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hosted by the Missouri Department of Health and Senior Services' Bureau of Immunization Assessment and Assurance
www.health.mo.gov/immunizations

webinar series

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Missouri's Pediatric Immunization Rates Using
ShowMeVax, Vaccines For Children Program
Assessment and National Immunization Survey Data
May 21, 2015

This webinar is designed to help the participant:

- Become aware of the current state of vaccine coverage of children in the state of Missouri.
- Understand where improvement efforts are being focused.
- Use effective scripting to help parents make healthy decisions about vaccination.

I have no relevant financial disclosures.

- Kenneth Haller, MD

Vaccination of Children in Missouri

- Bureau of Immunization Assessment and Assurance (BIAA)
 - A Division of Missouri DHSS
- Vaccines for Children (VFC)
 - Provides vaccines to children/families who may not be able to afford them
 - > 600 providers in Missouri
- ShowMeVax
 - Missouri's Vaccine Registry
 - Not mandatory
 - ~ 74% of Missouri's children 4 mo - 5 yrs for ≥ 2 doses

2015 Vaccination Schedule

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

Range of recommended ages for all children

Range of recommended ages for catch-up immunization

Range of recommended ages for certain high-risk groups

Range of recommended ages during which catch-up is encouraged and for certain high-risk groups

Not routinely recommended

Why these vaccines for kids?

- These microorganisms are – or have been – common in the population.
- They cause terrible disease in kids.
- Researchers have developed vaccines for them.

| Microorganism | Bad disease | Common in kids | Got a vaccine |
|---------------|-------------|----------------|---------------|
| Pneumococcus | YES | YES | YES |
| Rotavirus | YES | YES | YES |
| Anthrax | YES | NO | YES |
| RSV | YES | YES | NO |

Why this schedule/spacing?

- Based on how vaccines were tested and approved.
- Fits the need to get kids immunized as early and safely as possible.
- Represents a consensus of representatives from:
 - Advisory Committee on Immunization Practices (CDC)
 - American Academy of Pediatrics
 - American Academy of Family Physicians
- State and local jurisdictions decide which and when through regulations on entry to daycare and school.

Vaccination of Children in Missouri

- Rotavirus and HAV vaccines currently not required for school in Missouri
- VZV vaccine #2 required for K-5th Grade as of 2015-2016 school year
- HPV vaccine #2 & #3: tracking will start in the next year
- MCV not now required Missouri
 - Rule change will require a dose of MCV4 in 8th grade and again in 12th grade.

Vaccination of Children in Missouri

- Missouri's QI is working on 4th DTaP and 4th PCV doses this year.
- Now sending out quarterly reminder post cards for children who are 1 dose away from completing their primary pediatric series.
- First mailing – November 2014: 20% of children returned to provider 3 months.

Types of Vaccine Exemptions

- **Medical exemption:** children should be exempted if they have a contraindicating medical condition, temporary or permanent.
 - All states
- **Religious exemption:** parents may exempt their children from vaccination if it contradicts their sincere religious beliefs.
 - 48 states, Missouri **YES** (ONLY applies to grades K-12)
- **Parent/Guardian exemption:** parents may exempt their children for any reason, not restricted to purely religious or spiritual beliefs, e.g., "moral, philosophical or other personal beliefs" (ME), or simply the parent(s) beliefs (CA).
 - 19 states, Missouri **YES** (day care ONLY, NOT K and forward)

Vaccination Exemptions in Missouri

- Medical Exemption:
 - Must have form signed by MD or DO, NOT chiropractor, specifying which vaccines child cannot receive.
 - Does not need to be renewed.
- Parental and Religious Exemption:
 - Parents must fill out form.
 - Exemption cards available from BIAA.
 - Better to give to parents in person rather than mailing.
 - Parental needs annual renewal; religious does not.
- <http://www.sos.mo.gov/adrules/csr/current/19csr/19c20-28.pdf>

Vaccination Exemption: Medical



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES MEDICAL IMMUNIZATION EXEMPTION

