



Body System: Hematologic-Immune		
Session Topic: Immunization Update		
Educational Format		Faculty Expertise Required
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<ul style="list-style-type: none"> Knowledge gaps in keeping up to date on current immunization schedules and alerts Knowledge and performance gaps in utilizing standing orders, standardized protocols to screen for immunizations during patient encounters, and adopting a systematic approach to vaccine administration Knowledge and performance gaps in using available patient education resources to counsel patients about vaccine safety and efficacy Knowledge and performance gaps related to participation in available childhood immunization programs, including having effective and efficient vaccine administration strategies There are numerous barriers 	<ol style="list-style-type: none"> Identify available vaccine administration strategies and resources, available patient education resources or programs, vaccine alert systems, current immunization schedules, for adult, child, and adolescent patients. Use evidence-based recommendations and guidelines to establish standardized vaccine administration procedures, including standardized protocols to screen for immunizations during adult, child, and adolescent patient encounters. Counsel adult patients, and parents of children and adolescents, using available patient education resources and motivational interviewing about vaccine safety and efficacy. Participate in available childhood immunization programs, and administer using a standardized process. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>to achieving optimal vaccination rates, including low patient health literacy and understanding of vaccine safety and efficacy; organizational barriers such as cost, insurance coverage; and operational barriers such as not stocking all recommended vaccinations and lack of standing orders</p>		
---	--	--

ACGME Core Competencies Addressed (select all that apply)

X	Medical Knowledge		Patient Care
X	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
 - Visit <http://www.aafp.org/journals> for additional resources
 - Visit <http://familydoctor.org> for patient education and resources
- Provide evidence-based recommendations and guidelines for optimal vaccine administration and office protocols (adult, child, & adolescent patients)
- Provide examples of available resources to keep physicians up to date on current immunization schedules, alerts, and available childhood immunization programs (adult, child, & adolescent patients)
- Provide specific examples to assist physician-learners in optimally managing their participation in childhood immunization programs (adult, child, & adolescent patients)
- Provide specific strategies and resources to assist physician-learners to counsel patients, and parents of children, using available patient education resources and motivational interviewing about vaccine safety and efficacy (adult, child, & adolescent patients)
- Provide specific strategies to assist physician-learners on how to manage and advise travelers on vaccine and medication preventable diseases, including performing appropriate risk assessments for travel-related illnesses (adult, child, & adolescent patients)



Needs Assessment:

*Note – the intention of this session is to provide a general immunization update across all age groups.

Immunizations are critical to maintaining health and the prevention of disease for everyone in the U.S. Vaccinations are recommended throughout life to prevent vaccine-preventable diseases and their sequela. Adult vaccination coverage, however, remains low for most routinely recommended vaccines and well below Healthy People 2020 targets.¹ For example, immunization rates for influenza and pneumococcal vaccines among the elderly (especially minority elderly) are below desired levels.² Data from the 2011 CDC National Health Interview Survey indicates that only 45.3% of children 6 months to 17 years had received an influenza vaccination during the past 12 months; only 27.2% of adults 18-49 years had received an influenza vaccination during the past 12 months; and only 42.7% of adults 50-64 years had received an influenza vaccination during the past 12 months.³ There are more than 49 thousand deaths annually from pneumonia, yet only 62.3% of adults 65 years and over have ever received a pneumococcal vaccination.⁴ Vaccination rates for ≥ 1 dose of MenACWY, ≥ 3 doses of HPV (among females), and ≥ 2 doses of varicella vaccine are below the *Health People 2020* targets.⁵

In 2010, primary care physicians provided preventive care during more than 207 million office visits; including more than 22 million influenza vaccinations.⁶ Eighty-seven percent of active American Academy of Family Physician (AAFP) members provide immunizations in their practices.⁷ However, data from the 2012 AAFP CME Needs Assessment Survey indicates that family physicians have statistically significant and meaningful gaps in knowledge and skill to provide optimal immunization management.⁸ More specifically, CME outcomes data from the 2012 AAFP Scientific Assembly: *Child and Adolescent Immunizations*, and 2014 AAFP Assembly: *Immunization Update: Improving Immunizations in 2014* session indicate that physicians have knowledge and practice gaps regarding immunization alerts; standing protocols to screen for immunizations at every visit; the utilization of EHR reminder systems; being aware of new vaccines; providing adequate patient education regarding vaccine safety and efficacy; remaining up to date on new immunization schedules for various age groups; and participation in childhood immunization programs.^{9,10}

