NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each subcriterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 1407 **NQF Project:** Child Health Quality Measures 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Immunizations by 13 years of age
De.2 **Brief description of measure:** The percentage of adolescents who turned 13 years of age in the measurement year who had recommended immunizations by their 13th birthday
1.1-2 **Type of Measure:** Process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** This measure appears in the composite Comprehensive Well Care by Age 13 Years.
De.4 **National Priority Partners Priority Area:** Care coordination, Population health De.5 **IOM Quality Domain**: Effectiveness, Timeliness De.6 **Consumer Care Need:** Staying healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** Proprietary measure A.3 **Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission A.4 **Measure Steward Agreement attached:**	**A** Y☐ N☐
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and	**B**

update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal quality improvement Accountability	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use) **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. ***Measures must be judged to be important to measure and report*** *in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	**Eval Rating**
(for NQF staff use) **Specific NPP goal**:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** Affects large numbers, Leading cause of morbidity/mortality, Severity of illness, Patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** Preventing disease through vaccination eliminates the costs associated with treating that disease including doctor visits and hospital stays, as well as time lost from work for parents. A study analyzing a cohort of 4.1 million children estimated that 2.87 million pertussis cases would occur, resulting in 1,131 deaths; 276,750 diphtheria cases, resulting in 27,675 deaths; and 165 tetanus cases, resulting in 25 deaths. From the societal perspective, these cases would cost $23,536.5 million, with approximately $18,772.4 million (80%) for diphtheria and $4,770.1 million (20%) for pertussis (Ekwueme, D.U., P.M. Strebel, S.C. Hadler, M.I. Meltzer, J.W. Allen and J.R. Livengood, 2000). With the use of the Tdap vaccine, the number of diphtheria, tetanus and pertussis cases has been reduced by 99%, 93% and 96%, respectively (Ekwueme, D.U., P.M. Strebel, S.C. Hadler, M.I. Meltzer, J.W. Allen, and J.R. Livengood, 2000). Costs associated with pertussis cases include medical costs of visits and treatment, as well as nonmedical costs that include time missed from work or school. The mean medical cost of an adolescent case of pertussis can reach $256 for severe cases, and $416 when nonmedical expenses are included (figures in 2004 dollars). The total costs associated with pertussis are highly dependent on the incidence estimate of the disease, which ranged from 155 per 100,000 to 507 per 100,000 across two studies (CDC, 2006). The estimated lifetime costs of sequelae ranged from $44,000 for cases of hearing loss to almost $865,000 for severe retardation. Indirect costs in lost productivity were estimated to be $1 million per case (NFID,	**1a** C☐ P☐ M☐ N☐

2005). Because of the potential severity of the disease, the financial costs per case of meningococcal disease are high per case but low for society due to the low incidence.

1a.4 Citations for Evidence of High Impact: Ekwueme, D.U., P.M. Strebel, S.C. Hadler, M.I. Meltzer, J.W. Allen, and J.R. Livengood. Economic Evaluation of Use of Diphtheria, Tetanus, and Acellular Pertussis Vaccine or Diphtheria Tetanus, and Whole-Cell Pertussis Vaccine in the United States, 1997. Arch Pediatr Adolesc Med. 2000; 154: 797-803.

CDC. Preventing Tetanus, Diphtheria, and Pertussis Among Adolescents: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccines: Recommendations of the Advisory Committee on Immunization Practices. MMWR. March 24, 2006.

National Foundation for Infectious Disease. Reducing the Impact of Meningococcal Disease in Adolescents and Young Adults. July 2005.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Preventing pertussis in adolescents would reduce disease among that population and perhaps others by eliminating a reservoir of the disease. Pertussis symptoms can be unpleasant and last for months but long term effects are rare. Meningococcal disease, on the other hand, can be deadly or debilitating. MCV4 has the potential to prevent morbidity and mortality among vaccinated adolescents as well as create a herd immunity effect, but the strategic importance is lessened due to low incidence of the disease. The fact that meningococcal disease requires a public health response is communicable and can cause significant stress within a community increases its strategic importance.

Most cases of meningococcal disease are sporadic—less than 5% of cases occur in outbreaks—but the frequency of outbreaks has increased (Jackson 1995; Woods 1998). Each case requires a public health response which includes contact tracing and antimicrobial prophylaxis. The meningococcus bacterium is spread by direct, close contact with respiratory and oral secretions of an infected person. It is often misdiagnosed because early symptoms (including sudden onset of fever, headache and stiff neck) are similar to the flu. The infection can develop and spread very quickly within the body. Even with rapid and appropriate treatment, the disease can kill an otherwise healthy young person in 48 hours or less (NFID, 2005). Statistics show that even with treatment, 10%-15% of those who get the disease will die and 20% of survivors suffer permanent problems, including brain damage, kidney damage, hearing loss or limb amputation (NFID 2005). Antibiotics are also recommended for those in close contact with an identified case of meningococcal disease.
Many states have mandates regarding meningococcal disease and college students residing on campus. The majority of states (n=33) require education about the disease and strategies for prevention. Twelve states require proof of the vaccination or a waiver for incoming students residing on campus (Immunization Action Coalition 2006).
While almost 90 percent of both low- and high-risk HPV infections occur without any symptoms and go away without treatment,(CDC) persistent HPV infection, or HPV infection lasting several months or years, significantly increases a person's risk of developing cancer. While it is not yet known how long vaccine-induced immunity will last, nearly 100 percent of the precancerous cervical cell changes caused by the types of HPV targeted by vaccination have been prevented for up to four years.(National Cancer Institute, 2007)

Citation:
Jackson, L.W., A. Schuchat, M.W. Reeves, et al. Serogroup C meningococcal outbreaks in the United Stated: an emerging threat. JAMA. 1995;273:;383-389.

National Foundation for Infectious Disease. Reducing the Impact of Meningococcal Disease in Adolescents and Young Adults. July 2005.

Immunization Action Coalition. Meningococcal Prevention Mandates for Colleges and Universities. October 2006. http://www.immunize.org/laws/menin.htm.

Centers for Disease Control and Prevention. Genital HPV Infection - CDC Fact Sheet.

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http://www.cdc.gov/STD/HPV/STDFact-HPV.htm

Human Papillomavirus (HPV) Vaccines: Questions and Answers. National Cancer Institute, 2007. http://www.cancer.gov/cancertopics/factsheet/prevention/hpv-vaccine

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
In the United States, adolescent immunization rates have historically lagged behind early childhood immunization rates. In 2000, the American Academy of Pediatrics reported that 35 million adolescents failed to receive at least one recommended vaccination (Little, 2000). Low immunization rates among adolescents have the potential to cause outbreaks of preventable diseases and to establish reservoirs of disease in adolescents that can affect other populations including infants, the elderly and individuals with chronic conditions. Immunization recommendations for adolescents have changed in recent years. In addition to catch-up immunizations that may have been missed during childhood and infancy, there are new vaccines targeted specifically to adolescents. The ACIP recommended the following immunizations for adolescents age 11–12 years:

- 1 dose Tdap (or Td)
- 1 dose MCV4 (or MPSV4)

Gardasil® was approved by the Food and Drug Administration in 2006 and incorporated into ACIP recommendations published in March 2007. Since then, early reports have indicated that about one quarter (25.1 percent) of adolescent females age 13 to 17 years had initiated the vaccine series (>1 dose). (MMWR, 2008) An estimated 32.3 percent had received 1 dose, 44.2 percent had received 2 doses, and 23.5 percent had received 3 doses. (MMWR, 2008)This was the first year HPV coverage was reported.

1b.3 Citations for data on performance gap:
Little, J. 35 million teens missing recommended vaccines. AAP News. 2000;17(3):81.

Vaccination Coverage Among Adolescents Aged 13--17 Years --- United States, 2007. MMWR: October 10, 2008 / 57(40);1100-1103.

1b.4 Summary of Data on disparities by population group:
Variations in immunization coverage exist among some populations. Children of lower socioeconomic status are less likely to be fully immunized, as the vaccine is expensive, at $120-125 per dose on average for the three shot series. While some health insurance plans cover the costs of the HPV vaccine doses and clinic visits, not all currently provide coverage. Those without coverage are unlikely to be able to afford the vaccine. Children age 18 and younger who are eligible for the Vaccines for Children (VFC) program, including those who are Medicaid eligible, uninsured, or American Indian or Alaska Native, may be able to receive the HPV vaccine for a nominal cost.

Parental acceptance of the HPV vaccine also affects vaccine usage. One study found that 25 percent of parents have reservations about having their daughters immunized, due to concern that vaccination might influence their daughter's sexual behaviors, their uneasiness about the morality of immunizing to prevent sexually transmitted infections, and worries about the safety of the vaccine.

1b.5 Citations for data on Disparities:
NCHS, Health, United States, 2002, Table 73.
National Immunization Program (NIP), Priorities, 2003, Page 7.
Kane, Mark M.D., M.P.H., Heidi Lasher. The Case for Childhood Immunization. www.path.org/vaccineresources/files/CVP_Occ_Paper5.pdf. Updated March 2002.

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Vaccination has been recognized as a leading medical achievement of the 20th century and the U.S. early childhood immunization program that focuses on infant and early childhood immunizations has been a remarkable success (NFID, 2004). Translating that success to the adolescent population is of significant health importance because the

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failure to do so can result in outbreaks of vaccine-preventable diseases, increased disease-associated costs and reservoirs of disease in the adolescent population that can affect others, including infants and the elderly. The diseases prevented by recommended adolescent vaccines—pertussis, meningococcal disease, HPV infection and eventually, cervical cancer—can be serious and deadly. Preventing these diseases is a significant public health accomplishment.