FOR LICENSED DOCTOR OF
MEDICINE OR DOCTOR OF
OSTEOPATHY ONLY

REQUIRED UNDER THE STATE IMMUNIZATION LAWS (Section 167.181 and Section 210.003, RSMo) FOR SCHOOL AND PUBLIC, PRIVATE OR PAROCHIAL PRESCHOOL, DAY CARE CENTER, PRESCHOOL, OR NURSERY SCHOOL CARING FOR TEN OR MORE CHILDREN

Unimmunized children have a greater risk of contracting and spreading vaccine-preventable diseases to babies who are too young to be fully immunized and those who cannot be immunized due to medical conditions. In the event of an outbreak or suspected outbreak of a vaccine-preventable disease within a particular facility, children who are not fully immunized or do not have documented laboratory evidence of immunity shall not be allowed to attend school or day care until the local health authority declares the designated outbreak or health emergency has ended.

| | |
|--|--------------------------------------|
| THIS IS TO CERTIFY THAT | NAME OF CHILD (PRINT OR TYPE) |
| IS EXEMPT FROM RECEIVING THE FOLLOWING IMMUNIZATION(S) BECAUSE: <input type="checkbox"/> The child has documentation of disease or laboratory evidence of immunity to the disease. _____ (month/year) <input type="checkbox"/> The physical condition of the above-named child is such that immunization would endanger their life or health or is medically contraindicated due to other medical conditions. | |
| <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"><input type="checkbox"/> DIPHTHERIA</div> <div style="width: 50%;"><input type="checkbox"/> HEPATITIS B</div> <div style="width: 50%;"><input type="checkbox"/> HIB</div> <div style="width: 50%;"><input type="checkbox"/> MMR</div> <div style="width: 50%;"><input type="checkbox"/> PERTUSSIS</div> <div style="width: 50%;"><input type="checkbox"/> PNEUMOCOCCAL</div> <div style="width: 50%;"><input type="checkbox"/> POLIO</div> <div style="width: 50%;"><input type="checkbox"/> TETANUS</div> <div style="width: 50%;"><input type="checkbox"/> VARICELLA</div> <div style="width: 50%;"><input type="checkbox"/> OTHER _____</div> </div> | |
| PHYSICIAN/PHYSICIAN'S DESIGNEE NAME (PRINT OR TYPE) | |
| PHYSICIAN SIGNATURE | DATE |

MDH 6501.0007 / 1-1-1701

Immun 9/17

Vaccination Exemption: Religious



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES RELIGIOUS IMMUNIZATION EXEMPTION

Required under the Missouri state immunization law (Section 167.181, RSMo) of children attending public, private, and parochial or parish schools.

We strongly encourage you to immunize your child, but ultimately the decision is yours. Please discuss any concerns you have with a trusted healthcare provider or call the immunization coordinator at your local or state health department. Your final decision affects not only the health of your child, but also the rest of your family, the health of your child's friends and their families, classmates, neighbors, and community.

Unimmunized children have a greater risk of contracting and spreading vaccine-preventable diseases to babies who are too young to be fully immunized and those who cannot be immunized due to medical conditions. In the event of an outbreak or suspected outbreak of a vaccine-preventable disease within a particular facility, children who are not fully immunized or do not have documented laboratory evidence of immunity shall not be allowed to attend school or day care until the local health authority declares the designated outbreak or health emergency has ended.

| | | |
|---|--------------------------------------|-------------|
| THIS IS TO CERTIFY THAT | NAME OF CHILD (PRINT OR TYPE) | |
| SHOULD BE EXEMPTED FROM RECEIVING THE FOLLOWING CHECKED IMMUNIZATION(S) BECAUSE IMMUNIZATIONS VIOLATE MY RELIGIOUS BELIEFS: | | |
| <input type="checkbox"/> DIPHTHERIA <input type="checkbox"/> HEPATITIS B <input type="checkbox"/> MMR <input type="checkbox"/> PERTUSSIS <input type="checkbox"/> POLIO | | |
| <input type="checkbox"/> TETANUS <input type="checkbox"/> VARICELLA <input type="checkbox"/> OTHER _____ | | |
| PARENT/GUARDIAN NAME (PRINT OR TYPE) | PARENT/GUARDIAN SIGNATURE | DATE |

