

- Adolescent
Immunization Barriers that
Exist

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Continuing Medical Education

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- This *CME activity* is funded by an educational grant to the AAFP from Merck.

•Learning Objectives

- Incorporate the Patient-Centered Medical Home model of care to
 - facilitate a partnership between the patients, his/her personal physicians, and, when appropriate, the patient's family.
- Develop an action plan to implement office system changes to
 - increase adolescent immunization rates in the practice's daily office routines. Implement communication tools that are directed to adolescent patients for follow-up, tracking and documentation to
 - reduce missed immunizations in adolescent patients.
- Review current immunization schedules for adolescents, and integrate
 - practices to ensure maximum vaccination coverage when schedules are updated.

•Pre-Assessment

- Please complete your answers**
- on the sheet provided in your syllabus.**

•Pre-Assessment Question #1

- You see a 16-year-old with sickle cell disease. He was fully
- immunized as a child including four PCV7 (Pneumovax 7) vaccines.
- He has had no further pneumococcal pneumonia vaccines and
- has had no vaccines since age 5. Today (June 1st) he should
- receive Tdap, HPV and:

- A. MCV4 (Menactra) and PCV13 (Pneumovax 13)
- B. PCV13 and PPSV23 (Pneumovax)
- C. MCV4 and PPSV23
- D. PCV13 only
- E. PPSV23 only

•Pre-Assessment Question #2

- An 18-year-old comes to see you in July requesting vaccines for
 - college. He was last seen at age 13 and received Tdap, MCV4
 - (Menactra), HPV, and flu vaccine and was determined to be up to date
 - at that time, except for the vaccines needed at his 11- to 12-year visit.
 - He has not been seen since. Today he should receive:
- A. Tdap, HPV, and MCV4
 - B. MMR and MCV4
 - C. MCV4 and HPV
 - D. MMR, MCV4, and HPV
 - E. HPV only

•Pre-Assessment Question #3

- A 15-year-old is in for suture removal after a laceration he
- sustained while playing football in October. He was seen
- in the spring for his asthma, and his immunizations were
- up to date. You should:

- A. Have him return next spring for his annual visit
- B. Give his MCV4 booster
- C. Give him an inactivated flu vaccine
- D. Give him the LAIV (live, nasal) flu vaccine
- E. Repeat his Tdap because he sustained a laceration

•How Quickly We Forget



Image reprinted with permission from CDC @
<http://phil.cdc.gov/phil/details.asp?pid=1150>

1920s: 13,000 died yearly from diphtheria

1940s: 8,000 died yearly from pertussis

1952: polio paralyzed 21,000

1963: 3 million cases of measles and 500 died

**1964-65: 12.5 million cases of rubella; 20,000 infants
were born with congenital rubella**

1985: 12,000 meningitis cases from H. influenza type B

•Efficacy of Immunizations

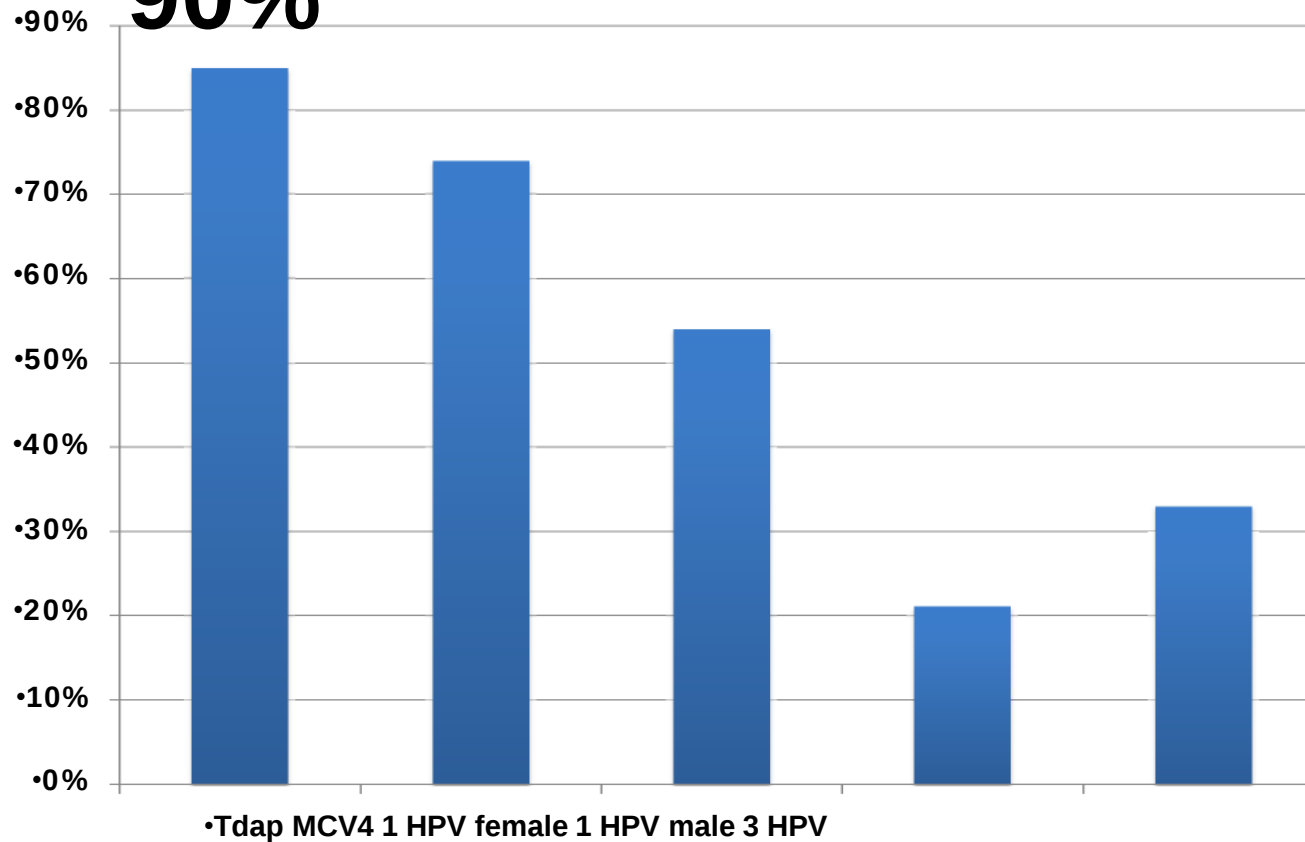
- Vaccines are 85-100% effective at preventing disease