1c.2-3. Type of Evidence: Evidence-based guideline, Expert opinion

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Pertussis is an acute respiratory infection characterized by a prolonged cough. It is a highly communicable disease that is transmitted via respiratory droplets from coughing or sneezing. A vaccine against the disease—DTP or pediatric diphtheria and tetanus toxoids—has been routinely recommended for young children since the 1940s. Early childhood vaccination resulted in dramatic declines in cases of pertussis to an historic low of 1,010 in 1976, but since the 1980s the number of cases has been increasing, especially among adolescents and adults (CDC 2006; CDC 2005; Farizo 1992; Guris 1999). A primary reason for the continued circulation of pertussis is that immunity to pertussis wanes approximately 5–10 years after completion of the childhood pertussis vaccination, leaving adolescents and adults vulnerable. Vaccinating adolescents against pertussis would not only protect against disease but would likely reduce the reservoir of pertussis within the population at large thereby reducing the risk for vulnerable populations such as infants. During 2004, a total of 25,827 cases of pertussis were reported in the U.S. and 8,897 of those (34%) were among adolescents for an incidence for adolescents of 30 per 100,000 (CDC 2005). From 1996–2004, Massachusetts' enhanced surveillance system reported an average annual incidence among adolescents of 93 per 100,000 (CDC 2005). The incidence of pertussis varies widely from state to state and from year to year. One reason for the variance is that reported cases of pertussis in adolescents often happen in outbreaks at schools where close interaction occurs among large number of students with waning immunity (CDC 2005).
Data from enhanced surveillance sites and prospective studies indicate that the national passive surveillance data substantially underestimate the true incidence of pertussis because reliable diagnostic tests are not widely available and not all diagnosed cases are reported. One study suggested that approximately 1 million cases of pertussis occur annually among persons over age 15 years in the U.S. (Ward 2005).

Meningococcal disease is a serious illness caused by the bacterium neisseria meningitides, which can cause meningitis and meningococcemia, an infection of the blood. The disease affects up to 2,600 people in the U.S. every year and is a leading cause of bacterial meningitis in children 2–18 years of age in the U.S. (HealthLink 2004). Incidence of meningococcal disease is highest in children under 2 years, but also spikes in adolescents and young adults. In the 1990s, 13%–14% of disease nationwide was in persons 11–18 years (NIFD 2005). Other studies have shown that the disease peaks in 15–18-year-olds and that adolescents have the highest fatality rate, at about 20% (AAP 2005).

Human papillomaviruses (HPVs) are a group of more than 100 related viruses.(National Cancer Institute)About 60 types of HPV cause warts, or papillomas, on the hands and feet. The other 40 viruses are mucosal, or genital, and are often associated with genital warts and certain types of cancer.(Devision of STD Prevention, 1999) Approximately 20 million Americans are currently infected with HPV, and another 6.2 million people become newly infected each year. (CDC)
Genital HPV is passed from one person to another through sexual contact(Devision of STD Prevention, 1999) and is currently the most common sexually transmitted infection (STI).(CDC) It is estimated that approximately 50 percent of sexually active men and women will acquire a genital HPV infection at some point in their lives.(CDC) Genital HPV viruses are divided into two categories: "low-risk," or wart-causing, and "high-risk", or those that put a person at risk for cancer. These high-risk, or oncogenic, types of HPV cause 100 percent of cervical cancers, 90 percent of anal cancers, 40 percent of vulvar and vaginal cancers, 12 percent of oropharyngeal cancers, and three percent of oral cancers.(Parkin DM, 2006)

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
NA

1c.6 Method for rating evidence: The U.S. Preventive Services Task Force, an independent panel of experts that rate the evidence for preventive services, defers to the CDC's Advisory Committee on Immunization Practices (ACIP) guidelines for recommended vaccinations. ACIP consists of 15 experts in fields associated with immunization, who have been selected by the Secretary of the U. S. Department of Health and Human Services to provide advice and guidance to the Secretary, the Assistant Secretary for Health, and the Centers for Disease Control and Prevention (CDC) on the control of vaccine-preventable diseases. In addition to the 15 voting members, ACIP includes 8 ex officio members who represent other federal agencies with responsibility for immunization programs in the United States, and 26 non-voting representatives of liaison organizations that bring related immunization expertise.
The role of the ACIP is to provide advice that will lead to a reduction in the incidence of vaccine preventable diseases in the United States, and an increase in the safe use of vaccines and related biological products.

The Committee develops written recommendations for the routine administration of vaccines to children and adults in the civilian population; recommendations include age for vaccine administration, number of doses and dosing interval, and precautions and contraindications. The ACIP is the only entity in the federal government that makes such recommendations.

To formulate policy recommendations, the ACIP reviews data on morbidity and mortality associated with the disease in the general US population and in specific risk groups along with available sci¬entific literature (both published and unpublished) on the safety, efficacy, effectiveness, cost-effectiveness, and acceptability of the immunizing agent, with consideration of the relevant quality and quantity of data. When data permit, specific rules of evidence – such as those followed by the US Preventive Services Task Force – are used to judge the quality of data and to make decisions regarding the nature and strength of recommendations. In the absence of data or when data are inadequate, expert opinions of voting members and other experts are used to make recommendations.

Other considerations and inputs used in formulating policy recommendations include clinical trial results and information pro¬vided in the manufacturer's labeling or package insert; equity in access to the vaccine and responsible management of public funds; recommendations of other professional liaison organizations; and the feasibility of incorporating the vaccine into existing immuniza¬tion programs. ACIP Work Groupss often review WHO recommendations as a secondary source of information in their deliberations.

1c.7 Summary of Controversy/Contradictory Evidence: None

1c.8 Citations for Evidence (*other than guidelines*): Centers for Disease Control and Prevention (CDC). Vaccines and Immunizations: HPV Vaccination. http://www.cdc.gov/vaccines/vpd-vac/hpv/default.htm

Centers for Disease Control and Prevention. Genital HPV Infection - CDC Fact Sheet. http://www.cdc.gov/STD/HPV/STDFact-HPV.htm

CDC. Prevention and Control of Meningococcal Disease: Recommendation of the Advisory Committee on Immunization Practices. MMWR. May 27, 2005.

CDC. Preventing Tetanus, Diphtheria, and Pertussis Among Adolescents: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccines: Recommendations of the Advisory Committee on Immunization Practices. MMWR. March 24, 2006.

Centers for Disease Control and Prevention (CDC). Vaccines and Immunizations: HPV Vaccination. http://www.cdc.gov/vaccines/vpd-vac/hpv/default.htm

Division of STD Prevention. Prevention of genital HPV infection and sequelae: Report of an external consultants' meeting. Atlanta, GA: Centers for Disease Control and Prevention, 1999.

Farizo, K.M., S.L. Cochi, E.R. Zell, et al. Epidemiological features of pertussis in the United States, 1980-1989. Clinical Infectious Disease. 1992;14:708-719.

Guris, D., P.M. Strebel, B. Bardenheier, et al. Changing epidemiology of pertussis in the United States:

increasing reported incidence among adolescents and adults, 1990-1996. Clinical Infectious Disease. 1999;28:1230-1237.

HealthLink. The Facts about Meningococcal Disease. Medical College of Wisconsin, September 2004.

National Foundation for Infectious Disease. Reducing the Impact of Meningococcal Disease in Adolescents and Young Adults. July 2005.

National Cancer Institute. Human Papillomaviruses and Cancer: Questions and Answers. http://www.cancer.gov/cancertopics/factsheet/Risk/HPV

Parkin DM, Bray F. Chapter 2: the burden of HPV-related cancers. Vaccine 2006;24:Suppl 3:S11-S25.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
ACIP [CDC , AAP, AAFP] (2009): Children 7—18:
1. Tetanus and diphtheria toxoids and acellular pertussis vaccine(Tdap). (Minimum age: 10 years for BOOSTRIX® and 11 years for ADACEL®)
1. Administer at age 11 or 12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoid (Td) booster dose.
2. Persons aged 13 through 18 years who have not received Tdap should receive a dose.
3. A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.
2. Human papillomavirus vaccine (HPV). (Minimum age: 9 years)
4. Administer the first dose to females at age 11 or 12 years.
5. Administer the second dose 2 months after the first dose and the third dose 6 months after the first dose (at least 24 weeks after the first dose).
6. Administer the series to females at age 13 through 18 years if not previously vaccinated.
3. Meningococcal conjugate vaccine (MCV).
7. Administer at age 11 or 12 years, or at age 13 through 18 years if not previously vaccinated.
8. Administer to previously unvaccinated college freshmen living in a dormitory.
9. MCV is recommended for children aged 2 through 10 years with terminal complement component deficiency, anatomic or functionalasplenia, and certain other groups at high risk. See MMWR 2005;54(No. RR-7).
10. Persons who received MPSV 5 or more years previously and remain at increased risk for meningococcal disease should be revaccinated with MCV.
4. Influenza vaccine.
11. Administer annually to children aged 6 months through 18 years.
12. For healthy nonpregnant persons (i.e., those who do not have underlying medical conditions that predispose them to influenza complications) aged 2 through 49 years, either LAIV or TIV may be used.
13. Administer 2 doses (separated by at least 4 weeks) to children aged younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
5. Pneumococcal polysaccharide vaccine (PPSV).
- Administer to children with certain underlying medical conditions (see MMWR 1997;46[No. RR-8]), including a cochlear implant. A single revaccination should be administered to children with functional or anatomic asplenia or other immunocompromising condition after 5 years.
6. Hepatitis A vaccine (HepA).
- Administer 2 doses at least 6 months apart.
- HepA is recommended for children older than 1 year who live in areas where vaccination programs target older children or who are at increased risk of infection. See MMWR 2006;55(No. RR-7).
7. Hepatitis B vaccine (HepB).
- Administer the 3-dose series to those not previously vaccinated.
- A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB is licensed for children aged 11 through 15 years.
8. Inactivated poliovirus vaccine (IPV).
- For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if the third dose was administered at age 4 years or older.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered,