MO 580-1723 (07-10)

Imm.P.11A

National Immunization Survey 2013

(19 to 35 months of age)*

| HHS region, state, local | MMR (≥ 1 dose) | DTaP (≥ 4 doses) | Hep B (birth) | HepA (≥ 2 doses) | Rotavirus | Combined vaccine series 4:3:1:3:3:1:4* * |
|--------------------------|----------------------|------------------------|---------------|------------------------|-----------|---|
| National | 91.9 | 83.1 | 78.3 | 54.7 | 72.6 | 70.4 |
| Regional: | 91.1 | 84.5 | 79.1 | 54.9 | 73.5 | 71.9 |
| - IOWA | 94.5 | 89.6 | 79.5 | 57.5 | 74.7 | 78.3 |
| - KANSAS | 89.4 | 81.6 | 77.2 | 60.2 | 72.6 | 68.7 |
| - MISSOURI | 89.9 | 82.1 | 79.2 | 45.9 | 72.4 | 67.9 |
| - NEBRASKA | 92.5 | 88.3 | 81.3 | 69.5 | 76.2 | 79.0 |

*NIS surveyed 188 Missouri children.

**4 DTaP, 3 IPV, 1 MMR, 3 Hib, 3 HBV, 1 VZV, 4 PCV

VFC private providers in the US compared to Missouri 2013 for NIS

| | 3DTaP | 4DTaP | IPV | 1MMR | 3Hib | 4Hib | HBV birth |
|----|-------|-------|------|------|------|------|-----------|
| US | 95.6 | 84.6 | 94.1 | 93.2 | 94.2 | 83.4 | 76.2 |
| MO | 92.5 | 81.0 | 91.0 | 90.5 | 88.3 | 78.2 | 77.8 |

| | 3+HBV | VZV | 4PCV | 2HAV | Rota | 4:3:1:3:3:1:4 |
|----|-------|------|------|------|------|---------------|
| US | 92.2 | 83.4 | 82.6 | 55.7 | 73.5 | 71.6 |
| MO | 90.1 | 89.2 | 77.7 | 46.8 | 71.0 | 65.4 |

National Immunization Survey Teen (13-17 years of age)

| 2013 | National Data | 2013 | Missouri Data |
|-----------------------------|------------------------------|--------------------------|------------------------------|
| Adolescents = 18,264 | % Vaccinated | Adolescents = 208 | % Vaccinated |
| Tdap | 86.0% | Tdap | 81.5% |
| VZV 2 doses | 78.5% | VZV 2 doses | 58.6% |
| MCV | 77.8% | MCV | 60.7% |
| HPV 1 dose | 57.3% Females 34.6% Males | HPV 1 dose | 46.1% Females 28.8% Males |
| HPV 2 doses | 47.7% Females 23.5% Males | HPV 2 doses | 38.1% Females |
| HPV 3 doses | 37.6% Females 13.9% Males | HPV 3 doses | 20.5% Females |

Missouri Child Care Survey

| 2013 | | 2014 | |
|--------------------------|----------------------|--------------------------|----------------------|
| Children = 20,287 | % Immunized | Children = 19,765 | % Immunized |
| DTaP | 93.2% | DTaP | 93.0% |
| IPV | 97.3% | IPV | 97.7% |
| MMR | 96.3% | MMR | 96.6% |
| Hib | 95.5% | Hib | 95.5% |
| HBV | 96.2% | HBV | 96.9% |
| VZV | 96.2% | VZV | 96.2% |
| PCV | 95.0% | PCV | 95.1% |
| Exemptions | % of Children | Exemptions | % of Children |
| Medical | 0.03% | Medical | 0.02% |
| Parent/Guardian | 0.79% | Parent/Guardian | 0.54% |

Annual survey done by BIAA with daycare facilities completing survey either by mail, fax or online.

