

VACCINE UPDATES AND HOW TO DEAL WITH
VACCINE HESITANCY

JESSICA MAYER, DO
PROGRAM DIRECTOR, PCOM/SUBURBAN COMMUNITY HOSPITAL FAMILY MEDICINE RESIDENCY

#POFPS44

DISCLOSURES

I have no relevant financial relationships or conflicts of interest to disclose.

#POFPS44

VACCINE UPDATES

- We will review updates to vaccine recommendations for both kids and adults over the last 3 years.
- Some recommendations are very new from the June 2019 ACIP meeting and have not yet been published in the CDC's Morbidity and Mortality Weekly Report

#POFPS44

HERPES ZOSTER

- Herpes zoster subunit vaccine (Shingrix) recommend for use over herpes zoster live vaccine (Zostavax)
- Recommended for adults over age 50
- Two dose series is given Intramuscularly separated by 2-6 months
 - Do not restart if it has been more than 6 months
- New vaccine is much more effective and should be given even to patients who have already had the live vaccine

#POFPS44

MEASLES, MUMPS & RUBELLA

- Now recommending a 3rd dose for at-risk patients during outbreaks
 - State or local health departments will give guidance as far as who needs an additional dose of the vaccine during local outbreaks

#POFPS44

HUMAN PAPILLOMA VIRUS

- Individuals who receive their first dose under the age of 15 are recommended to have a 2 dose series
 - At least 6 months between the first and third doses; if a shorter interval exists, then a 3rd dose is needed
- Individuals who receive their first dose over the age of 15 still receive 3 doses as before
- Upper age limit for HPV vaccine increased to 45, recommendations for vaccinating patients between 27-45 should be based on a discussion between the physician and the patient
- Catch up is definitely recommended for all patients (now including males) up to age 26

#POFPS44

PCV13

- New recommendation is to have a conversation about PCV-13 vaccination with immunocompetent adults over age 65 rather than recommending vaccinating all patients over 65
- Still a blanket recommendation for 23 valent pneumococcal polysaccharide vaccine for patients over 65

#POFPS44

HEPATITIS A

- Now recommending catch-up vaccination for all patients aged 2-18 who have not received the Hep A series
- All patients aged 12 months and up experiencing homelessness should be vaccinated for Hep A

#POFPS44

SEROGROUP B MENINGOCOCCAL VACCINES

- Routine vaccination recommended for all patients 10 and older with the following:
 - Complement deficiency
 - Complement inhibitor use
 - Asplenia
 - Or who are microbiologists
- A booster is recommended 1 year after completing the primary series and every 2-3 years thereafter as long as the risk remains
- During an outbreak a one time booster recommended for individuals determined to be at risk by public health officials if it has been greater than 1 year since their primary series

#POFPS44

ANTHRAX VACCINE

- New guideline for every 3 year booster for individuals already immunized who want to maintain their protection, but aren't at current risk

#POFPS44

DENGUE FEVER

- There is a new vaccine for Dengue fever
- FDA approved a 3 dose schedule
- Updated guidelines for use will be forthcoming

#POFPS44

VACCINE HESITANCY

- Has been a growing problem not just in the US, but globally
- The World Health Organization's Strategic Advisory Group of Experts on Immunization (SAGE) put together resources for countries and local communities to help address vaccine hesitancy
- Wide variety of reasons why patients or parents may question, delay or refuse vaccines and it helps to explore where a community or individual is coming from to most appropriately address the concern

#POFPS44

SAGE MODEL TO IDENTIFY DETERMINANTS OF VACCINE HESITANCY						
CONTEXTUAL INFLUENCES Influences arising from historical, socio-cultural, environmental, health system-level, educational, economic or political factors	1. Influential leaders, gatekeepers and/or pre-validators Media and social media can create a negative or positive opinion and can provide a platform for influencers to influence others. Key opinion leaders in social media can influence vaccine acceptance or hesitancy. It can facilitate the organization of social networks for or against vaccines.	2. Historical influences Historic influences such as the negative experience of the Tuskegee trial in Nigeria can undermine public trust and influence vaccine acceptance, especially when combined with pressures of influential leaders and media. A negative experience isn't necessarily limited to vaccination but may affect it.	3. Religion/culture/race/ethnicity/economic A few examples of the interplay of religious/cultural influences include: Some religious leaders prohibit vaccines. Some cultures do not want non-vaccinating children. Some cultures value boys over girls and fathers don't allow children to be vaccinated.	4. Politics/policies (Mandates) Vaccine mandates can provide vaccine hesitancy not necessarily because of safety or other concerns, but due to resistance to the notion of forced vaccination.	5. Geographic barriers A population can have general confidence in a vaccine and health service, and be motivated to receive it, but hesitate to visit a health center if too far away or access is difficult.	6. Pharmaceutical industry Industry may be obstructed and influence vaccine hesitancy when perceived as driven only by financial motives and not in public health interest. This can extend to government when perceived that they are also being pushed by industry and not transparent.