regardless of the child's current age. 9. Measles, mumps, and rubella vaccine (MMR). - If not previously vaccinated, administer 2 doses or the second dose for those who have received only 1 dose, with at least 28 days between doses. 10. Varicella vaccine. - For persons aged 7 through 18 years without evidence of immunity (see MMWR 2007;56[No. RR-4]), administer 2 doses if not previouslyvaccinated or the second dose if they have received only 1 dose. - For persons aged 7 through 12 years, the minimum interval between doses is 3 months. However, if the second dose was administered at least 28 days after the first dose, it can be accepted as valid. - For persons aged 13 years and older, the minimum interval between doses is 28 days. ICSI (2008): Children Ages 11—18: 1. Diphtheria and Tetanus Toxoids and Acellular Pertussis (DTaP/Td/Tdap) Vaccine Tdap should be given routinely at age 11-12 years of age, as well as to older adolescents 13-18 of age who missed the 11- to 12-year-old dose, as a one-time booster for adults in place of Td. 2. Meningococcal Vaccine For those adolescents who have not previously received the meningococcal conjugate vaccine, vaccination is recommended before high school entry for children at 11 to 12 years of age. Those unvaccinated adolescents 13 to 18 years of age should also undergo vaccination 3. Human Papillomavirus (HPV) Vaccine A vaccine for human papillomavirus (HPV) has been licensed for women ages 9 through 26, and the Advisory Committee on Immunization Practices has recommended routine use of the vaccine for all 11- to 12-year-old females, and catch-up use of the vaccine for females ages 12 through 26 **1c.10 Clinical Practice Guideline Citation:** Advisory Committee on Immunization Practices. Recommended adult immunization schedule: United States, 2009*. Ann Intern Med 2009 Jan 6;150(1):40-4. PubMed ICSI: Immunizations (Guideline). Updated January 2009. **1c.11 National Guideline Clearinghouse or other URL:** Immunization programs for infants, children, adolescents, and adults: clinical practice guidelines by the Infectious Diseases Society of America. http://www.guideline.gov/content.aspx?id=15442&search=adolescent+immunizations **1c.12 Rating of strength of recommendation** (*also provide narrative description of the rating and by whom*)**:** NA **1c.13 Method for rating strength of recommendation** (*If different from USPSTF system, also describe rating and how it relates to USPSTF)*: NA **1c.14 Rationale for using this guideline over others:** The measure follows the ACIP guidelines. ACIP is an independent panel that advises the Secretary of Health and Human Services and the Centers for Disease Control and Prevention on immunization practices.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, met? **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	**Eval Rating**
2a. MEASURE SPECIFICATIONS	

S.1 Do you have a web page where current detailed measure specifications can be obtained?
S.2 If yes, provide web page URL:

2a. Precisely Specified

2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome***):**
Children who had documentation in the medical record of recommended immunizations by age 13 years

2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator***):**
2 years

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions***):**
For immunization evidence obtained from the medical record, the organization may count members where there is evidence that the antigen was rendered from one of the following.
• A note indicating the name of the specific antigen and the date of the immunization, or
• A certificate of immunization prepared by an authorized health care provider or agency including the specific dates and types of immunizations administered
One meningococcal conjugate or meningococcal polysaccharide vaccine on or between the 11th and 13th birthdays.
One tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) or one tetanus, diphtheria toxoids vaccine (Td) on or between the 10th and 13th birthdays.
One meningococcal vaccine on or between the 11th and 13th birthday and one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) or one tetanus, diphtheria toxoids vaccine (Td) on or between the 10th and 13th birthdays.
Three HPV vaccinations, with different dates of service on or before the 13th birthday.
For documented history of illness or a seropositive test result, the organization must find a note indicating the date of the event, which must have occurred by the member's 13th birthday.
Notes in the medical record indicating that the member received the immunization "at delivery" or "in the hospital" may be counted toward the numerator. This applies only to immunizations that do not have minimum age restrictions (e.g., before 42 days after birth). A note that the "member is up to date" with all immunizations but which does not list the dates of all immunizations and the names of the immunization agents does not constitute sufficient evidence of immunization for HEDIS reporting.
Immunizations documented using a generic header or "DTaP/DTP/DT" can be counted as evidence of DTaP. The burden on organizations to substantiate the DTaP antigen is excessive compared to any risk associated with data integrity.

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured***):**
Children who turned 13 years of age between January 1 of the measurement year and December 31 of the measurement year and who had documentation of a face-to-face visit between the clinician and the child that predates the child's birthday by at least 12 months.

2a.5 Target population gender: Female, Male
2a.6 Target population age range: 11-13 years

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator***):**
1 year

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions***):**
Children who turned 13 years of age between January 1 of the measurement year and December 31 of the measurement year and who had documentation of a face-to-face visit between the clinician and the child that predates the child's birthday by at least 12 months.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population***):** HPV: Exclude males

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2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions***):** Exclude males	
2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions***):** None	
2a.12-13 Risk Adjustment Type: No risk adjustment necessary **2a.14 Risk Adjustment Methodology/Variables (***List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method***):** NA **2a.15-17 Detailed risk model available Web page URL or attachment:**	
2a.18-19 Type of Score: Rate/proportion **2a.20 Interpretation of Score:** Better quality = Higher score **2a.21 Calculation Algorithm (***Describe the calculation of the measure as a flowchart or series of steps***):** Step 1: Determine the denominator Children who turned the requisite age in the measurement year, AND Who had a visit within the past 12 months of the child´s birthday Step 2: Determine the numerator Children who had documentation in the medical record of the required immunizaqtions during the measurement year or the year previous to the measurement year.	
2a.22 Describe the method for discriminating performance *(e.g., significance testing)***:** Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance.	
2a.23 Sampling (Survey) Methodology *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*: For this physician-level measure, we anticipate the entire population will be used in the denominator. If a sample is used, a random sample is ideal. NCQA's work has indicated that a sample size of 30-50 patients would be necessary for a typical practice size of 2000 patients.	
2a.24 Data Source (*Check the source(s) for which the measure is specified and tested)***:** Paper medical record/flow-sheet, Electronic clinical data, Electronic Health/Medical Record **2a.25 Data source/data collection instrument (***Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):** Medical Record **2a.26-28 Data source/data collection instrument reference web page URL or attachment:** **2a.29-31 Data dictionary/code table web page URL or attachment:** **2a.32-35 Level of Measurement/Analysis** (*Check the level(s) for which the measure is specified and tested)* Clinicians: Individual, Clinicians: Group, Population: national, Population: regional/network **2a.36-37 Care Settings (***Check the setting(s) for which the measure is specified and tested)***:** Ambulatory Care: Office, Ambulatory Care: Clinic, Ambulatory Care: Hospital Outpatient **2a.38-41 Clinical Services** (*Healthcare services being measured, check all that apply*) Clinicians: Nurses, Clinicians: PA/NP/Advanced Practice Nurse, Clinicians: Physicians (MD/DO)	
TESTING/ANALYSIS	
2b. Reliability testing	**2b** **C☐**

2b.1 Data/sample *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)

2b.2 Analytic Method *(type of reliability & rationale, method for testing)*:
We calculated 95% confidence intervals, which speak to the precision of the rates obtained from field testing.

2b.3 Testing Results *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
Rate (Upper Confidence Interval, Lower Confidence Interval)

Tdap rate: Eligible population: 179
0.899 (0.86, 0.94)

HPV rate*: Eligible population: 89
0.213 (0.13, 0.30)

Meningococcal rate: Eligible population: 179
0.821 (0.76, 0.88)

*In this field test, measures with smaller denominators (e.g. female-only measures) had larger confidence intervals, as expected with smaller sample sizes.

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2c. Validity testing

2c.1 Data/sample *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)

2c.2 Analytic Method *(type of validity & rationale, method for testing)*:
NCQA tested the measure for face validity using a panel of stakeholders with specific expertise in measurement and child health care. This panel included representatives from key stakeholder groups, including pediatricians, family physicians, health plans, state Medicaid agencies and researchers. Experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented quality care, and whether we were measuring the most important aspect of care in this area. This measure was deemed valid by the expert panel. In addition, this measure does not utilize administrative data sources; data recorded in the chart is considered the gold standard.

2c.3 Testing Results *(statistical results, assessment of adequacy in the context of norms for the test conducted)*:
Experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented quality care, and whether we were measuring the most important aspect of care in this area. This measure was deemed valid by the expert panel. In addition, this measure does not utilize administrative data sources; data recorded in the chart is considered the gold standard.

2c C☐ P☐ M☐ N☐

2d. Exclusions Justified

2d.1 Summary of Evidence supporting exclusion(s):
For the HPV antigen, males are excluded. ACIP only recently (May 28, 2010) released guidance that males could receive HPV vaccination. NCQA´s policy is to allow time between new vaccine releases and reporting requirements for measures.