Missouri School Survey

(self-reported data as of 2/5/15)

| Kindergarten | 2013-2014 | Eighth Grade | 2013-2014 |
|-------------------------------------|---|-------------------------------------|---|
| Children enrolled 78,151 | Percentage of children immunized | Children enrolled 75,123 | Percentage of children immunized |
| DTaP | 96.0% | Tdap | 97.6% |
| IPV | 95.9% | IPV | 98.4% |
| MMR | 95.6% | MMR | 98.2% |
| HBV | 96.6% | HBV | 98.2% |
| VZV | 94.7% | VZV | 94.4% |
| Exemptions | Percentage of children | Exemptions | Percentage of children |
| Medical | 0.2% | Medical | 0.2% |
| Religious | 1.6% | Religious | 1.0% |

Exemption percentage based on antigens, not total children.

Missouri School Survey

(BIAA Staff Validation)

| Kindergarten | 2013-2014 | Eighth Grade | 2013-2014 |
|------------------------------------|---|------------------------------------|---|
| Children assessed 4,634 | Percentage of children immunized | Children assessed 1,901 | Percentage of children immunized |
| DTaP | 95.3% | Tdap | 99.0% |
| IPV | 95.4% | IPV | 98.7% |
| MMR | 95.3% | MMR | 98.6% |
| HBV | 95.8% | HBV | 98.3% |
| VZV | 94.0% | VZV | N/A |
| Exemptions | Percentage of children | Exemptions | Percentage of children |
| Medical | 0.4% | Medical | 0.2% |
| Religious | 1.4% | Religious | 1.1% |

Exemption percentage based on antigens, not total children.

Challenges in Missouri

- Dropoff in rates of both DTaP and PCV between 3rd and 4th doses.
 - National concern as number of ped visits drops after 1st birthday.
- Parents without health coverage bring their children to the doctor less often
 - No Medicaid expansion in Missouri.

Challenges in Missouri

- Some VFC providers do not give all ACIP recommended vaccines.
 - VFC agreement says: “I [provider] will comply with immunization schedules, dosages, and contraindications that are established by the Advisory Committee on Immunization Practices (ACIP) and included in the VFC program.”
 - Exemptions as allowed by state law of medical judgment.
- Parental vaccine concerns and media reports.
 - This *may* be improving.

Why?



The Disney Measles Outbreak

- Shifted the public dialogue.
- Perception of risk shifting from vaccine to disease.
- Pro-vax parents more assertive about their children's rights to a disease-free environment
- Anti-vax parents now on the defensive.
- MMR vaccine rates going up in Southern California.

The Disney Measles Outbreak

- <http://www.ksdk.com/story/news/health/2015/04/26/school-districts-measles-vaccine/26312599/>
- KSDK Channel 5 St. Louis, April 2015
- Measles story
 - Only pro-vax parents or experts, NO anti-vaxxers.
 - Only pics of kids are kids with measles, NOT kids getting shots.
 - Overall tone: Why aren't we doing more to protect our kids with vaccines?

Effective Scripting for Successful Vaccination Efforts

Scripting the Vaccine Encounter

- Make vaccines an expectation, not an option.
- People come to health care providers for expertise and professional advice.
- Say: “Today we’ll be giving little Harriet her first vaccines. It’ll be three shots and a squirt in her mouth.”
- Not: “We recommend giving Harriet her vaccines today. What would you like to do?”
- Your CPA doesn’t say, “It’s April, and we recommend you file your taxes. What would you like to do?”

Scripting the Vaccine Encounter

- At the one-year checkup, give a “roadmap” of encounters for the coming year.
- So if you give MMR, VZV, and HAV at one-year:
- Say: “We’ll be seeing Harriet back at 15 months when she’ll get her Hib, PCV, and DTaP boosters and at 18 months when she’ll get her HAV #2. That will be the end of her ‘baby shots,’ and the only vaccine she’ll need until Kindergarten is her yearly flu vaccine.”