If vaccines prevent hundreds of thousands of cases of disease and thousands of death yearly, why aren't all children immunized?

- Healthy People 2010 goal was 90% coverage among adolescents 13-15 years

•Healthy People 2010 Goal = 90%



•No states have
•met the goal for
•HPV vaccine

•Barriers to Optimal Immunization Rate

- Patient/parent barriers
 - Low patient health literacy
 - Not understanding vaccine safety and efficacy
 - Cost / lack of insurance coverage
 - Avoidance of multiple vaccines
- Physician barriers
 - Provider knowledge and attitude
 - Lack of standing orders
 - Not stocking all vaccines or problems with storage
 - Cost, time, and reimbursement

- **Recommended Adolescent**
- **Vaccines**



•Immunization Schedules

- Updated and published annually (usually January) in *Morbidity and Mortality Weekly Report (MMWR)*
- Available in print and electronic forms: www.cdc.gov/vaccines
- Free app for iPhone, Android, and Palm Pre (WebOS) phones

- CDC
- Vaccination
- Schedule
- for
- Adolescent
- s

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are in bold.

Vaccines	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16–18 yrs
Hepatitis B [†] (HepB)	1 st dose	2 nd dose					3 rd dose									
Rotavirus [‡] (RV) RV1 (2-dose series); RV5 (3-dose series)			1 st dose	2 nd dose	See footnote 2											
Diphtheria, tetanus, & acellular pertussis [§] (DTaP; <7 yrs)			1 st dose	2 nd dose	3 rd dose			4 th dose				5 th dose				
Tetanus, diphtheria, & acellular pertussis [§] (Tdap; ≥7 yrs)														(Tdap)		
<i>Haemophilus influenzae</i> type b [§] (Hib)			1 st dose	2 nd dose	See footnote 3		3 rd or 4 th dose, See footnote 5									
Pneumococcal conjugate [¶] (PCV13)			1 st dose	2 nd dose	3 rd dose		4 th dose									
Pneumococcal polysaccharide [¶] (PPSV23)																
Inactivated Poliovirus [‡] (IPV) (<18 yrs)			1 st dose	2 nd dose			3 rd dose					4 th dose				
Influenza [¶] (IV; LAIV) 2 doses for some: See footnote 8							Annual vaccination (IV only)					Annual vaccination (IV or LAIV)				
Measles, mumps, rubella [¶] (MMR)							1 st dose					2 nd dose				
Varicella [¶] (VAR)							1 st dose					2 nd dose				
Hepatitis A [¶] (HepA)								2-dose series, See footnote 11								
Human papillomavirus [¶] (HPV2: females only; HPV4: males and females)														(3-dose series)		
Meningococcal [¶] (Hib-Men-CY ≥ 6 weeks; MenACWY-D ≥ 9 mos; MenACWY-CRM ≥ 2 mos)														1 st dose		Booster

Range of recommended ages for all children
 Range of recommended ages for catch-up immunization
 Range of recommended ages for certain high-risk groups
 Range of recommended ages during which catch-up is encouraged and for certain high-risk groups
 Not routinely recommended

This schedule includes recommendations in effect as of January 1, 2014. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines>) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip/>), the American Academy of Pediatrics (<http://www.aap.org>), the American Academy of Family Physicians (<http://www.aafp.org>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org>).