2d.2 Citations for Evidence:
Centers for Disease Control and Prevention. MMWR May 28, 2010.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5920a5.htm?s_cid=mm5920a5_e

2d.3 Data/sample *(description of data/sample and size)*: NA

2d.4 Analytic Method *(type analysis & rationale)*:

2d C☐ P☐ M☐ N☐ NA☐

NA **2d.5 Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: NA	
2e. Risk Adjustment for Outcomes/ Resource Use Measures **2e.1 Data/sample** *(description of data/sample and size)*: NA **2e.2 Analytic Method** *(type of risk adjustment, analysis, & rationale)*: NA **2e.3 Testing Results** *(risk model performance metrics)*: NA **2e.4 If outcome or resource use measure is not risk adjusted, provide rationale:** The measure assesses prevention and wellness in a general population; risk adjustment is not indicated.	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance **2f.1 Data/sample from Testing or Current Use** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) **2f.2 Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance **2f.3 Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: Immunizations for Adolescents by Age 13 Years Rate: Meningococcal Elig Population: 179 Immunization Documented in Medical Record: 82% Rate: Tdap/Td Elig Population: 179 Immunization Documented in Medical Record: 11% Rate: HPV Elg Population: 89 Immunization Documented in Medical Record: 21%	**2f** C☐ P☐ M☐ N☐
2g. Comparability of Multiple Data Sources/Methods **2g.1 Data/sample** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) **2g.2 Analytic Method** *(type of analysis & rationale)*: This measure is chart review only; no other sources were identified by the expert panel; this measure does not utilize administrative data **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*: NA	**2g** C☐ P☐ M☐ N☐ NA☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: The measure is not stratified to detect disparities. **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities,**	**2h** C☐ P☐ M☐ N☐ NA☐

provide follow-up plans: NA	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, met? **Rationale:**	***2*** **C☐** **P☐** **M☐** **N☐**
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	**Eval Rating**
3a. Meaningful, Understandable, and Useful Information 3a.1 **Current Use:** Not in use but testing completed 3a.2 **Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*)**:** This measure is not currently publicly reported. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. 3a.3 **If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** This measure is not currently used in QI. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. NCQA anticipates that after we release these measures, they will become widely used, as all our measures do. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) 3a.4 **Data/sample** *(description of data/sample and size)***:** NA 3a.5 **Methods** *(e.g., focus group, survey, QI project)***:** NCQA vetted the measures with its expert panel. In addition, throughout the development process, NCQA vetted the measure concepts and specifications with other stakeholder groups, including the National Association of State Medicaid Directors, NCQA's Health Plan Advisory Council, NCQA's Committee on Performance Measurement, and the American Academy of Pediatrician's Quality Improvement Innovation Network. After field testing, NCQA also conducted a debrief call with field test participants. In the form of a group interview, NCQA systematically sought feedback on whether the measures were understandable, feasible, important, and had face validity. 3a.6 **Results** *(qualitative and/or quantitative results and conclusions)***:** NCQA received feedback that the measure is understandable, feasible, important and valid.	**3a** **C☐** **P☐** **M☐** **N☐**
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related endorsed or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** **C☐** **P☐** **M☐**

	N☐ NA☐
3c. Distinctive or Additive Value **3c.1 Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** **5.1 If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), Describe why it is a more valid or efficient way to measure quality:** NA	**3c** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, met? **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	Eval Rating
4a. Data Generated as a Byproduct of Care Processes **4a.1-2 How are the data elements that are needed to compute measure scores generated?** Data generated as byproduct of care processes during care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition), Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources **4b.1 Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) No **4b.2 If not, specify the near-term path to achieve electronic capture by most providers.** NCQA plans to eventually specify this measure for electronic health records.	**4b** C☐ P☐ M☐ N☐
4c. Exclusions **4c.1 Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No **4c.2 If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐
4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** During the measure development process the Child Health MAP and measure development team worked with NCQA's certified auditors and audit department to ensure that the measure specifications were clear and auditable. The denominator, numerator and optional exclusions are concisely specified and align with our audit standards.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation	**4e** C☐

4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues: Based on field test results, we have specified the measure to assess whether screening was documented and whether use of a standardized tool was documented. Our field test results showed that these data elements are available in the medical record. In addition, our field test participants noted that many were able to program these requirements into their electronic health record systems, and several implemented point-of-service physician reminders for this measure. **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Collecting measures from medical charts is time-consuming and can be burdensome. Adapting this measure in electronic health records may relieve some of this burden. **4e.3 Evidence for costs:** Based on field test participant feedback and other stakeholder input. **4e.4 Business case documentation:**	**P☐ M☐ N☐**
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, met? **Rationale:**	**4** **C☐ P☐ M☐ N☐**
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited ☐**
Steering Committee: Do you recommend for endorsement? **Comments:**	**Y☐ N☐ A☐**
CONTACT INFORMATION	
Co.1 Measure Steward (Intellectual Property Owner) **Co.1 Organization** National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005 **Co.2 Point of Contact** Sepheen, Byron, byron@ncqa.org, 202-955-3573-	
Measure Developer If different from Measure Steward **Co.3 Organization** National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005 **Co.4 Point of Contact** Sepheen, Byron, byron@ncqa.org, 202-955-3573-	
Co.5 Submitter If different from Measure Steward POC Sepheen, Byron, byron@ncqa.org, 202-955-3573-, National Committee for Quality Assurance	
Co.6 Additional organizations that sponsored/participated in measure development	

ADDITIONAL INFORMATION
Workgroup/Expert Panel involved in measure development **Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.** Child Health Measurement Advisory Panel: Jeanne Alicandro Barbara Dailey Denise Dougherty, PhD Ted Ganiats, MD Foster Gesten, MD Nikki Highsmith, MPA Charlie Homer, MD, MPH Jeff Kamil, MD Elizabeth Siteman Mary McIntyre, MD, MPH Virginia Moyer, MD, MPH, FAAP Lee Partridge Xavier Sevilla, MD, FAAP Michael Siegal Jessie Sullivan
Ad.2 If adapted, provide name of original measure: NA **Ad.3-5 If adapted, provide original specifications URL or attachment**
Measure Developer/Steward Updates and Ongoing Maintenance **Ad.6 Year the measure was first released:** **Ad.7 Month and Year of most recent revision:** **Ad.8 What is your frequency for review/update of this measure?** **Ad.9 When is the next scheduled review/update for this measure?**
Ad.10 Copyright statement/disclaimers: © 2009 by the National Committee for Quality Assurance 1100 13th Street, NW, Suite 1000 Washington, DC 20005
Ad.11 -13 Additional Information web page URL or attachment:
Date of Submission (*MM/DD/YY*)**:** 01/24/2011

NATIONAL QUALITY FORUM

Measure Evaluation 4.1
December 2009

This form contains the measure information submitted by stewards. Blank fields indicate no information was provided. Attachments also may have been submitted and are provided to reviewers. The subcriteria and most of the footnotes from the evaluation criteria are provided in Word comments within the form and will appear if your cursor is over the highlighted area. Hyperlinks to the evaluation criteria and ratings are provided in each section.

TAP/Workgroup (if utilized)**:** Complete all yellow highlighted areas of the form. Evaluate the extent to which each subcriterion is met. Based on your evaluation, summarize the strengths and weaknesses in each section.

Note: *If there is no TAP or workgroup, the SC also evaluates the subcriteria (yellow highlighted areas).*

Steering Committee: Complete all pink highlighted areas of the form. Review the workgroup/TAP assessment of the subcriteria, noting any areas of disagreement; then evaluate the extent to which each major criterion is met; and finally, indicate your recommendation for the endorsement. Provide the rationale for your ratings.

Evaluation ratings of the extent to which the criteria are met
C = Completely (unquestionably demonstrated to meet the criterion)
P = Partially (demonstrated to partially meet the criterion)
M = Minimally (addressed BUT demonstrated to only minimally meet the criterion)
N = Not at all (NOT addressed; OR incorrectly addressed; OR demonstrated to NOT meet the criterion)
NA = Not applicable (only an option for a few subcriteria as indicated)

(for NQF staff use) **NQF Review #:** 1506 **NQF Project:** Child Health Quality Measures 2010
MEASURE DESCRIPTIVE INFORMATION
De.1 **Measure Title:** Immunizations by 18 years of age
De.2 **Brief description of measure:** The percentage of adolescents who turned 18 years during the measurement year who had proper immunizations by the time they turn 18 years of age.
1.1-2 **Type of Measure:** Process De.3 **If included in a composite or paired with another measure, please identify composite or paired measure** This measure appears in the composite Comprehensive Well Care by Age 18 Years.
De.4 **National Priority Partners Priority Area:** Care coordination, Population health De.5 **IOM Quality Domain**: Effectiveness, Timeliness De.6 **Consumer Care Need:** Staying healthy

CONDITIONS FOR CONSIDERATION BY NQF	
Four conditions must be met before proposed measures may be considered and evaluated for suitability as voluntary consensus standards:	**NQF Staff**
A. The measure is in the public domain or an intellectual property (measure steward agreement) is signed. *Public domain only applies to governmental organizations. All non-government organizations must sign a measure steward agreement even if measures are made publicly and freely available.* A.1 **Do you attest that the measure steward holds intellectual property rights to the measure and the right to use aspects of the measure owned by another entity (e.g., risk model, code set)?** Yes A.2 **Indicate if Proprietary Measure** (*as defined in measure steward agreement*)**:** Proprietary measure A.3 **Measure Steward Agreement:** Agreement will be signed and submitted prior to or at the time of measure submission A.4 **Measure Steward Agreement attached:**	**A** Y☐ N☐
B. The measure owner/steward verifies there is an identified responsible entity and process to maintain and	**B**

update the measure on a schedule that is commensurate with the rate of clinical innovation, but at least every 3 years. Yes, information provided in contact section	Y☐ N☐
C. The intended use of the measure includes both public reporting and quality improvement. ►**Purpose:** Public reporting, Internal quality improvement Accountability	**C** Y☐ N☐
D. The requested measure submission information is complete. Generally, measures should be fully developed and tested so that all the evaluation criteria have been addressed and information needed to evaluate the measure is provided. Measures that have not been tested are only potentially eligible for a time-limited endorsement and in that case, measure owners must verify that testing will be completed within 12 months of endorsement. D.1**Testing:** Yes, fully developed and tested D.2 **Have NQF-endorsed measures been reviewed to identify if there are similar or related measures?** Yes	**D** Y☐ N☐
(for NQF staff use) **Have all conditions for consideration been met?** **Staff Notes to Steward** (*if submission returned*)**:**	**Met** Y☐ N☐
Staff Notes to Reviewers (*issues or questions regarding any criteria*)**:**	
Staff Reviewer Name(s):	