Summary of WHO SAGE conclusions and recommendations on Vaccine Hesitancy, January 2015, Table 1.

SAGE MODEL TO IDENTIFY DETERMINANTS OF VACCINE HESITANCY						
INDIVIDUAL AND SOCIAL INFLUENCES Influences arising from personal perception of the vaccine or influences of the sociocultural environment	1. Experience with vaccination Past experience with vaccination can influence vaccine acceptance or hesitancy. A negative experience with vaccination can lead to hesitancy. A positive experience with vaccination can lead to acceptance. A negative experience with vaccination can lead to hesitancy. A positive experience with vaccination can lead to acceptance.	2. Beliefs, attitudes and perceptions Vaccine hesitancy is a result of a number of the factors related to the vaccine, including the importance of vaccination, the belief that other people will get it, the belief that other people will get it, the belief that other people will get it, the belief that other people will get it.	3. Knowledge/awareness Decisions to vaccinate or not to vaccinate are influenced by a number of the factors related to the vaccine, including the importance of vaccination, the belief that other people will get it, the belief that other people will get it, the belief that other people will get it.	4. Health system and personal experience Trust in a doctor or government or confidence in general can affect trust in vaccination and confidence in vaccination. Programs designed to increase trust in the government, trust in vaccination, and confidence in vaccination can be effective.	5. Risk/benefit perception Perceptions of risk as well as vaccine acceptance. Confidence in a vaccine is influenced by perceived risk/benefit ratio.	6. Information as a vaccine is perceived Vaccine acceptance or hesitancy is influenced by perceived risk/benefit ratio.

Summary of WHO SAGE conclusions and recommendations on Vaccine Hesitancy, January 2015, Table 1. #POFPS44

SAGE MODEL TO IDENTIFY DETERMINANTS OF VACCINE HESITANCY							
VACCINE CHARACTERISTICS Quality of vaccine or vaccination	1. Vaccine quality Quality of vaccine or vaccination can influence vaccine acceptance or hesitancy. A high quality vaccine can lead to acceptance. A low quality vaccine can lead to hesitancy.	2. Availability of vaccine Availability of vaccine can influence vaccine acceptance or hesitancy. A high availability of vaccine can lead to acceptance. A low availability of vaccine can lead to hesitancy.	3. Ease of access Ease of access to vaccine can influence vaccine acceptance or hesitancy. A high ease of access to vaccine can lead to acceptance. A low ease of access to vaccine can lead to hesitancy.	4. Safety of vaccine Safety of vaccine can influence vaccine acceptance or hesitancy. A high safety of vaccine can lead to acceptance. A low safety of vaccine can lead to hesitancy.	5. Effectiveness of vaccine Effectiveness of vaccine can influence vaccine acceptance or hesitancy. A high effectiveness of vaccine can lead to acceptance. A low effectiveness of vaccine can lead to hesitancy.	6. Cost of vaccine Cost of vaccine can influence vaccine acceptance or hesitancy. A high cost of vaccine can lead to hesitancy. A low cost of vaccine can lead to acceptance.	7. Risk/benefit perception Perceptions of risk as well as vaccine acceptance. Confidence in a vaccine is influenced by perceived risk/benefit ratio.