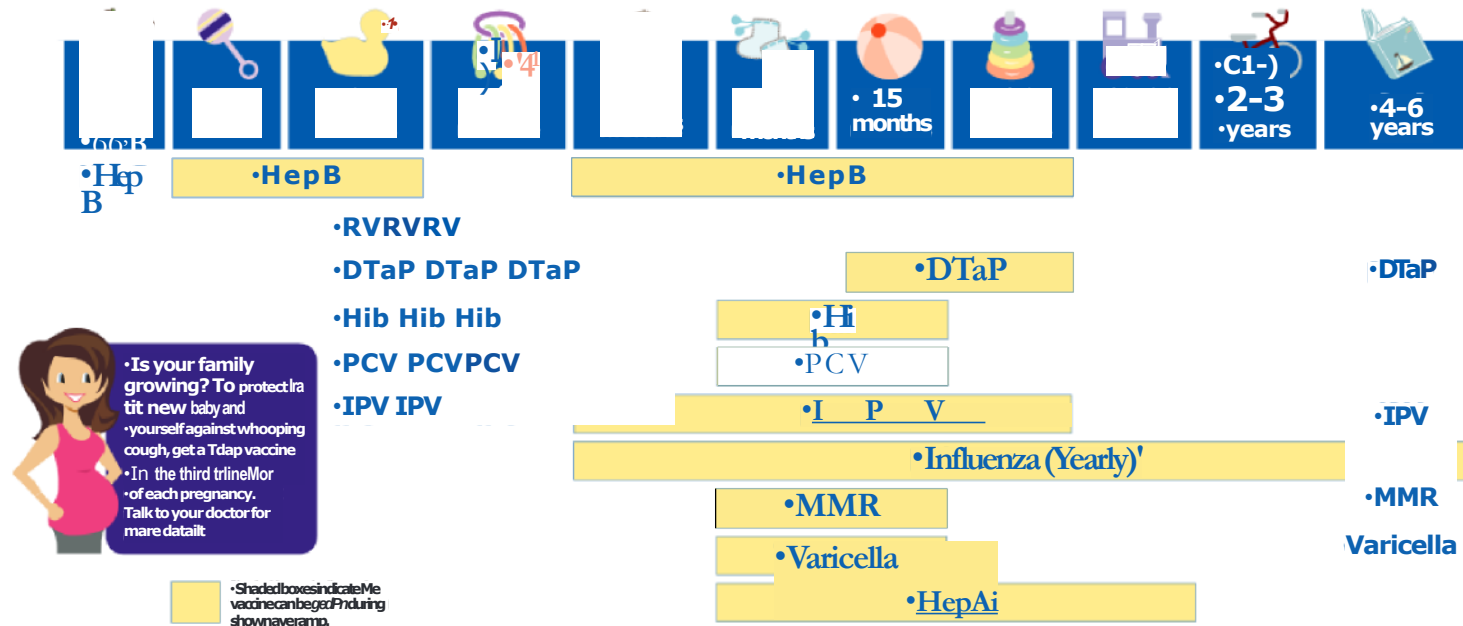
NOTE: The above recommendations must be read along with the footnotes of this schedule.

•RECOMMENDED IMMUNIZATIONS

•BIRTH TO AGE 18

VACCINES	BIRTH	1 MO.	2 MOS.	4 MOS.	6 MOS.	9 MOS.	12 MOS.	15 MOS.	18 MOS.	19-23 MOS.	2-3 YRS.	4-6 YRS.	7-10 YRS.	11-12 YRS.	13-15 YRS.	16-18 YRS.
HepB	1ST DOSE)	4----- 2ND DOSE ----)			4----- 3RD DOSE)											
RV			1ST DOSE)	<2ND DOSE)	<3RD DOSE)											
DTaP			1ST DOSE 4	42ND DOSE)	<3RD DOSE)			4- 4TH DOSE)				45TH DOSE)				
Tdap														(Tdap)		
Hib			1ST DOSE 4	42ND DOSE)	c3RD DOSE)		4--3RD OR 4TH DOSE --)									
PCV1 3			1ST DOSES	42ND DOSE,	c3RD DOSE)		4---4TH DOSE ----)									
IPV			41ST DOSE 4	42ND DOSE)	t----- 3RD DOSE ----- 4							44TH DOSE)				
Influenza					Annual vaccination (IIV only)						Annual vaccination (IIV or LAIV)					
M MR							1ST DOSE)					42ND DOSE)				
Vancella1							1ST DOSE)					<2ND DOSE)				
HepA							<--2 DOSE SERIES4									
HPV4														43 DOSE) SERIES		
MCV4														41ST DOSE)		4BOOSTER)

•2014 Recommended Immunizations for Children from Birth Through 6 Years Old



NOTE: If your child misses 3 shot, FOOTNOTES: Two doses given at least 4 weeks apart are recommended for children aged 6 months through 11 years who are getting a 1st vaccine for the first time and for some other children in this age group.