TAP/Workgroup Reviewer Name:	
Steering Committee Reviewer Name:	
1. IMPORTANCE TO MEASURE AND REPORT	
Extent to which the specific measure focus is important to making significant gains in health care quality (safety, timeliness, effectiveness, efficiency, equity, patient-centeredness) and improving health outcomes for a specific high impact aspect of healthcare where there is variation in or overall poor performance. ***Measures must be judged to be important to measure and report*** *in order to be evaluated against the remaining criteria.* (evaluation criteria) **1a. High Impact**	**Eval Rating**
(for NQF staff use) **Specific NPP goal**:	
1a.1 **Demonstrated High Impact Aspect of Healthcare:** Affects large numbers, Leading cause of morbidity/mortality, Severity of illness, Patient/societal consequences of poor quality 1a.2 1a.3 **Summary of Evidence of High Impact:** Preventing disease through vaccination eliminates the costs associated with treating that disease including doctor visits and hospital stays, as well as time lost from work for parents. A study analyzing a cohort of 4.1 million children estimated that 2.87 million pertussis cases would occur, resulting in 1,131 deaths; 276,750 diphtheria cases, resulting in 27,675 deaths; and 165 tetanus cases, resulting in 25 deaths. From the societal perspective, these cases would cost $23,536.5 million, with approximately $18,772.4 million (80%) for diphtheria and $4,770.1 million (20%) for pertussis (Ekwueme, D.U., P.M. Strebel, S.C. Hadler, M.I. Meltzer, J.W. Allen and J.R. Livengood, 2000). With the use of the Tdap vaccine, the number of diphtheria, tetanus and pertussis cases has been reduced by 99%, 93% and 96%, respectively (Ekwueme, D.U., P.M. Strebel, S.C. Hadler, M.I. Meltzer, J.W. Allen, and J.R. Livengood, 2000). Costs associated with pertussis cases include medical costs of visits and treatment, as well as nonmedical costs that include time missed from work or school. The mean medical cost of an adolescent case of pertussis can reach $256 for severe cases, and $416 when nonmedical expenses are included (figures in 2004 dollars). The total costs associated with pertussis are highly dependent on the incidence estimate of the disease, which ranged from 155 per 100,000 to 507 per 100,000 across two studies (CDC, 2006). The estimated lifetime costs of sequelae ranged from $44,000 for cases of hearing loss to almost $865,000 for severe retardation. Indirect costs in lost productivity were estimated to be $1 million per case (NFID,	**1a** C☐ P☐ M☐ N☐

2005). Because of the potential severity of the disease, the financial costs per case of meningococcal disease are high per case but low for society due to the low incidence.

1a.4 Citations for Evidence of High Impact: Ekwueme, D.U., P.M. Strebel, S.C. Hadler, M.I. Meltzer, J.W. Allen, and J.R. Livengood. Economic Evaluation of Use of Diphtheria, Tetanus, and Acellular Pertussis Vaccine or Diphtheria Tetanus, and Whole-Cell Pertussis Vaccine in the United States, 1997. Arch Pediatr Adolesc Med. 2000; 154: 797-803.

CDC. Preventing Tetanus, Diphtheria, and Pertussis Among Adolescents: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccines: Recommendations of the Advisory Committee on Immunization Practices. MMWR. March 24, 2006.

National Foundation for Infectious Disease. Reducing the Impact of Meningococcal Disease in Adolescents and Young Adults. July 2005.

1b. Opportunity for Improvement

1b.1 Benefits (improvements in quality) envisioned by use of this measure: Preventing pertussis in adolescents would reduce disease among that population and perhaps others by eliminating a reservoir of the disease. Pertussis symptoms can be unpleasant and last for months but long term effects are rare. Meningococcal disease, on the other hand, can be deadly or debilitating. MCV4 has the potential to prevent morbidity and mortality among vaccinated adolescents as well as create a herd immunity effect, but the strategic importance is lessened due to low incidence of the disease. The fact that meningococcal disease requires a public health response is communicable and can cause significant stress within a community increases its strategic importance.

Most cases of meningococcal disease are sporadic—less than 5% of cases occur in outbreaks—but the frequency of outbreaks has increased (Jackson 1995; Woods 1998). Each case requires a public health response which includes contact tracing and antimicrobial prophylaxis. The meningococcus bacterium is spread by direct, close contact with respiratory and oral secretions of an infected person. It is often misdiagnosed because early symptoms (including sudden onset of fever, headache and stiff neck) are similar to the flu. The infection can develop and spread very quickly within the body. Even with rapid and appropriate treatment, the disease can kill an otherwise healthy young person in 48 hours or less (NFID, 2005). Statistics show that even with treatment, 10%-15% of those who get the disease will die and 20% of survivors suffer permanent problems, including brain damage, kidney damage, hearing loss or limb amputation (NFID 2005). Antibiotics are also recommended for those in close contact with an identified case of meningococcal disease.
Many states have mandates regarding meningococcal disease and college students residing on campus. The majority of states (n=33) require education about the disease and strategies for prevention. Twelve states require proof of the vaccination or a waiver for incoming students residing on campus (Immunization Action Coalition 2006).
While almost 90 percent of both low- and high-risk HPV infections occur without any symptoms and go away without treatment,(CDC) persistent HPV infection, or HPV infection lasting several months or years, significantly increases a person's risk of developing cancer. While it is not yet known how long vaccine-induced immunity will last, nearly 100 percent of the precancerous cervical cell changes caused by the types of HPV targeted by vaccination have been prevented for up to four years.(National Cancer Institute, 2007)

Citation:
Jackson, L.W., A. Schuchat, M.W. Reeves, et al. Serogroup C meningococcal outbreaks in the United Stated: an emerging threat. JAMA. 1995;273:;383-389.

National Foundation for Infectious Disease. Reducing the Impact of Meningococcal Disease in Adolescents and Young Adults. July 2005.

Immunization Action Coalition. Meningococcal Prevention Mandates for Colleges and Universities. October 2006. http://www.immunize.org/laws/menin.htm.

Centers for Disease Control and Prevention. Genital HPV Infection - CDC Fact Sheet.

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http://www.cdc.gov/STD/HPV/STDFact-HPV.htm

Human Papillomavirus (HPV) Vaccines: Questions and Answers. National Cancer Institute, 2007. http://www.cancer.gov/cancertopics/factsheet/prevention/hpv-vaccine

1b.2 Summary of data demonstrating performance gap (variation or overall poor performance) across providers:
In the United States, adolescent immunization rates have historically lagged behind early childhood immunization rates. In 2000, the American Academy of Pediatrics reported that 35 million adolescents failed to receive at least one recommended vaccination (Little, 2000). Low immunization rates among adolescents have the potential to cause outbreaks of preventable diseases and to establish reservoirs of disease in adolescents that can affect other populations including infants, the elderly and individuals with chronic conditions. Immunization recommendations for adolescents have changed in recent years. In addition to catch-up immunizations that may have been missed during childhood and infancy, there are new vaccines targeted specifically to adolescents. The ACIP recommended the following immunizations for adolescents age 11–12 years:

- 1 dose Tdap (or Td)
- 1 dose MCV4 (or MPSV4)

Gardasil® was approved by the Food and Drug Administration in 2006 and incorporated into ACIP recommendations published in March 2007. Since then, early reports have indicated that about one quarter (25.1 percent) of adolescent females age 13 to 17 years had initiated the vaccine series (>1 dose). (MMWR, 2008) An estimated 32.3 percent had received 1 dose, 44.2 percent had received 2 doses, and 23.5 percent had received 3 doses. (MMWR, 2008)This was the first year HPV coverage was reported.

1b.3 Citations for data on performance gap:
Little, J. 35 million teens missing recommended vaccines. AAP News. 2000;17(3):81.

Vaccination Coverage Among Adolescents Aged 13--17 Years --- United States, 2007. MMWR: October 10, 2008 / 57(40);1100-1103.

1b.4 Summary of Data on disparities by population group:
Variations in immunization coverage exist among some populations. Children of lower socioeconomic status are less likely to be fully immunized, as the vaccine is expensive, at $120-125 per dose on average for the three shot series. While some health insurance plans cover the costs of the HPV vaccine doses and clinic visits, not all currently provide coverage. Those without coverage are unlikely to be able to afford the vaccine. Children age 18 and younger who are eligible for the Vaccines for Children (VFC) program, including those who are Medicaid eligible, uninsured, or American Indian or Alaska Native, may be able to receive the HPV vaccine for a nominal cost.

Parental acceptance of the HPV vaccine also affects vaccine usage. One study found that 25 percent of parents have reservations about having their daughters immunized, due to concern that vaccination might influence their daughter's sexual behaviors, their uneasiness about the morality of immunizing to prevent sexually transmitted infections, and worries about the safety of the vaccine.

1b.5 Citations for data on Disparities:
NCHS, Health, United States, 2002, Table 73.
National Immunization Program (NIP), Priorities, 2003, Page 7.
Kane, Mark M.D., M.P.H., Heidi Lasher. The Case for Childhood Immunization. www.path.org/vaccineresources/files/CVP_Occ_Paper5.pdf. Updated March 2002.