There are numerous barriers to achieving optimal vaccination rates, including low patient health literacy and understanding of vaccine safety and efficacy; organizational barriers such as cost, insurance coverage; and operational barriers such as not stocking all recommended vaccinations and lack of standing orders.^{2,11-15} The 2012 AAFP Immunization Survey indicates that the most commonly-cited patient barriers to immunization were safety concerns (58%), personal or religious beliefs (53%) and cost (51%); the most commonly-cited practice-level barriers to immunization were cost (51%), patient acceptance (33%), and supply of vaccine (30%); sixty-five percent of respondents indicated that at least one parent refused vaccinations for their child; fifty-seven percent of respondents indicated participation in the Vaccines for Children program, and among those who did not indicate participation, respondents indicated that it was too burdensome (36%), difficulties associated with keeping vaccines separated (34%), difficulty of record-keeping (32%), and they don't care for children (28%).⁷



Family physicians should remain up to date on current AAFP immunization schedules, and receive continuing education aimed at helping physicians overcome common barriers to immunization management.¹⁶ Family physicians may consider the following evidence-based recommendations for immunization management:^{17,18}

- The quadrivalent human papillomavirus vaccine may be considered in males and females nine to 26 years of age to prevent genital warts and cervical and anal cancers.
- Vaccination against herpes zoster is most effective when given as early as possible after 60 years of age.
- Vaccinating adults against pertussis, especially those in high-risk groups (e.g., health care professionals, persons who have close contact with infants younger than 12 months of age), reduces the risk of disease outbreaks.
- Annual influenza vaccination is recommended for all persons older than six months.
- Immunization of children and adolescents is highly cost-effective and clinically effective.
- DTaP, IPV, MMR, Hib, HepB, and varicella vaccine should be given as recommended.
- Pneumococcal vaccine has been shown to significantly decrease the number of cases of invasive pneumococcal disease in children as well as increase herd immunity in the population.
- Tdap (Adacel, Boostrix) has a safety profile comparable to Td and has an excellent immunologic response in adolescents.
- Use of HepB and immune globulin effectively prevents transfer of hepatitis B from mother to infant.
- Rotavirus vaccine has been shown to significantly decrease the severity and number of hospitalizations for acute gastroenteritis in young infants.
- Use of a patient reminder and recall system is helpful in increasing immunization rates in developed countries.
- Vaccines should be administered before planned immunosuppression, with live vaccines given four weeks in advance and inactivated vaccines given two weeks in advance.
- Immunocompetent persons who live with an immunocompromised patient can safely receive inactivated vaccines.
- Varicella and zoster vaccines should not be administered to highly immunocompromised patients.
- Annual vaccination with inactivated influenza vaccine is recommended for immunocompromised patients six months and older, except those who are unlikely to respond.

Despite many patient and physician barriers to adult vaccinations, rates can be improved, often with simple interventions such as patient reminders and recalls, standing orders, and patient education. As our health systems become increasingly automated, CDS systems can help make vaccination more efficient and reliable.¹⁹ There are numerous barriers to achieving optimal vaccination rates, including low patient health literacy and understanding of vaccine safety and efficacy; organizational barriers such as cost, insurance coverage; and operational barriers such as not stocking all recommended vaccinations and lack of standing orders.^{2,11-15} Physicians can often improve immunization rates by simply making the recommendation to their patients.²⁰ Physicians can minimize costs and maximize reimbursement by systematic comparison pricing, looking for ordering discounts, and using appropriate coding/billing practices.²¹ Additionally,



physicians can help low-income patients receive free vaccines through the federal *Vaccines for Children (VFC)* program.^{21,22}

Family physicians should adopt a systematic approach to vaccine administration that includes educating patients and office staff and using reliable sources of information, standing protocols during patient encounters, and widely accepted practice management resources.¹⁷ Additionally, physicians need to be kept up to date on new recommendations from the CDC's Advisory Committee on Immunization Practices (ACIP), such as the new recommendations for MenB vaccination during its June 24-25 meeting, summarized as:²³

- (ACIP) adopted a Category B recommendation for use of the two serogroup B meningococcal vaccines in patients ages 16-23 for short-term protection against the disease.
- For children ages 6 months to 9 years, the ACIP recommended that if a child has previously received two or more total doses of trivalent or quadrivalent influenza vaccine, the child only needs one dose in the 2015-2016 season.
- The ACIP voted to recommend that for patients 65 and older, the interval between administration of 13-valent pneumococcal conjugate vaccine and pneumococcal polysaccharide vaccine be one year regardless of which vaccine was given first.