• Just go back to your child's doctor for the next shot. Talk with your child's doctor if you have questions about vaccines.

• TWO doses of 1-hepA vaccine are needed for lasting protection. The first dose of HepA vaccine should be given between 12 months and 23 weeks of age. The second dose should be given 6-18 months later. HepA vaccination may be given to any child 12 months and older to protect against HepA. Children and adolescents who did not receive the HepA vaccine and are at high risk should be vaccinated against it.

• If "reline" has at least one of the following: Not put him at risk for infection 0/8 travel outside the United States, talk to your child's doctor about whether he may need it.



•For more information, call toll free 1-1100-CDC-INFO (1-800-232-6361) or visit www.cdc.gov/vaccines



•U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

•AMERICAN ACADEMY OF American Academy
•FAMILY PHYSICIANS of Pediatrics
•STRONG MEDICINE FOR AMERICA



•ICATED To THE HEALTH QUALITY

•2014 Adolescent Immunizations

•11-12 Years

- Tdap
- HPV
- Meningococcal
(MCV4)
- Annual influenza

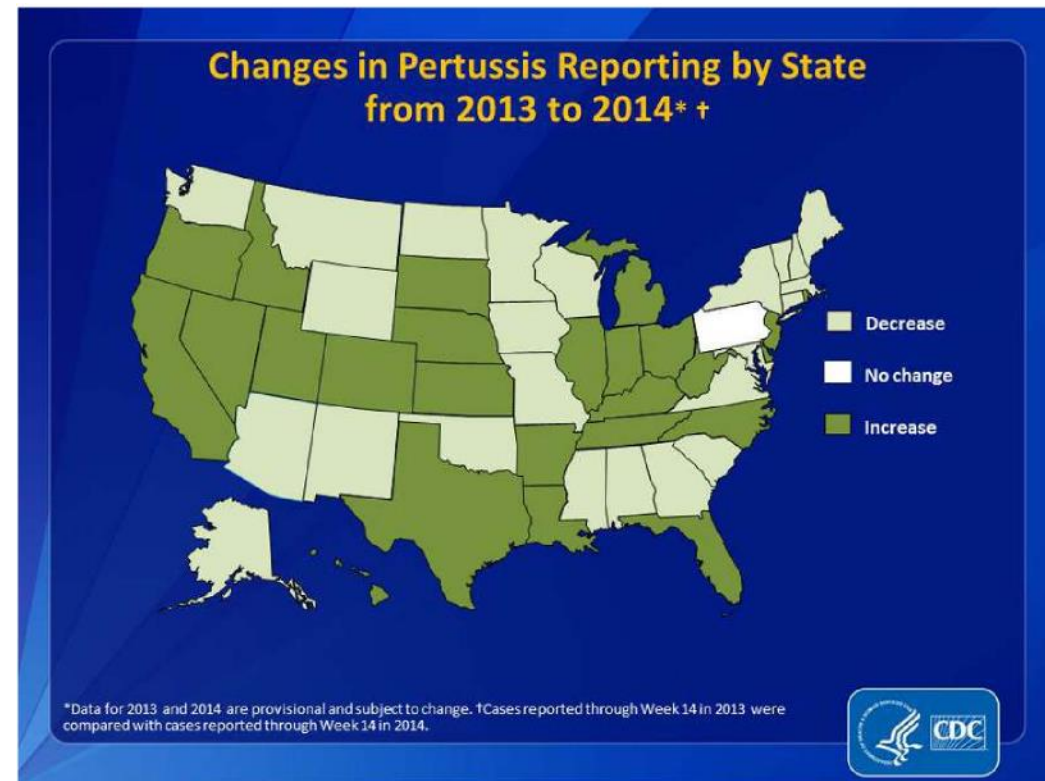
•Catch-Up High Risk

- Hepatitis B PCV13
- Polio (IPV) PPSV23
- MMR
- Varicella
- Hepatitis A

•Tetanus, Diphtheria, Pertussis

- Tdap
 - Developed to address outbreaks of pertussis
 - Immunity to pertussis may last 3-10 years
 - Pertussis symptoms/issues
 - Prolonged cough
 - Vomiting with coughing
 - Weight loss
 - Multiple medical visits
 - Transmission to infants

About 10,000 cases January to June 2014



•Tdap

- Single dose at age 11-12
 - Or at any greater age if it has not been given
 - Boosters after that are Td given every 10 years
 - Give Tdap to all pregnant adolescents (27-36 weeks)
 - No minimal amount of time after last Td vaccine
- Adverse reactions:
 - Fainting
 - Pain, redness, swelling at the injection site
 - Fever, chills
 - Headache, tiredness, nausea