1c. Outcome or Evidence to Support Measure Focus

1c.1 Relationship to Outcomes (*For non-outcome measures, briefly describe the relationship to desired outcome. For outcomes, describe why it is relevant to the target population*)**:** Vaccination has been recognized as a leading medical achievement of the 20th century and the U.S. early childhood immunization program that focuses on infant and early childhood immunizations has been a remarkable success (NFID, 2004). Translating that success to the adolescent population is of significant health importance because the

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failure to do so can result in outbreaks of vaccine-preventable diseases, increased disease-associated costs and reservoirs of disease in the adolescent population that can affect others, including infants and the elderly. The diseases prevented by recommended adolescent vaccines—pertussis, meningococcal disease, HPV infection and eventually, cervical cancer—can be serious and deadly. Preventing these diseases is a significant public health accomplishment.

1c.2-3. Type of Evidence: Evidence-based guideline, Expert opinion

1c.4 Summary of Evidence (*as described in the criteria; for outcomes, summarize any evidence that healthcare services/care processes influence the outcome*)**:**
Pertussis is an acute respiratory infection characterized by a prolonged cough. It is a highly communicable disease that is transmitted via respiratory droplets from coughing or sneezing. A vaccine against the disease—DTP or pediatric diphtheria and tetanus toxoids—has been routinely recommended for young children since the 1940s. Early childhood vaccination resulted in dramatic declines in cases of pertussis to an historic low of 1,010 in 1976, but since the 1980s the number of cases has been increasing, especially among adolescents and adults (CDC 2006; CDC 2005; Farizo 1992; Guris 1999). A primary reason for the continued circulation of pertussis is that immunity to pertussis wanes approximately 5–10 years after completion of the childhood pertussis vaccination, leaving adolescents and adults vulnerable. Vaccinating adolescents against pertussis would not only protect against disease but would likely reduce the reservoir of pertussis within the population at large thereby reducing the risk for vulnerable populations such as infants. During 2004, a total of 25,827 cases of pertussis were reported in the U.S. and 8,897 of those (34%) were among adolescents for an incidence for adolescents of 30 per 100,000 (CDC 2005). From 1996–2004, Massachusetts' enhanced surveillance system reported an average annual incidence among adolescents of 93 per 100,000 (CDC 2005). The incidence of pertussis varies widely from state to state and from year to year. One reason for the variance is that reported cases of pertussis in adolescents often happen in outbreaks at schools where close interaction occurs among large number of students with waning immunity (CDC 2005).
Data from enhanced surveillance sites and prospective studies indicate that the national passive surveillance data substantially underestimate the true incidence of pertussis because reliable diagnostic tests are not widely available and not all diagnosed cases are reported. One study suggested that approximately 1 million cases of pertussis occur annually among persons over age 15 years in the U.S. (Ward 2005).

Meningococcal disease is a serious illness caused by the bacterium neisseria meningitides, which can cause meningitis and meningococcemia, an infection of the blood. The disease affects up to 2,600 people in the U.S. every year and is a leading cause of bacterial meningitis in children 2–18 years of age in the U.S. (HealthLink 2004). Incidence of meningococcal disease is highest in children under 2 years, but also spikes in adolescents and young adults. In the 1990s, 13%–14% of disease nationwide was in persons 11–18 years (NIFD 2005). Other studies have shown that the disease peaks in 15–18-year-olds and that adolescents have the highest fatality rate, at about 20% (AAP 2005).

Human papillomaviruses (HPVs) are a group of more than 100 related viruses.(National Cancer Institute)About 60 types of HPV cause warts, or papillomas, on the hands and feet. The other 40 viruses are mucosal, or genital, and are often associated with genital warts and certain types of cancer.(Devision of STD Prevention, 1999) Approximately 20 million Americans are currently infected with HPV, and another 6.2 million people become newly infected each year. (CDC)
Genital HPV is passed from one person to another through sexual contact(Devision of STD Prevention, 1999) and is currently the most common sexually transmitted infection (STI).(CDC) It is estimated that approximately 50 percent of sexually active men and women will acquire a genital HPV infection at some point in their lives.(CDC) Genital HPV viruses are divided into two categories: "low-risk," or wart-causing, and "high-risk", or those that put a person at risk for cancer. These high-risk, or oncogenic, types of HPV cause 100 percent of cervical cancers, 90 percent of anal cancers, 40 percent of vulvar and vaginal cancers, 12 percent of oropharyngeal cancers, and three percent of oral cancers.(Parkin DM, 2006)

1c.5 Rating of strength/quality of evidence (*also provide narrative description of the rating and by whom***):**
NA

1c.6 Method for rating evidence: The U.S. Preventive Services Task Force, an independent panel of experts that rate the evidence for preventive services, defers to the CDC's Advisory Committee on Immunization Practices (ACIP) guidelines for recommended vaccinations. ACIP consists of 15 experts in fields associated with immunization, who have been selected by the Secretary of the U. S. Department of Health and Human Services to provide advice and guidance to the Secretary, the Assistant Secretary for Health, and the Centers for Disease Control and Prevention (CDC) on the control of vaccine-preventable diseases. In addition to the 15 voting members, ACIP includes 8 ex officio members who represent other federal agencies with responsibility for immunization programs in the United States, and 26 non-voting representatives of liaison organizations that bring related immunization expertise.
The role of the ACIP is to provide advice that will lead to a reduction in the incidence of vaccine preventable diseases in the United States, and an increase in the safe use of vaccines and related biological products.

The Committee develops written recommendations for the routine administration of vaccines to children and adults in the civilian population; recommendations include age for vaccine administration, number of doses and dosing interval, and precautions and contraindications. The ACIP is the only entity in the federal government that makes such recommendations.

To formulate policy recommendations, the ACIP reviews data on morbidity and mortality associated with the disease in the general US population and in specific risk groups along with available sci¬entific literature (both published and unpublished) on the safety, efficacy, effectiveness, cost-effectiveness, and acceptability of the immunizing agent, with consideration of the relevant quality and quantity of data. When data permit, specific rules of evidence – such as those followed by the US Preventive Services Task Force – are used to judge the quality of data and to make decisions regarding the nature and strength of recommendations. In the absence of data or when data are inadequate, expert opinions of voting members and other experts are used to make recommendations.

Other considerations and inputs used in formulating policy recommendations include clinical trial results and information pro¬vided in the manufacturer's labeling or package insert; equity in access to the vaccine and responsible management of public funds; recommendations of other professional liaison organizations; and the feasibility of incorporating the vaccine into existing immuniza¬tion programs. ACIP Work Groupss often review WHO recommendations as a secondary source of information in their deliberations.

1c.7 Summary of Controversy/Contradictory Evidence: None

1c.8 Citations for Evidence (*other than guidelines*): Centers for Disease Control and Prevention (CDC). Vaccines and Immunizations: HPV Vaccination. http://www.cdc.gov/vaccines/vpd-vac/hpv/default.htm

Centers for Disease Control and Prevention. Genital HPV Infection - CDC Fact Sheet. http://www.cdc.gov/STD/HPV/STDFact-HPV.htm

CDC. Prevention and Control of Meningococcal Disease: Recommendation of the Advisory Committee on Immunization Practices. MMWR. May 27, 2005.

CDC. Preventing Tetanus, Diphtheria, and Pertussis Among Adolescents: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccines: Recommendations of the Advisory Committee on Immunization Practices. MMWR. March 24, 2006.

Centers for Disease Control and Prevention (CDC). Vaccines and Immunizations: HPV Vaccination. http://www.cdc.gov/vaccines/vpd-vac/hpv/default.htm

Division of STD Prevention. Prevention of genital HPV infection and sequelae: Report of an external consultants' meeting. Atlanta, GA: Centers for Disease Control and Prevention, 1999.

Farizo, K.M., S.L. Cochi, E.R. Zell, et al. Epidemiological features of pertussis in the United States, 1980-1989. Clinical Infectious Disease. 1992;14:708-719.

Guris, D., P.M. Strebel, B. Bardenheier, et al. Changing epidemiology of pertussis in the United States:

increasing reported incidence among adolescents and adults, 1990-1996. Clinical Infectious Disease. 1999;28:1230-1237.

HealthLink. The Facts about Meningococcal Disease. Medical College of Wisconsin, September 2004.

National Foundation for Infectious Disease. Reducing the Impact of Meningococcal Disease in Adolescents and Young Adults. July 2005.

National Cancer Institute. Human Papillomaviruses and Cancer: Questions and Answers. http://www.cancer.gov/cancertopics/factsheet/Risk/HPV

Parkin DM, Bray F. Chapter 2: the burden of HPV-related cancers. Vaccine 2006;24:Suppl 3:S11-S25.