Advising travelers on vaccine- and medication-preventable diseases is increasingly becoming the responsibility of primary care physicians. The approach to travel health recommendations should be based on an assessment of the risks for travel-related illnesses, the time available before trip departure, and the current epidemiology of preventable diseases. Physicians should take into account the adverse events and contraindications associated with each vaccine and medication.²⁴

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- AAFP Immunization Schedules¹⁶
- AAFP Medicare Part B Vaccine Coverage²⁵
- Update on immunizations in children and adolescents¹⁸
- Update on immunizations in adults¹⁷
- Improving adult immunization rates: overcoming barriers¹⁹
- Travel immunizations²⁴
- Vaccine administration: making the process more efficient in your practice²⁶
- Achieving sustainable increases in childhood immunization rates²⁷
- Coding for Vaccine Administration²⁸
- ACP Immunization Advisor²⁹
- CDC Vaccines for Children Program (VFC)²²
- Resolving patients' vaccination uncertainty: going from "no thanks!" to "of course!"²⁰
- Engaging Patients in Collaborative Care Plans³⁰
- Clinical decision support: using technology to identify patients' unmet needs³¹
- Documenting and coding preventive visits: a physicians' perspective³²
- Immunizations: how to protect patients and the bottom line²¹
- Encouraging patients to change unhealthy behaviors with motivational interviewing³³
- CDC Vaccines & Immunizations: Patient Education³⁴
- FamilyDoctor.org. Immunization Schedules (patient resource)³⁵



- FamilyDoctor.org. Vaccines (many patient resource)³⁶
- FamilyDoctor.org. International Travel: Tips for Staying Healthy (patient resource)³⁷

References

1. Centers for Disease Control and Prevention. Noninfluenza Vaccination Coverage Among Adults — United States, 2011. 2013; 62(04);66-72:http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6204a2.htm?s_cid=mm6204a2_w. Accessed August, 2013.
2. Zimmerman RK, Santibanez TA, Fine MJ, et al. Barriers and facilitators of pneumococcal vaccination among the elderly. *Vaccine*. Mar 28 2003;21(13-14):1510-1517.
3. Centers for Disease Control and Prevention. FastStats: Influenza. 2011; <http://www.cdc.gov/NCHS/fastats/flu.htm>. Accessed August, 2013.
4. Bradley JS BC, Shah SS AB, Carter ER HC, et al. The management of community-acquired pneumonia in infants and children older than 3 months of age: clinical practice guidelines by the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America. 2011; <http://www.guideline.gov/content.aspx?id=34433&search=pneumonia>. Accessed 5/16/2013.
5. Centers for Disease Control and Prevention. National and State Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2011. 2012; 61(34);671-677:<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6134a3.htm>. Accessed August, 2013.
6. Centers for Disease Control and Prevention (CDC). National Ambulatory Medical Care Survey. In: Ambulatory and Hospital Care Statistics Branch, ed2010.
7. American Academy of Family Physicians (AAFP). 2011 AAFP Immunization Survey Summary of Findings. Leawood KS: AAFP; 2012.
8. AAFP. 2012 CME Needs Assessment: Clinical Topics. American Academy of Family Physicians; 2012.
9. American Academy of Family Physicians (AAFP). AAFP Assembly CME Outcomes Report. Leawood KS: AAFP; 2014.
10. American Academy of Family Physicians (AAFP). 2012 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2012.
11. Zimmerman RK, Silverman M, Janosky JE, et al. A comprehensive investigation of barriers to adult immunization: a methods paper. *The Journal of family practice*. Aug 2001;50(8):703.
12. Zimmerman RK, Nowalk MP, Tabbarah M, Hart JA, Fox DE, Raymund M. Understanding adult vaccination in urban, lower-socioeconomic settings: influence of physician and prevention systems. *Annals of family medicine*. Nov-Dec 2009;7(6):534-541.
13. Santibanez TA, Nowalk MP, Zimmerman RK, et al. Knowledge and beliefs about influenza, pneumococcal disease, and immunizations among older people. *J Am Geriatr Soc*. Oct 2002;50(10):1711-1716.



