Report from the fall meeting
October 26th and 27th, 2013
National Conference and Exhibit
Orlando, FL

American Academy of Pediatrics Committee on Infectious Diseases Fall meeting, 2013

Among the different topics discussed during the two-day meeting that was held last fall during the AAP congress, the key points are summarized here:

1. Rocky Mountain Spotted Fever (RMSF)
a. Children with RMSF experience a case fatality rate 6 times higher than that of adults (Dahlgren et al, AJTMH 2012 86(4), 713-719).
b. AAP and CDC recommend doxycycline for treatment of suspected RMSF in patients of all ages, including children < 8 years.
c. A study examining the permanent teeth of American Indian children who received doxycycline for suspected RMSF infection was conducted during September 2013. The study examined the permanent teeth of ~ 75 children who had received doxycycline before the age of 8, and found no evidence of classic tetracycline banding; in addition, the study showed no difference in permanent tooth color (as detected by a colorimetric reader administered by licensed dentists) between children who had received doxycycline and those who had not.

2. Guidelines for use of a new Tuberculosis (TB) diagnostic assay
a. In August 2013, FDA permitted marketing of the new Xpert MTB/RIF assay
b. Xpert MTB/RIF is a nucleic acid amplification assay to detect DNA of the Mycobacterium tuberculosis complex and genetic mutations associated with resistance to rifampin in unprocessed sputum and concentrated sputum sediments.
c. The utility of this assay for diagnosing pediatric TB is still being studied and the technical problems with collecting satisfactory specimens from young children remains unchanged.

3. Influenza:
2012-13 season predominantly A H3N2 season in US;
Moderately severe season; 164 pediatric influenza deaths reported; Influenza hospitalizations - rate among children 0-4 years 2nd highest rate after 65+ years; Pneumonia and influenza mortality exceeded epidemic threshold for a number of weeks in mid season.

Vaccine composition (2013-2014):
  • A/California/7/2009 (H1N1) pdm09-like virus
  • A/Victoria/361/2011 (H3N2) – like virus
  • B/Massachussetts/2/2012-like virus

It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Brisbane/60/2008-like virus.

4. Rotavirus (RV)
a. Updated data on risk of intussusception for both RV vaccines presented at June ACIP meeting. For dose 1:
Overall attributable risk of 1 - 6 additional cases/100,000 infants vaccinated for both vaccines.
- Benefits of vaccine continue to far exceed risks.
5. Pneumococcal disease
a. Continued impact of PCV13 in children and other age groups; preliminary analysis Vaccine Effectiveness ≥ 1 dose ~ 88%
c. Discussion of future consideration of 3 dose vaccine schedule (2+1) use in the United States

6. Meningococcal disease
a. MenACWY-CRM recommended for routine use in high risk infants June ACIP meeting.
b. Mening B outbreak Princeton NJ. Bexsero, under investigational new drug (IND), was used among the students with a high uptake.
c. Mening C outbreak among MSM in New York City (NYC) (22 cases and 7 deaths 2010-2013; 55% HIV+). NYC Department of Health and Mental Hygiene DOHMH has issued local targeted vaccine recommendations

7. Respiratory Syncytial Virus (RSV)
The high cost of the use of palivizumab was discussed and new recommendations for RSV immunoprophylaxis will be discussed in the next year.

8. Polio
A polio endgame plan has been adopted which calls for:
  • stopping wild virus transmission by the end of 2014,
  • implementation of IPV in routine immunization schedules in all countries by the 3rd quarter of 2015,
  • switching from the current trivalent oral polio vaccine (tOPV) to a bivalent vaccine containing only types 1 and 3 because type 2 vaccine virus has been shown, on occasion, to circulate in populations and regain its neurovirulence, and
  • certifying wild virus eradication and stopping all OPV use by 2018 or 2019
  • IPV would continue to be used for at least five more years to provide security that polioviruses do not re-emerge.