1c.9 Quote the Specific guideline recommendation (*including guideline number and/or page number***):**
ACIP [CDC , AAP, AAFP] (2009): Children 7—18:
1. Tetanus and diphtheria toxoids and acellular pertussis vaccine(Tdap). (Minimum age: 10 years for BOOSTRIX® and 11 years for ADACEL®)
1. Administer at age 11 or 12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoid (Td) booster dose.
2. Persons aged 13 through 18 years who have not received Tdap should receive a dose.
3. A 5-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.
2. Human papillomavirus vaccine (HPV). (Minimum age: 9 years)
4. Administer the first dose to females at age 11 or 12 years.
5. Administer the second dose 2 months after the first dose and the third dose 6 months after the first dose (at least 24 weeks after the first dose).
6. Administer the series to females at age 13 through 18 years if not previously vaccinated.
3. Meningococcal conjugate vaccine (MCV).
7. Administer at age 11 or 12 years, or at age 13 through 18 years if not previously vaccinated.
8. Administer to previously unvaccinated college freshmen living in a dormitory.
9. MCV is recommended for children aged 2 through 10 years with terminal complement component deficiency, anatomic or functionalasplenia, and certain other groups at high risk. See MMWR 2005;54(No. RR-7).
10. Persons who received MPSV 5 or more years previously and remain at increased risk for meningococcal disease should be revaccinated with MCV.
4. Influenza vaccine.
11. Administer annually to children aged 6 months through 18 years.
12. For healthy nonpregnant persons (i.e., those who do not have underlying medical conditions that predispose them to influenza complications) aged 2 through 49 years, either LAIV or TIV may be used.
13. Administer 2 doses (separated by at least 4 weeks) to children aged younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time during the previous influenza season but only received 1 dose.
5. Pneumococcal polysaccharide vaccine (PPSV).
- Administer to children with certain underlying medical conditions (see MMWR 1997;46[No. RR-8]), including a cochlear implant. A single revaccination should be administered to children with functional or anatomic asplenia or other immunocompromising condition after 5 years.
6. Hepatitis A vaccine (HepA).
- Administer 2 doses at least 6 months apart.
- HepA is recommended for children older than 1 year who live in areas where vaccination programs target older children or who are at increased risk of infection. See MMWR 2006;55(No. RR-7).
7. Hepatitis B vaccine (HepB).
- Administer the 3-dose series to those not previously vaccinated.
- A 2-dose series (separated by at least 4 months) of adult formulation Recombivax HB is licensed for children aged 11 through 15 years.
8. Inactivated poliovirus vaccine (IPV).
- For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if the third dose was administered at age 4 years or older.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered,

regardless of the child's current age. 9. Measles, mumps, and rubella vaccine (MMR). - If not previously vaccinated, administer 2 doses or the second dose for those who have received only 1 dose, with at least 28 days between doses. 10. Varicella vaccine. - For persons aged 7 through 18 years without evidence of immunity (see MMWR 2007;56[No. RR-4]), administer 2 doses if not previouslyvaccinated or the second dose if they have received only 1 dose. - For persons aged 7 through 12 years, the minimum interval between doses is 3 months. However, if the second dose was administered at least 28 days after the first dose, it can be accepted as valid. - For persons aged 13 years and older, the minimum interval between doses is 28 days. ICSI (2008): Children Ages 11—18: 1. Diphtheria and Tetanus Toxoids and Acellular Pertussis (DTaP/Td/Tdap) Vaccine Tdap should be given routinely at age 11-12 years of age, as well as to older adolescents 13-18 of age who missed the 11- to 12-year-old dose, as a one-time booster for adults in place of Td. 2. Meningococcal Vaccine For those adolescents who have not previously received the meningococcal conjugate vaccine, vaccination is recommended before high school entry for children at 11 to 12 years of age. Those unvaccinated adolescents 13 to 18 years of age should also undergo vaccination 3. Human Papillomavirus (HPV) Vaccine A vaccine for human papillomavirus (HPV) has been licensed for women ages 9 through 26, and the Advisory Committee on Immunization Practices has recommended routine use of the vaccine for all 11- to 12-year-old females, and catch-up use of the vaccine for females ages 12 through 26 **1c.10 Clinical Practice Guideline Citation:** Advisory Committee on Immunization Practices. Recommended adult immunization schedule: United States, 2009*. Ann Intern Med 2009 Jan 6;150(1):40-4. PubMed ICSI: Immunizations (Guideline). Updated January 2009. **1c.11 National Guideline Clearinghouse or other URL:** Immunization programs for infants, children, adolescents, and adults: clinical practice guidelines by the Infectious Diseases Society of America. http://www.guideline.gov/content.aspx?id=15442&search=adolescent+immunizations **1c.12 Rating of strength of recommendation** (*also provide narrative description of the rating and by whom*)**:** NA **1c.13 Method for rating strength of recommendation** (*If different from USPSTF system, also describe rating and how it relates to USPSTF)*: NA **1c.14 Rationale for using this guideline over others:** The measure follows the ACIP guidelines. ACIP is an independent panel that advises the Secretary of Health and Human Services and the Centers for Disease Control and Prevention on immunization practices.	
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Importance to Measure and Report?*	**1**
Steering Committee: Was the threshold criterion, *Importance to Measure and Report*, met? **Rationale:**	**1** **Y☐** **N☐**
2. SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES	
Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)	**Eval Rating**
2a. MEASURE SPECIFICATIONS	

S.1 Do you have a web page where current detailed measure specifications can be obtained?
S.2 If yes, provide web page URL:

2a. Precisely Specified

2a.1 Numerator Statement (*Brief, text description of the numerator - what is being measured about the target population, e.g. target condition, event, or outcome*):
Adolescents who had documentation in the medical record of HPV immunization by age 18 years.

2a.2 Numerator Time Window (*The time period in which cases are eligible for inclusion in the numerator*):
2 years

2a.3 Numerator Details (*All information required to collect/calculate the numerator, including all codes, logic, and definitions*):
Medical Record Specification:
Three HPV vaccinations, with different dates of service on or before the 18th birthday.

2a.4 Denominator Statement (*Brief, text description of the denominator - target population being measured*):
Females with a visit who turn 18 years in the measurement year

2a.5 Target population gender: Female
2a.6 Target population age range: 16-18 years

2a.7 Denominator Time Window (*The time period in which cases are eligible for inclusion in the denominator*):
1 year

2a.8 Denominator Details (*All information required to collect/calculate the denominator - the target population being measured - including all codes, logic, and definitions*):
Female patients who turned 18 years of age between January 1 of the measurement year and December 31 of the measurement year and who had documentation of a face-to-face visit between the clinician and the patient that predates the patient's birthday by at least 12 months.

2a.9 Denominator Exclusions (*Brief text description of exclusions from the target population*): Male patients are not included in this measure.

2a.10 Denominator Exclusion Details (*All information required to collect exclusions to the denominator, including all codes, logic, and definitions*):
Exclude males

2a.11 Stratification Details/Variables (*All information required to stratify the measure including the stratification variables, all codes, logic, and definitions*):
None

2a.12-13 Risk Adjustment Type: No risk adjustment necessary

2a.14 Risk Adjustment Methodology/Variables (*List risk adjustment variables and describe conceptual models, statistical models, or other aspects of model or method*):
NA

2a.15-17 Detailed risk model available Web page URL or attachment:

2a.18-19 Type of Score: Rate/proportion
2a.20 Interpretation of Score: Better quality = Higher score
2a.21 Calculation Algorithm (*Describe the calculation of the measure as a flowchart or series of steps*):
Step 1: Determine the denominator
Adolescents who turned 18 years old in the measurement year, AND
Who had a visit within the past 12 months of the adolescent´s birthday
Step 2: Determine the numerator
Adolescents who had documentation in the medical record of immunization during the measurement year or

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the year previous to the measurement year.	
2a.22 **Describe the method for discriminating performance** *(e.g., significance testing)*: Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance.	
2a.23 **Sampling (Survey) Methodology** *If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)*: For this physician-level measure, we anticipate the entire population will be used in the denominator. If a sample is used, a random sample is ideal. NCQA's work has indicated that a sample size of 30-50 patients would be necessary for a typical practice size of 2000 patients.	
2a.24 **Data Source (***Check the source(s) for which the measure is specified and tested)* Paper medical record/flow-sheet, Electronic clinical data, Electronic Health/Medical Record 2a.25 **Data source/data collection instrument (***Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.***):** Medical Record 2a.26-28 **Data source/data collection instrument reference web page URL or attachment:** 2a.29-31 **Data dictionary/code table web page URL or attachment:** 2a.32-35 **Level of Measurement/Analysis** (*Check the level(s) for which the measure is specified and tested)* Clinicians: Individual, Clinicians: Group, Population: national, Population: regional/network 2a.36-37 **Care Settings (***Check the setting(s) for which the measure is specified and tested)* Ambulatory Care: Office, Ambulatory Care: Clinic, Ambulatory Care: Hospital Outpatient 2a.38-41 **Clinical Services** (*Healthcare services being measured, check all that apply*) Clinicians: Nurses, Clinicians: PA/NP/Advanced Practice Nurse, Clinicians: Physicians (MD/DO)	
TESTING/ANALYSIS	
2b. Reliability testing 2b.1 **Data/sample** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) 2b.2 **Analytic Method** *(type of reliability & rationale, method for testing)*: We calculated 95% confidence intervals, which speak to the precision of the rates obtained from field testing. 2b.3 **Testing Results** *(reliability statistics, assessment of adequacy in the context of norms for the test conducted)*: Rate (Upper Confidence Interval, Lower Confidence Interval): 0.178 (0.12, 0.24) In this field test, measures with smaller denominators (e.g. female-only measures) had larger confidence intervals, as expected with smaller sample sizes.	**2b** **C**☐ **P**☐ **M**☐ **N**☐
2c. Validity testing 2c.1 **Data/sample** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) 2c.2 **Analytic Method** *(type of validity & rationale, method for testing)*: NCQA tested the measure for face validity using a panel of stakeholders with specific expertise in measurement and child health care. This panel included representatives from key stakeholder groups, including pediatricians, family physicians, health plans, state Medicaid agencies and researchers. Experts reviewed the results of the field test and assessed whether the results were consistent with expectations, whether the measure represented quality care, and whether we were measuring the most important aspect	**2c** **C**☐ **P**☐ **M**☐ **N**☐