•Human Papilloma Virus

- The most common sexually transmitted infection in the world
- Contributes to cancers of the anus, cervix, ectopharynx, penis, vagina, and vulva
- 90% of anogenital warts are caused by types 6 and 11
- Types 16 and 18 are found in 72-94% of cervical adenocarcinomas (60-78% of squamous cell cancers)
- Adenocarcinoma develops in the canal and progresses rapidly often going undetected
 - Rates of adenocarcinoma of the cervix up 22.5% in the last 30 years



•HPV Vaccine

- 3 doses given at 0, 1-2 months (minimum 4 weeks), and 6 months
 - (minimum 12 weeks after 2nd, and 24 weeks after 1st)
- The series does not need to be restarted if delayed
- HPV4: viruses 6, 11, 16, 18
 - Males ages 9-21 (may be given through age 26)
 - Females ages 9-26
- HPV2: viruses 16 and 18 only for females ages 9-26
- Should not be given in pregnancy
- Adverse Reactions
 - Fainting
 - Fever
 - Pain, redness, swelling at the injection site

•Meningococcal (MCV4)

- Dose at age 11-12 will need a booster age 16-18
- If first dose at age 16 or older, only 1 is required
- Should be given to unprotected children who travel to countries in
 - the African meningitis belt or the Hajj
- Adverse Reactions
 - Fainting
 - Pain, redness, swelling at the injection site
- 2 doses for adolescents at risk:
 - HIV
 - Asplenia
 - Complement component deficiency



•Image reprinted with permission from CDC

•Influenza Vaccine

- Annually to all adolescents
- Adverse reactions:
 - Pain, redness, swelling at injections site
 - Fever, aches, headache
 - Possible Guillain-Barré (1-2 cases/million)
- Inactive influenza vaccine (IIV) is given IM
 - Trivalent is the most common (protects against 2 strains of A and 1 of B)
 - Quadrivalent (protects against 2 strains of B) will confer little advantage in
 - most years
- Live attenuated influenza vaccine (LAIV) -- intranasal
 - Only for healthy adolescents but may be more effective
- An egg-free vaccine is also now available

•Pneumococcal Vaccine

- If not received previously: PCV13 and PPSV23 (2 doses •five years apart) for adolescents with:
 - Cerebrospinal fluid leak / cochlear implants
 - Sickle cell disease / other hemoglobinopathies
 - Anatomic or functional asplenia
 - Immunodeficiencies / malignancies / transplant
 - Immunosuppressive drugs or radiation treatment
 - HIV
 - Chronic renal failure / nephrotic syndrome
- Give PCV13 first and the PPSV23, eight weeks later
- Give PCV13 first and MCV4 four weeks later (NOT simultaneously)
- Adverse reactions: pain, swelling, redness

