed the ACIP Immunization Schedule, a collection of the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older. The latest schedule (as of January 1, 2011) appears on the following page.

Each January, the ACIP Immunization Schedule is published in ACP's *Annals of Internal Medicine,* along with an editorial highlighting the updates since the previous year. (*www.annals.org*)

Many practices display the ACIP Immunization Schedule throughout the office and in exam rooms, where staff and patients can refer to them easily.

In addition, the Immunization Action Coalition has developed a more patient-friendly version for practices to share with their patients:

Recommended Adult Immunization Schedule

UNITED STATES · 2011

Note: These recommendations *must* be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Recommended adult immunization schedule, by vaccine and age group

VACCINE ▼ / AGE GROUP ▶	19–26 years	27–49 years	50–59 years	60–64 years	≥65 years
Influenza[1,*]	1 dose annually				
Tetanus, diphtheria, pertussis (Td/Tdap)[2,*]	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs				Td booster every 10 yrs
Varicella[3,*]	2 doses				
Human papillomavirus (HPV)[4,*]	3 doses (females)				
Zoster[5]				1 dose	
Measles, mumps, rubella (MMR)[6,*]	1 or 2 doses		1 dose		
Pneumococcal (polysaccharide)[7,8]	1 or 2 doses				1 dose
Meningococcal[9,*]	1 or more doses				
Hepatitis A[10,*]	2 doses				
Hepatitis B[11,*]	3 doses				

*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of previous infection)

Recommended if some other risk factor is present (e.g., based on medical, occupational, lifestyle, or other indications)

No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at http://www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at http://www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. Information about filing a claim for vaccine injury is available through the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination also is available at http://www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 24 hours a day, 7 days a week.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

Vaccines that might be indicated for adults based on medical and other indications

INDICATION ▶ / VACCINE ▼	Pregnancy	Immunocompromising conditions (excluding human immunodeficiency virus [HIV])[2,5,6,13]	HIV infection[3,6,12,13] CD4+ T lymphocyte count <200 cells/μL	HIV infection[3,6,12,13] CD4+ T lymphocyte count ≥200 cells/μL	Diabetes, heart disease, chronic lung disease, chronic alcoholism	Asplenia[12] (including elective splenectomy) and persistent complement component deficiencies	Chronic liver disease	Kidney failure, end-stage renal disease, receipt of hemodialysis	Healthcare personnel
Influenza[1,*]	1 dose TIV annually								1 dose TIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap)[2,*]	Td	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs							
Varicella[3,*]	Contraindicated	2 doses							
Human papillomavirus (HPV)[4,*]	3 doses through age 26 yrs								
Zoster[5]	Contraindicated	1 dose							
Measles, mumps, rubella (MMR)[6,*]	Contraindicated	1 or 2 doses							
Pneumococcal (polysaccharide)[7,8]	1 or 2 doses								
Meningococcal[9,*]	1 or more doses								
Hepatitis A[10,*]	2 doses								
Hepatitis B[11,*]	3 doses								

*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of previous infection)

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

No recommendation

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of January 1, 2011. For all vaccines being recommended on the adult immunization schedule, a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (http:// www.cdc.gov/vaccines/pubs/acip-list.htm).

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Obstetricians and Gynecologists (ACOG), and the American College of Physicians (ACP).

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

Vaccinations for Adults

You're NEVER too old to get immunized!

Getting immunized is a lifelong, life-protecting job. Don't leave your healthcare provider's office without making sure you've had all the vaccinations you need.

Age ▶ / Vaccine ▼	19–49 years	50–64 years	65 years & older
Influenza	You need a dose every fall (or winter) for your protection and for the protection of others around you.		
Pneumococcal	You need 1–2 doses if you smoke cigarettes or if you have certain chronic medical conditions.*		You need 1 dose at age 65 (or older) if you've never been vaccinated.
Tetanus, diphtheria, pertussis (whooping cough) (Td, Tdap)	Be sure to get a 1-time dose of "Tdap" vaccine (the adult whooping cough vaccine) if you are younger than age 65 years, are 65+ and have contact with an infant, are a healthcare worker, or simply want to be protected from whooping cough. You need a Td booster dose every 10 years. Consult your healthcare provider if you haven't had at least 3 tetanus- and diphtheria-containing shots sometime in your life or have a deep or dirty wound.		
Hepatitis B (HepB)	You need this vaccine if you have a specific risk factor for hepatitis B virus infection* or you simply wish to be protected from this disease. The vaccine is given in 3 doses, usually over 6 months.		
Hepatitis A (HepA)	You need this vaccine if you have a specific risk factor for hepatitis A virus infection* or you simply wish to be protected from this disease. The vaccine is usually given as 2 doses, 6–18 months apart.		
Human papillomavirus (HPV)	You need this vaccine if you are a woman who is age 26 years or younger. One brand, Gardasil, can be given to men age 26 years or younger to prevent genital warts. The vaccine is given in 3 doses over 6 months.		
Measles, mumps, rubella (MMR)	You need at least 1 dose of MMR if you were born in 1957 or later. You may also need a 2nd dose.*		
Varicella (Chickenpox)	If you've never had chickenpox or you were vaccinated but received only 1 dose, talk to your healthcare provider to find out if you need this vaccine.*		
Meningococcal	If you are going to college and plan to live in a dormitory, or have one of several medical conditions*, you need to get vaccinated against meningococcal disease. You may also need additional booster doses.*		
Zoster (shingles)			If you are age 60 years or older, you should get this vaccine now.

* Consult your healthcare provider to determine your level of risk for infection and your need for this vaccine.

Do you travel outside the United States? If so, you may need additional vaccines. The Centers for Disease Control and Prevention (CDC) provides information to assist travelers and their healthcare providers in deciding the vaccines, medications, and other measures necessary to prevent illness and injury during international travel. Visit CDC's website at www.cdc.gov/travel or call (800) CDC-INFO ([800] 232-4636). You may also consult a travel clinic or your healthcare provider.

Technical content reviewed by the Centers for Disease Control and Prevention, December 2010.

www.immunize.org/catg.d/p4030.pdf • Item #P4030 (12/10)

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