14. Santibanez TA, Zimmerman RK, Nowalk MP, Jewell IK, Bardella IJ. Physician attitudes and beliefs associated with patient pneumococcal polysaccharide vaccination status. *Annals of family medicine*. Jan-Feb 2004;2(1):41-48.
15. Campos-Outcalt D, Jeffcott-Pera M, Carter-Smith P, Schoof BK, Young HF. Vaccines provided by family physicians. *Annals of family medicine*. Nov-Dec 2010;8(6):507-510.
16. American Academy of Family Physicians (AAFP). 2015 AAFP Immunization Schedules. 2015; <http://www.aafp.org/patient-care/immunizations/schedules.html>. Accessed Feb, 2015.
17. Vaughn JA, Miller RA. Update on immunizations in adults. *American family physician*. Nov 1 2011;84(9):1015-1020.
18. Ackerman LK. Update on immunizations in children and adolescents. *American family physician*. Jun 1 2008;77(11):1561-1568.
19. Appel A. Improving adult immunization rates: overcoming barriers. *American family physician*. Nov 1 2011;84(9):977-978.
20. Brown MT, Mena Lora A, Anderson MC, Sinsky CA. Resolving patients' vaccination uncertainty: going from "no thanks!" to "of course!". *Family practice management*. Mar-Apr 2014;21(2):22-26.
21. Loehr J. Immunizations: how to protect patients and the bottom line. *Family practice management*. Mar-Apr 2015;22(2):24-29.
22. Centers for Disease Control and Prevention. Vaccines for Children Program (VFC). 2015; <http://www.cdc.gov/vaccines/programs/vfc/index.html>. Accessed July, 2015.
23. Crawford C. ACIP Issues New Recommendation for MenB Vaccination. *AAFP News*. 2015. <http://www.aafp.org/news/health-of-the-public/20150701acipmtg.html>. Accessed Aug 2015.
24. Lo Re V, 3rd, Gluckman SJ. Travel immunizations. *American family physician*. Jul 1 2004;70(1):89-99.
25. American Academy of Family Physicians (AAFP). Medicare Part B Vaccine Coverage. 2015; <http://www.aafp.org/practice-management/payment/coding/admin/partb.html>. Accessed July, 2015.
26. Hainer BL. Vaccine administration: making the process more efficient in your practice. *Family practice management*. Mar 2007;14(3):48-53.
27. Nguyen GT, Klusaritz HA, Cronholm PF. Achieving sustainable increases in childhood immunization rates. *Family practice management*. Jul-Aug 2014;21(4):13-17.
28. American Academy of Family Physicians (AAFP). Coding for Vaccine Administration. 2015; <http://www.aafp.org/practice-management/payment/coding/admin.html>. Accessed July, 2015.
29. Lin K. ACP Immunization Advisor. *Family practice management*. Nov-Dec 2013;20(6):30.
30. Mauksch L, Safford B. Engaging Patients in Collaborative Care Plans. *Family practice management*. 2013;20(3):35-39.
31. McLeod W, Eidus R, Stewart EE. Clinical decision support: using technology to identify patients' unmet needs. *Family practice management*. Mar-Apr 2012;19(2):22-28.
32. Owolabi T, Simpson I. Documenting and coding preventive visits: a physicians's perspective. *Family practice management*. Jul-Aug 2012;19(4):12-16.
33. Stewart EE, Fox CH. Encouraging patients to change unhealthy behaviors with motivational interviewing. *Family practice management*. May-Jun 2011;18(3):21-25.



34. Centers for Disease Control and Prevention. Vaccines & Immunizations: Patient Education. 2013; <http://www.cdc.gov/vaccines/ed/patient-ed.htm>. Accessed August, 2013.
35. FamilyDoctor.org. Immunization Schedules. 2013; <http://familydoctor.org/familydoctor/en/health-tools/immunization-schedules.html>. Accessed August, 2013.
36. FamilyDoctor.org. Vaccines. 2013; <http://familydoctor.org/familydoctor/en/kids/vaccines.html>. Accessed August, 2013.
37. FamilyDoctor.org. International Travel: Tips for Staying Healthy. 2000; <http://familydoctor.org/familydoctor/en/prevention-wellness/staying-healthy/travel/international-travel-tips-for-staying-healthy.html>. Accessed August, 2013.