Report from the Sociedad Latinoamericana de Infectologia Pediatrica (SLIPE)
A brief summary of the key recommendations regarding selected vaccination programs in Latin America, discussed during the last Meeting of the Technical Advisory Group (TAG) on Vaccine-preventable Diseases of the Pan American Health Organization (PAHO) was presented to the Committee on Infectious Diseases (COID):

1. Pertussis:
Several Latin-American countries have reported pertussis outbreaks during the last 3 years.
It was emphasized to continue striving to provide timely vaccination and achieve coverage levels >95% with pertussis-containing vaccines in all municipalities.
There is insufficient benefit to consider changing from whole-cell pertussis-containing vaccines to acellular pertussis-containing vaccines. Countries using current vaccination schedules with whole-cell pertussis vaccines should continue to do so.
TAG reiterates its previous recommendations related to outbreaks. These recommendations include lowering the age for initiating vaccination to 6 weeks and vaccinating pregnant women only in areas affected by the outbreak. Currently, there is no evidence for TAG to recommend routine vaccination of pregnant women.

2. Yellow fever:
Since one yellow fever vaccine dose appear to be sufficient to provide sustained immunity and life-long protection against the disease, no booster doses is required*. In regards to special populations, immunocompromising conditions including symptomatic HIV or CD4+ counts < 200 cells/mm3 are contraindications to vaccination while age ≥60 years, pregnancy, and breastfeeding are precautions to vaccination. A risk-benefit analysis is recommended for individuals with a precaution to vaccination.

The recommendation for the simultaneous administration of MMR and yellow fever is maintained, given that to date there is no sufficient evidence to change current recommendations.

*Brazil decided to maintain the recommendation for booster doses each 10 years for those individuals living or travelling to areas at risk of disease, until more evidence is obtained.

Measles, Mumps, Rubella (MMR):
All efforts to maintain the elimination of measles, rubella and CRS in the region were encouraged.

With the goal of achieving the highest MMR2 coverage possible, administration of the MMR2 vaccine is recommended at 15-18 months, and can be given simultaneously with other vaccines, such as the first DTP booster.

Brazil implemented, from September 2013, one dose varicella vaccine program, using the tetravalent measles/mumps/rubella/varicella (MMRV) vaccine at 15 months. MMR vaccine still maintained at 12 months.

Dengue:
In October 2012, preliminary results of the phase IIb trial of the lead vaccine candidate (CYD-TDV, a chimeric live-attenuated tetravalent vaccine), conducted in Thailand, were published. The results showed that the vaccine had an adequate safety and immunogenicity profile. However, overall efficacy was statistically not significant (30.2%; 95% confidence interval [CI]: -13.4%–56.6%) and lack of efficacy was observed against DENV2, the prevalent serotype during the study. Phase III trials for the CYD-TDV candidate are ongoing in the region (including in Brazil, Colombia, Honduras, Mexico and Puerto Rico) and their results will eventually be critical for a CYD-TDV licensure.
PAHO should support national regulatory authorities in defining harmonized regulatory pathways for the licensure of dengue vaccines.

TAG considers important that, once licensed, dengue vaccine is not only made available to larger countries in the Region but also to smaller countries, if they so choose.

**Pneumococcal disease:**
To date, 26 countries and territories in the region have already implemented routine pneumococcal conjugate vaccine programs.

PCV should be introduced in the routine vaccination schedule for children and high coverage should be maintained.

Countries should establish high quality epidemiological surveillance of pneumonia and invasive bacterial diseases in adults and the elderly, at sentinel sites, to better understand the epidemiological profile of the disease in these age groups and to measure the herd effect of the conjugate vaccines used.

The available evidence does not support the use of PPV23 in adults with risk factors due to the questionable effectiveness of the vaccine in preventing pneumococcal disease in this risk group.

Countries currently using PPV23 in adult populations should consider conducting strategic research to contribute to the understanding around the value this vaccine.

At this time, TAG does not recommend the use of conjugate pneumococcal vaccines for all adults. Introduction of PCV in adults should be grounded in evidence and decisions should not be based on the availability of donations or other factors.

**Influenza:**
By 2012, 41 countries and territories in the region were using the seasonal influenza vaccine in the public sector to protect one or more risk group. This includes 39 countries and territories that vaccinate the elderly; 37 have vaccinated healthcare workers, 30 vaccinate children, and 34 that vaccinate individuals with chronic diseases. It is important to note the progress made in the vaccination of pregnant women. As of 2008, only seven countries were vaccinating pregnant women against seasonal influenza. Following the H1N1 pandemic, there has been a rapid increase in the number of countries vaccinating this group, which grew from 7 to 22 countries in the last two years.