Summary of WHO SAGE conclusions and recommendations on Vaccine Hesitancy, January 2015, Table 1. #POFPS44

WHO SAGE RECOMMENDATIONS

- Obviously with this wide variety of reasons why, there is no one strategy that can be employed to address vaccine hesitancy globally
- Even when the issue is identified a multi-prong approach is recommended over a single intervention
- Some suggested strategies may include:
 - Engagement of religious leaders
 - Social mobilization
 - Mass Media
 - Improving convenience and access to vaccination
 - Mandating vaccinations/sanctions for non-vaccination
 - Employing reminder and follow-up
 - Communications training for health care workers
 - Non-financial incentives
 - Aim to increase knowledge, awareness about vaccination

#POFPS44

LOOKING AT VACCINE HESITANCY IN THE US

- Increasing over the last several years
- More often white and highly educated than not
- Increasing rates of philosophical exemptions (ie not medical or religious)

#POFPS44

PARENTAL CONCERNS – VACCINE SAFETY

Too many Vaccines	Development of Autism	Vaccine additives	Overload the immune system	Serious adverse reactions
Potential for long-term adverse events	Inadequate research	Cause pain	Make my child sick	

#POFPS44

PARENTAL CONCERNS – NECESSITY OF VACCINES

- Disease is more “natural” than vaccine
- The diseases being prevented are not serious
- Vaccine-preventable diseases have disappeared
- Not all vaccines are needed
- Vaccines don’t work

#POFPS44

PARENTAL CONCERNS – FREEDOM OF CHOICE

- Parents have the right to choose
- Parents know what’s best for their child
- Believe risks outweigh benefits
- Do not trust organized medicine or public health
- Do not trust government health authorities
- Do not trust pharmaceutical companies
- Ethical, moral or religious reasons

#POFPS44

ADDRESSING CONCERNS

- Need to first determine the specific concern(s) that is leading to hesitancy today
- Motivational interviewing has been found to be an effective strategy

#POFPS44

STRATEGIES TO TRY

- Start with the framework that both you and the parent/patient want the best for health and well-being
 - They aren't refusing just to make our lives difficult
- Correct misconceptions
 - HPV vaccination has NOT been show to trigger early sexual activity
 - Mercury not present in single dose vaccines
 - Baby gets significantly more aluminum from breast milk or formula than vaccines

#POFPS44

STRATEGIES TO TRY

- Presumptive Delivery
 - Don't ask if they want vaccines, state the vaccines that are due at that time
- Personalizing the message
 - I vaccinate my kids, grandkids, myself, etc
- Pain reduction or distraction strategies
 - Having the child upright, tactile stimulation, breastfeeding during administration, pinwheels/deep breathing exercises

#POFPS44

WHAT DOESN'T WORK

- Media campaigns/public health communications
- Situations where the patient/parent feels judged or attacked
- Alternate or delayed vaccines schedules
 - Results in more visits, and often incomplete vaccination

#POFPS44

HANG IN THERE!

- Studies show that our conversations work
- Provider recommendation is the most important factor in patient’s decision to vaccinate
- AAP Periodic Surveys of Fellows show about 1/3 of parents that initially refused changed their mind

#POFPS44

REFERENCES

- ACIP June 2019 Meeting Recommendations. <https://www.cdc.gov/vaccines/acip/index.html>
- Dooling KL, Guo A, Patel M, et al. Recommendations of the Advisory Committee on Immunization Practices for Use of Herpes Zoster Vaccines. *MMWR Morb Mortal Wkly Rep* 2018;67:103–108. DOI: <http://dx.doi.org/10.15585/mmwr.mm6703a2external.icon>
- Doshani M, Weng M, Moore KL, Romero JR, Nelson NP. Recommendations of the Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Persons Experiencing Homelessness. *MMWR Morb Mortal Wkly Rep* 2019;68:153–156. DOI: <http://dx.doi.org/10.15585/mmwr.mm6806a6external.icon>
- Summary of WHO SAGE conclusions and recommendations on Vaccine Hesitancy, January 2015; Table 1. (https://www.who.int/immunization/programmes_systems/summary_of_sage_vaccinehesitancy_paper.pdf?ua=1)
- Edwards KM, Hackell JM. AAP THE COMMITTEE ON INFECTIOUS DISEASES, THE COMMITTEE ON PRACTICE AND AMBULATORY MEDICINE. Countering Vaccine Hesitancy. *Pediatrics*. 2016;138(3):e20162146
- McKee C, Bohannon K. Exploring the Reasons Behind Refusal of Vaccines. *J Pediatr Pharmacol Ther*. 2016 Mar-Apr; 21(2):104-109.
- LaSalle G. When the answer to vaccines is “No”. *The Journal of Family Practice*. June 2018;67:348-363.

#POFPS44