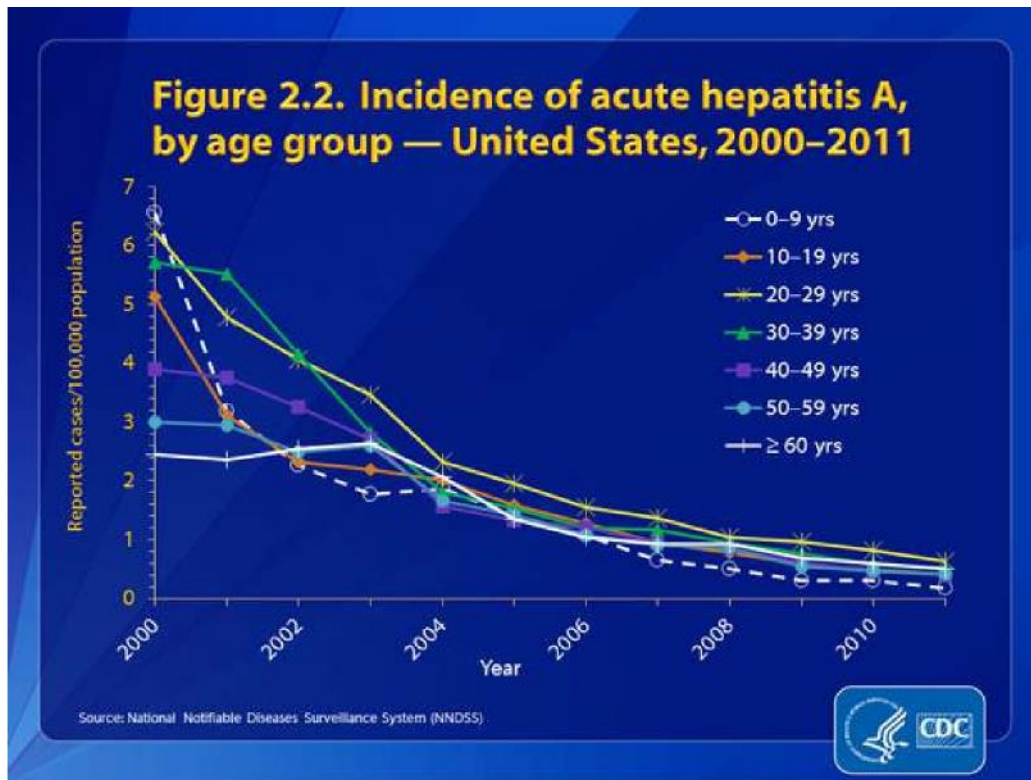
•Pneumococcal (PPSV23) Vaccine

- PPSV23 single dose only for adolescents with:
 - Chronic heart disease
 - Chronic lung disease (including asthma treated with high-dose
•steroids)
 - Diabetes
 - Alcoholism
 - Chronic liver disease

•Catch-Up Vaccines

- All adolescents should be screened to make sure they have
 - had
 - MMR (2 doses): 4 weeks apart
 - Varicella (2 doses):
 - Age > 13: 4 weeks apart, Age < 13: 12 weeks apart
 - Polio (IPV) (3-4 doses): only 3 necessary if 3rd is given after age 4
 - Hepatitis B (3 doses): 0, 1-2 months, 6 months
 - Hepatitis A (2 doses): 6 months apart

•Declining Rate of Hepatitis A



- Universal childhood vaccine
- Travelers to endemic countries
 - (outside of W. Europe, Japan, Australia/NZ)
- Close contact with an international
 - adoptee
- Illegal drug use, men who have
 - sex with other men
- Hemophilia or other clotting factor
 - diseases
- Hepatitis B or C
- Desire protection

- **Improving Immunization Rates:**
 - **What Should We Do?**



•2012 AAFP Immunization Survey

- Patient barriers
 - Safety concerns 58%
 - Personal or religious beliefs 53%
 - Cost 51%
- Practice barriers
 - Cost 51%
 - Patient acceptance 33%
 - Supply of vaccine 30%

•Safety Concerns

- Autism: Strong evidence for a lack of association with MMR vaccine
 - has been found in multiple studies
 - Syncope or fainting (HPV): observe for 15 minutes after injection
 - Febrile seizures: attenuated with acetaminophen or ibuprofen
 - Guillain-Barré Syndrome (GBS)
 - – 2008: 26 cases out of > 15 million MCV4 vaccines
 - Sudden Infant Death Syndrome (SIDS): no evidence
 - Thimerosal: removed in 2001 except for trace amounts (except one
 - flu vaccine)
 - Aluminum: trace amounts improve the immune response
- In multiple studies vaccines have been shown to be both safe and effective

•Personal or Religious Beliefs

- Parents may opt-out of immunizations for “personal” or
•religious beliefs.
- These provide an exception for entry into school, based on a
•personal (or religious) preference.
 - 20 states allow “personal belief exemptions”
 - In the last year 5 states have strengthened their
•exemption process
- Studies have shown that states with the easiest to obtain
•exemptions also have the highest rates of exemptions.

•Cost For Recommended Vaccines

- Private sector costs of full series of vaccines to age 18
 - 1975: \$10
 - 1986: \$100
 - 2001: \$385
 - 2014: \$2600 (published by the CDC at <http://www.cdc.gov/vaccines/programs/vfc/awardees/vaccine-management/price-list/index.html>)
- In 2005:
 - 6.8% of adolescents (12-17) were uninsured during the whole year
 - 6.3% were uninsured part of the year
 - Young adults (18-24) were the least likely to have insurance
 - (20% uninsured all of the last year, and 14% uninsured part of it)

•Vaccines for Children (VFC)

- Federally funded program created in 1993.
- Provides vaccines at no charge to children who could not otherwise
 - afford to be vaccinated.
- Eligibility: ≤ 18
 - Medicaid-eligible
 - Uninsured
 - Underinsured (insurance does not cover vaccines)
 - American Indian or Alaska Native
- Not eligible: children whose health insurance covers vaccines
- In 2004 VFC purchased 40% of all doses of childhood vaccines

Physician Barriers

- 87% provide immunizations in their offices
 - 40% do not offer at least some of the required vaccines
- 57% participated in the Vaccine for Children program
 - Those who do not cite: burdensome, have to keep the vaccines separate, difficulty of record-keeping
- Reimbursement from insurers is 40-100% of vaccine's purchase cost
 - Does not allow for overhead, storage, computer record-keeping



•The Condensed Version

- Barriers to adolescent vaccination fall roughly into
 - these categories
 - 1. Amount of contact with a health care provider
 - 2. Reimbursement or cost issues
 - 3. Knowledge and education regarding vaccines:
 - for the provider and the patient and parents

•How Do We Change?