TAG reiterates its and Strategic Advisory Group of Experts - SAGE’s previous recommendations on the vaccination of high-risk groups against seasonal influenza, with special emphasis on pregnant women. Due to the vulnerability of pregnant women to complications from influenza infection, countries should strengthen vaccination of pregnant women.
Countries should increase vaccination coverage in healthcare workers and identify the reasons for non-vaccination in this group in order to try to reduce these obstacles.
Countries should improve the quality of coverage data on the influenza vaccine in high-risk populations, including the standardization of denominators.

**Polio:**
Countries of the Americas must wait for the fulfillment of the conditions stated by SAGE for the cessation of the use of Sabin type 2 containing vaccines; these conditions must be met before making any change in vaccination policy. As long as there are outbreaks caused by cVDPV type 2 and the wild poliovirus continues to circulate in the world, the trivalent oral polio vaccine (tOPV) remains the vaccine of choice for the Americas.
PAHO should convene a Working Group to develop a strategic plan describing current options and scenarios, as well as the timelines for the implementation of the polio endgame in the Americas. This plan should discuss the feasibility of using different OPV/IPV schedules; the availability of combination vaccines containing IPV, where the ideal situation would be having an hexavalent DTwP-Hib-IPV-HepB vaccine, among other issues.
All countries must reinforce the activities aimed to achieve or maintain vaccination coverage >95% in every district or municipality. If countries do not achieve that coverage they must evaluate the accumulation of non-immunized and conduct vaccination campaigns.
All countries must continue to maintain adequate acute flaccid paralysis (AFP) surveillance in order to timely detect any importation or emergence of *Vaccine derived Poliovirus (VDPVs)*, and must report to PAHO on a timely fashion to allow the proper monitoring of the Regional situation.
TAG reinforces its previous recommendations (Argentina 2011) for countries considering the introduction of inactivated polio vaccine (IPV); compliance with sanitary conditions and vaccination coverage guaranteeing an adequate protection to their communities.
PAHO must continue to maintain a dialogue with vaccine suppliers in order to guarantee the provision of polio vaccines for the Americas

**Meningococcal disease:**
It is imperative that the countries implement systems for epidemiological surveillance of meningococcal disease in order to know its real magnitude and epidemiological profile. PAHO should continue providing guidance for the standardization of lab diagnostic methods and for the reporting of the disease.
Countries that already have sentinel epidemiological surveillance for bacterial meningitis and pneumonia in children under five should establish a plan of action to improve the quality of
information, including improvement in and standardization of diagnostic laboratory techniques.

Countries should establish sentinel sites for other age groups for bacterial meningitis and pneumonia, using standard laboratory techniques and case definitions.

Countries should analyze their epidemiology, during outbreaks and epidemics, before making decisions regarding control measures, including the identification of groups to vaccinate and the vaccine to be used.

Countries with high burden of disease in young children that decide to introduce meningococcal conjugate vaccine as part of the routine immunization program targeting children aged <1 or <2 years should ideally include catch-up vaccination of children and adolescents, or at least of adolescents, given that this is the age-group with the highest carriage levels.

**HPV:**

Countries which have introduced HPV vaccine should strengthen their efforts to characterize vaccination coverage at subnational and national levels.

TAG also recommends that countries, which are considering an introduction, carefully plan information systems to collect and analyze coverage data at all levels.

TAG endorses the June 2013 statement of WHO Global Advisory Committee on Vaccine Safety related to HPV vaccine and recommends that PAHO disseminate evidence of HPV vaccine safety in the Region.

Countries should, depending on their capacities, adopt the activities laid out in the regional framework for impact evaluation of HPV vaccine. TAG recognizes that a regional network of HPV laboratories is an integral component of such a framework.

TAG recommends 2- and 3-dose extended HPV immunization schedules for girls aged 9–13 years as they can offer immunological, programmatic and financial advantages. TAG also recognizes the need to gather data on a longer term for 2-dose schedules.

PAHO should continue to explore mechanisms to make the HPV vaccine more affordable without compromising the principles of the Revolving Fund.