of care in this area. This measure was deemed valid by the expert panel. In addition, this measure does not utilize administrative data sources; data recorded in the chart is considered the gold standard. 2c.3 **Testing Results** *(statistical results, assessment of adequacy in the context of norms for the test conducted)*: NA	
2d. Exclusions Justified 2d.1 **Summary of Evidence supporting exclusion(s):** For the HPV antigen, males are excluded. ACIP only recently (May 28, 2010) released guidance that males could receive HPV vaccination. NCQA´s policy is to allow time between new vaccine releases and reporting requirements for measures. 2d.2 **Citations for Evidence:** Centers for Disease Control and Prevention. MMWR May 28, 2010. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5920a5.htm?s_cid=mm5920a5_e 2d.3 **Data/sample** *(description of data/sample and size)*: NA 2d.4 **Analytic Method** *(type analysis & rationale)*: NA 2d.5 **Testing Results** *(e.g., frequency, variability, sensitivity analyses)*: NA	**2d** C☐ P☐ M☐ N☐ NA☐
2e. Risk Adjustment for Outcomes/ Resource Use Measures 2e.1 **Data/sample** *(description of data/sample and size)*: NA 2e.2 **Analytic Method** *(type of risk adjustment, analysis, & rationale)*: NA 2e.3 **Testing Results** *(risk model performance metrics)*: NA 2e.4 **If outcome or resource use measure is not risk adjusted, provide rationale:** The measure assesses prevention and wellness in a general population; risk adjustment is not indicated.	**2e** C☐ P☐ M☐ N☐ NA☐
2f. Identification of Meaningful Differences in Performance 2f.1 **Data/sample from Testing or Current Use** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure) 2f.2 **Methods to identify statistically significant and practically/meaningfully differences in performance** *(type of analysis & rationale)*: Comparison of means and percentiles; analysis of variance against established benchmarks; if sample size is >400, we would use an analysis of variance 2f.3 **Provide Measure Scores from Testing or Current Use** *(description of scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*: Eligible Population: 163 HPV Rate: 0.178	**2f** C☐ P☐ M☐ N☐
2g. Comparability of Multiple Data Sources/Methods 2g.1 **Data/sample** *(description of data/sample and size)*: NCQA received data from 18 physician practices who submitted 10 records per measure (total 180 records per measure)	**2g** C☐ P☐ M☐ N☐

2g.2 Analytic Method *(type of analysis & rationale)*: This measure is chart review only; no other sources were identified by the expert panel; this measure does not utilize administrative data **2g.3 Testing Results** *(e.g., correlation statistics, comparison of rankings)*: NA	**NA**☐
2h. Disparities in Care **2h.1 If measure is stratified, provide stratified results** *(scores by stratified categories/cohorts)*: The measure is not stratified to detect disparities. **2h.2 If disparities have been reported/identified, but measure is not specified to detect disparities, provide follow-up plans:** NA	**2h** **C**☐ **P**☐ **M**☐ **N**☐ **NA**☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Scientific Acceptability of Measure Properties?*	**2**
Steering Committee: Overall, to what extent was the criterion, *Scientific Acceptability of Measure Properties*, met? **Rationale:**	***2*** **C**☐ **P**☐ **M**☐ **N**☐
3. USABILITY	
Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)	**Eval Rating**
3a. Meaningful, Understandable, and Useful Information **3a.1 Current Use:** Not in use but testing completed **3a.2 Use in a public reporting initiative (disclosure of performance results to the public at large)** (*If used in a public reporting initiative, provide name of initiative(s), locations, Web page URL(s). If not publicly reported, state the plans to achieve public reporting within 3 years*): This measure is not currently publicly reported. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. **3a.3 If used in other programs/initiatives (***If used in quality improvement or other programs/initiatives, name of initiative(s), locations, Web page URL(s). If not used for QI, state the plans to achieve use for QI within 3 years***):** This measure is not currently used in QI. NCQA is exploring the feasibility of adding this measure and its related measures into a physician-level program and/or the HEDIS® measurement set as appropriate. NCQA anticipates that after we release these measures, they will become widely used, as all our measures do. **Testing of Interpretability** (*Testing that demonstrates the results are understood by the potential users for public reporting and quality improvement*) **3a.4 Data/sample** *(description of data/sample and size)*: NA **3a.5 Methods** *(e.g., focus group, survey, QI project)*: NCQA vetted the measures with its expert panel. In addition, throughout the development process, NCQA vetted the measure concepts and specifications with other stakeholder groups, including the National Association of State Medicaid Directors, NCQA's Health Plan Advisory Council, NCQA's Committee on Performance Measurement, and the American Academy of Pediatrician's Quality Improvement Innovation Network. After field testing, NCQA also conducted a debrief call with field test participants. In the form of a group interview, NCQA systematically sought feedback on whether the measures were understandable, feasible, important, and had face validity.	**3a** **C**☐ **P**☐ **M**☐ **N**☐

3a.6 **Results** *(qualitative and/or quantitative results and conclusions)*: NCQA received feedback that the measure is understandable, feasible, important and valid.	
3b/3c. Relation to other NQF-endorsed measures 3b.1 **NQF # and Title of similar or related measures:**	
(for NQF staff use) **Notes on similar/related endorsed or submitted measures:**	
3b. Harmonization If this measure is related to measure(s) already endorsed by NQF (e.g., same topic, but different target population/setting/data source or different topic but same target population): 3b.2 **Are the measure specifications harmonized? If not, why?**	**3b** C☐ P☐ M☐ N☐ NA☐
3c. Distinctive or Additive Value 3c.1 **Describe the distinctive, improved, or additive value this measure provides to existing NQF-endorsed measures:** 5.1 **If this measure is similar to measure(s) already endorsed by NQF (i.e., on the same topic and the same target population), Describe why it is a more valid or efficient way to measure quality:** NA	**3c** C☐ P☐ M☐ N☐ NA☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Usability?*	**3**
Steering Committee: Overall, to what extent was the criterion, *Usability*, met? **Rationale:**	**3** C☐ P☐ M☐ N☐
4. FEASIBILITY	
Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)	**Eval Rating**
4a. Data Generated as a Byproduct of Care Processes 4a.1-2 **How are the data elements that are needed to compute measure scores generated?** Data generated as byproduct of care processes during care delivery (Data are generated and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition), Coding/abstraction performed by someone other than person obtaining original information (E.g., DRG, ICD-9 codes on claims, chart abstraction for quality measure or registry)	**4a** C☐ P☐ M☐ N☐
4b. Electronic Sources 4b.1 **Are all the data elements available electronically?** (*elements that are needed to compute measure scores are in defined, computer-readable fields, e.g., electronic health record, electronic claims*) No 4b.2 **If not, specify the near-term path to achieve electronic capture by most providers.** NCQA plans to eventually specify this measure for electronic health records.	**4b** C☐ P☐ M☐ N☐
4c. Exclusions 4c.1 **Do the specified exclusions require additional data sources beyond what is required for the numerator and denominator specifications?** No 4c.2 **If yes, provide justification.**	**4c** C☐ P☐ M☐ N☐ NA☐

4d. Susceptibility to Inaccuracies, Errors, or Unintended Consequences **4d.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measure and describe how these potential problems could be audited. If audited, provide results.** During the measure development process the Child Health MAP and measure development team worked with NCQA's certified auditors and audit department to ensure that the measure specifications were clear and auditable. The denominator, numerator and optional exclusions are concisely specified and align with our audit standards.	**4d** C☐ P☐ M☐ N☐
4e. Data Collection Strategy/Implementation **4e.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data/missing data, timing/frequency of data collection, patient confidentiality, time/cost of data collection, other feasibility/ implementation issues:** Based on field test results, we have specified the measure to assess whether screening was documented and whether use of a standardized tool was documented. Our field test results showed that these data elements are available in the medical record. In addition, our field test participants noted that many were able to program these requirements into their electronic health record systems, and several implemented point-of-service physician reminders for this measure. **4e.2 Costs to implement the measure** (*costs of data collection, fees associated with proprietary measures*)**:** Collecting measures from medical charts is time-consuming and can be burdensome. Adapting this measure in electronic health records may relieve some of this burden. **4e.3 Evidence for costs:** Based on field test participant feedback and other stakeholder input. **4e.4 Business case documentation:**	**4e** C☐ P☐ M☐ N☐
TAP/Workgroup: What are the strengths and weaknesses in relation to the subcriteria for *Feasibility?*	**4**
Steering Committee: Overall, to what extent was the criterion, *Feasibility*, met? **Rationale:**	**4** C☐ P☐ M☐ N☐
RECOMMENDATION	
(for NQF staff use) **Check if measure is untested and only eligible for time-limited endorsement.**	**Time-limited** ☐
Steering Committee: Do you recommend for endorsement? **Comments:**	Y☐ N☐ A☐
CONTACT INFORMATION	
Co.1 Measure Steward (Intellectual Property Owner) **Co.1 Organization** National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005 **Co.2 Point of Contact** Sepheen, Byron, byron@ncqa.org, 202-955-3573-	
Measure Developer If different from Measure Steward **Co.3 Organization**	

National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.4 **Point of Contact**
Sepheen, Byron, byron@ncqa.org, 202-955-3573-

Co.5 **Submitter If different from Measure Steward POC**
Sepheen, Byron, byron@ncqa.org, 202-955-3573-, National Committee for Quality Assurance

Co.6 **Additional organizations that sponsored/participated in measure development**

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development
Ad.1 **Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**
Child Health Measurement Advisory Panel:
Jeanne Alicandro
Barbara Dailey
Denise Dougherty, PhD
Ted Ganiats, MD
Foster Gesten, MD
Nikki Highsmith, MPA
Charlie Homer, MD, MPH
Jeff Kamil, MD
Elizabeth Siteman
Mary McIntyre, MD, MPH
Virginia Moyer, MD, MPH, FAAP
Lee Partridge
Xavier Sevilla, MD, FAAP
Michael Siegal
Jessie Sullivan

Ad.2 **If adapted, provide name of original measure:** NA
Ad.3-5 **If adapted, provide original specifications URL or attachment**

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.6 **Year the measure was first released:**
Ad.7 **Month and Year of most recent revision:**
Ad.8 **What is your frequency for review/update of this measure?**
Ad.9 **When is the next scheduled review/update for this measure?**

Ad.10 **Copyright statement/disclaimers:**

Ad.11 -13 **Additional Information web page URL or attachment:**

Date of Submission (*MM/DD/YY*)**:** 01/18/2011