- Patient / parent education
- Recommending vaccines—becoming an advocate
- Taking every opportunity
- Utilizing practice enhancements that address vaccines
 - (Part of the Patient-Centered Medical Home [PCMH])
- Being aware of vaccine shortages
- Addressing financial issues
- Addressing vaccination at a community level

•Patient-Centered Medical Home (PCMH)

- NCQA: “Way of organizing primary care that emphasizes care
 - coordination and communication to transform primary care into ‘what patients want it to be’”
 - Comprehensive care: acute, chronic, preventive, physical, mental
 - Patient-centered: relationship-based, personal physician, culturally sensitive, and supports patient management
 - Coordinated: transitions of care, team-based
 - Accessible: around-the-clock access and same-day appointments
 - Commitment to quality improvement and safety

•Improving Immunization Rates

•1. Give a strong recommendation:

- “Dear Colleague:

- The AAFP, AAP, ACOG, ACP, CDC, IAC are asking you to urge your patients to
- get vaccinated against human papilloma-virus (HPV).
- HPV vaccine is cancer prevention. However, HPV vaccine is underutilized in
- our country, despite the overwhelming evidence of its safety and effectiveness.
- While vaccination rates continue to improve for the other adolescent vaccines,
- HPV vaccination rates have not. . . .

- Your recommendation is the No. 1 reason why someone will get the HPV
- vaccine and be protected from HPV-associated cancers and disease.
- (Strong physician recommendation increased HPV vaccination rates 50 X)

- Signed, Reid B. Blackwelder, MD, et al”

•Improving Immunization Rates

•2. Take advantage of all opportunities

- a. Routine visits
- b. Sports physicals
- c. Health problems
- d. Nurse visits

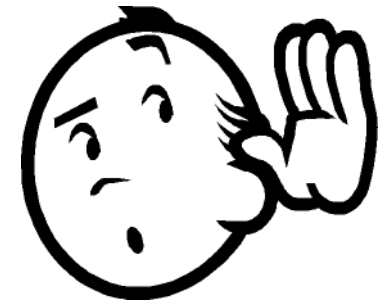
- Challenges: fewer health maintenance visits
 - Particularly for adolescents in lower
 - socioeconomic levels and the uninsured

- 86% of children 6-17 years and 76% of adolescents and young adults
- age 18-24 years reported at least one visit to a doctor's office,
- emergency department, or home visit within the past 12 months

•Improving Immunization Rates

3. Improve communication

- Take time to listen
- Solicit and welcome questions
- Keep the conversation going



- Education regarding expected vaccination behaviors (timing of the immunization schedule) may be more important than education regarding the disease specifics

- 84% of parents indicated that a doctor was their main source of information about vaccines

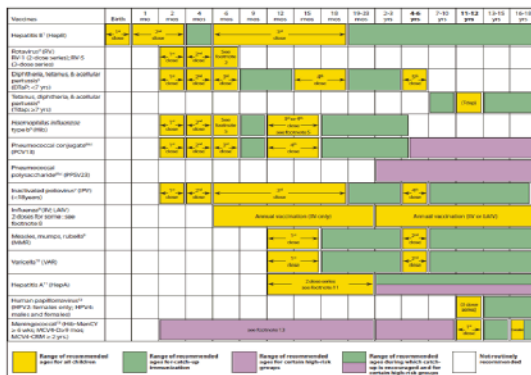
•Parent Resources

- American Academy of Family Physicians [\(\[www.aafp.org\]\(http://www.aafp.org\)\)](http://www.aafp.org)
- American Academy of Pediatrics [\(\[www.aap.org\]\(http://www.aap.org\)\)](http://www.aap.org)
- Centers for Disease Control and Prevention
• [\(<http://www.cdc.gov/vaccines/who/teens/for-parents.html>\)](http://www.cdc.gov/vaccines/who/teens/for-parents.html)
- Society of Teachers of Family Medicine [\(\[www.immunizationed.org\]\(http://www.immunizationed.org\)\)](http://www.immunizationed.org)
 - There's an “app” for that!
- Vaccine Information Center at The Children's Hospital of Philadelphia [\(\[www.chop.edu\]\(http://www.chop.edu\)\)](http://www.chop.edu)
- Immunization Action Coalition [\(\[www.vaccineinformation.com\]\(http://www.vaccineinformation.com\)\)](http://www.vaccineinformation.com)

•Improving Immunization Rates

- 4. Use all ACIP-recommended vaccines and vaccination schedules
- Provider hesitation to recommend all vaccines may lead
 - patients or parents to select only a few based on
 - erroneous information

- i.e. it is better to get chicken pox than to get the vaccine



•Improving Immunization Rates

- 5. Consider development of 3 distinct adolescent visits
 - 11- to 12-year visit for immunization and early adolescent
 - screening
 - 14- to 15-year visit for middle adolescent preventive care
 - and missed vaccines for completion of multi-dose
 - vaccines
 - 17- to 18-year visit for late adolescent counseling and
 - updating any missed vaccines while still eligible for VFC

•Improving Immunization Rates

- 6. Recall / Reminder systems and registries
 - Limited data for effectiveness in adolescent patients
 - Limited data for determining most effective form:
 - (letter, postcard, phone, autocal, email, EMR?)
 - EMR registries can be extremely helpful in quickly
 - ascertaining which adolescents need vaccines.
 - “Bring in your record next time. . .” is a missed opportunity

•Improving Immunization Rates

- 7. Use of standing orders and immunization screens
 - Allows nurses/medical assistants to work up to the limits
 - of their licenses
 - These are protocol-driven and do not take significant
 - physician time
 - Allows for “quick visits” for completing vaccine series

•Immunizations Resources

- www.aafp.org/immunization
- www.immunize.org/catg.d/p3074a.pdf
 - Standing orders for administering influenza vaccines
 - to adolescents

•Improving Immunization Rates

•8. Use multiple injections

- There is no evidence that giving multiple immunizations:
 - A. Decreases the efficacy
 - B. Imposes any increased risk of complications

•Improving Immunization Rates

- 9. Immunization Navigator
 - Immunization rates 25% higher in 2011 urban
 - practice study:
 - Tracking
 - Reminder/recall system
 - Outreach intervention
 - Also improved preventive care visit rates (55.2% vs. 68.0%)

•Improving Immunization Rates

•10. Community activism

- Make it more difficult for parents to refuse immunizations
 - Some states require documentation by a religious leader for refusal on
 - religious grounds
 - Requiring written documentation or reasons for refusal has been shown
 - to decrease the refusal rate for “personal” reasons
- Advocate for insurance reform: it is imperative that public
 - health policy address vaccine reimbursement for
 - physicians

•Public Policy Reform

- State
 - Mandates for school entry
 - School vaccination programs
 - State review of “consent
 - procedures”
 - Reimbursement/funding
 - (SCHIP): reimbursement
 - ranges from \$2 to \$18.
 - Immunizations at alternative
 - sites
 - Funding for information
 - systems
- National
 - Standard immunization platforms
 - for organizations
 - Reimbursement/funding (VFC):
 - the administration fee is not
 - covered
 - Insurance reform
 - Funding for information systems

•Know Your State's Consent Laws

- State Minor Consent Laws: A Summary, 2nd edition
 - English A, Kenney KE. Chapel Hill, NC: Center for Adolescent Health & the Law, 2003
- Obtain online from the Center for Adolescent Health & the Law <http://www.cahl.org>
- There is no federal level vaccination consent law

•Adopt a Process

1. Assess immunization history at every visit
2. Check the recommended immunization schedule
3. Screen for contraindications and precautions
4. Educate the patient and the parent(s)
5. Administer all vaccines
6. Document administration of vaccines
7. Inform parent and patient when next vaccines are due

- Post-Assessment

- Please complete your answers on the sheet
 - provided in your syllabus.

- The questions and answers have been scrambled*
 - and are not in the same order as the pre-*
 - assessment.*

•Post-Assessment Question #1

- A 15-year-old is in for suture removal after a laceration he
- sustained while playing football in October. He was seen
- in the spring for his asthma, and his immunizations were
- up to date. You should:

- A. Have him return next spring for his annual visit
- B. Give his MCV4 booster
- C. Give him an inactivated flu vaccine
- D. Give him the LAIV (live, nasal) flu vaccine
- E. Repeat his Tdap as he sustained a laceration

•Post-Assessment Question #2

- You see a 16-year-old with sickle cell disease. He was fully
- immunized as a child including four PCV7 (Pneumovax 7) vaccines.
- He has had no further pneumococcal pneumonia vaccines and
- has had no vaccines since age 5. Today (June 1st) he should
- receive Tdap, HPV and:

- A. MCV4 (Menactra) and PCV13 (Pneumovax 13)
- B. PCV13 and PPSV23 (Pneumovax)
- C. MCV4 and PPSV23
- D. PCV13 only
- E. PPSV23 only

•Post-Assessment Question #3

- An 18-year-old comes to see you in July requesting vaccines for
- college. He was last seen at age 13 and received Tdap, MCV4
- (Menactra), HPV, and flu vaccine and was determined to be up to date
- at that time, except for the vaccines needed at his 11- to 12-year visit.
- He has not been seen since. Today he should receive:

- A. Tdap, HPV, and MCV4
- B. MMR and MCV4
- C. MCV4 and HPV
- D. MMR, MCV4, and HPV
- E. HPV only

- **Please complete the session/speaker**
- **evaluation located on the back of your**
- **pre/post-assessment sheet and return to**
- **Chapter Staff as you exit.**

**•Thank
You!**

•References

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