Annual US Burden of Pneumococcal Disease in Children before Vaccine Use

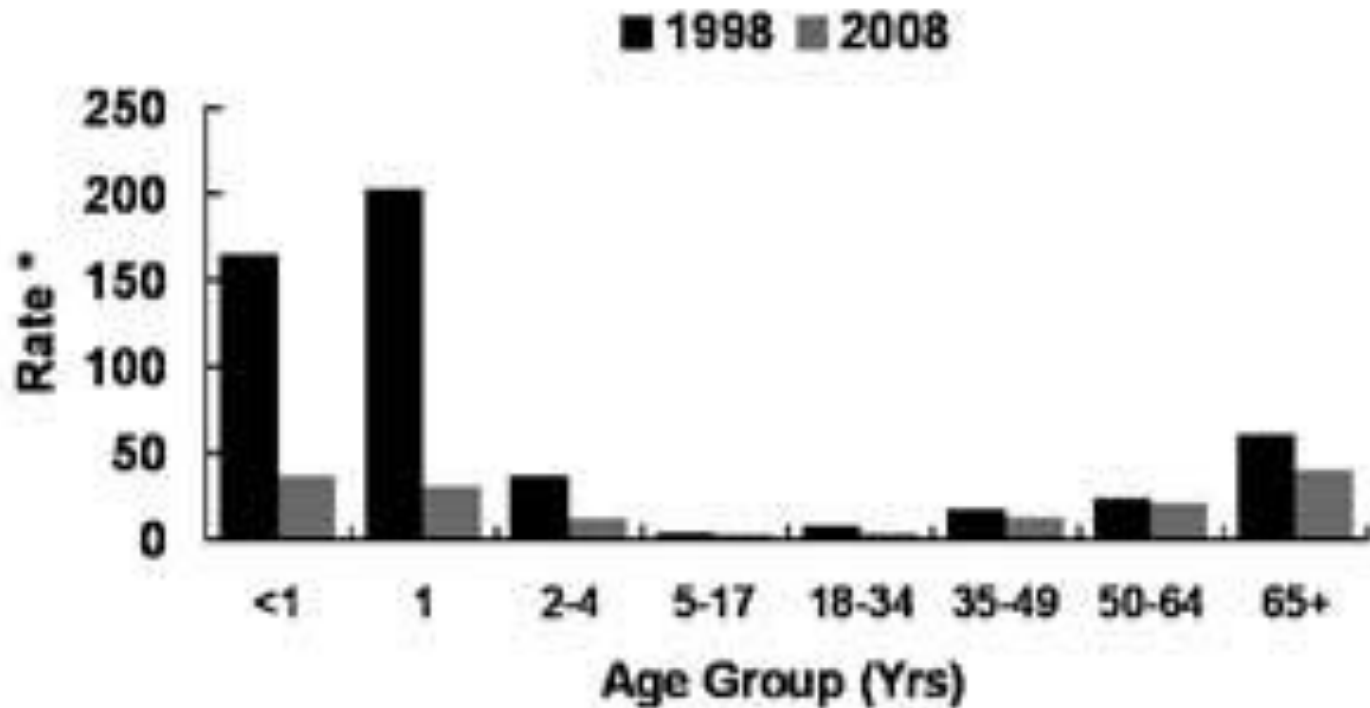
- Bacteremia - 13,000 cases
- Meningitis - 700 cases
- Death - 200 cases
- Otitis media - 5,000,000 cases

Direct Benefit of Vaccination: Invasive Pneumococcal Disease (IPD) Among Children < 5 Years Old

| Pneumococcal Dz/100,000 | 1998-99 | 2008 |
|-------------------------|---------|------|
| All IPD | 100 | 21 |
| Vaccine serotypes | 80 | 0.2 |

Source: Active Bacterial Core Surveillance/EP Network

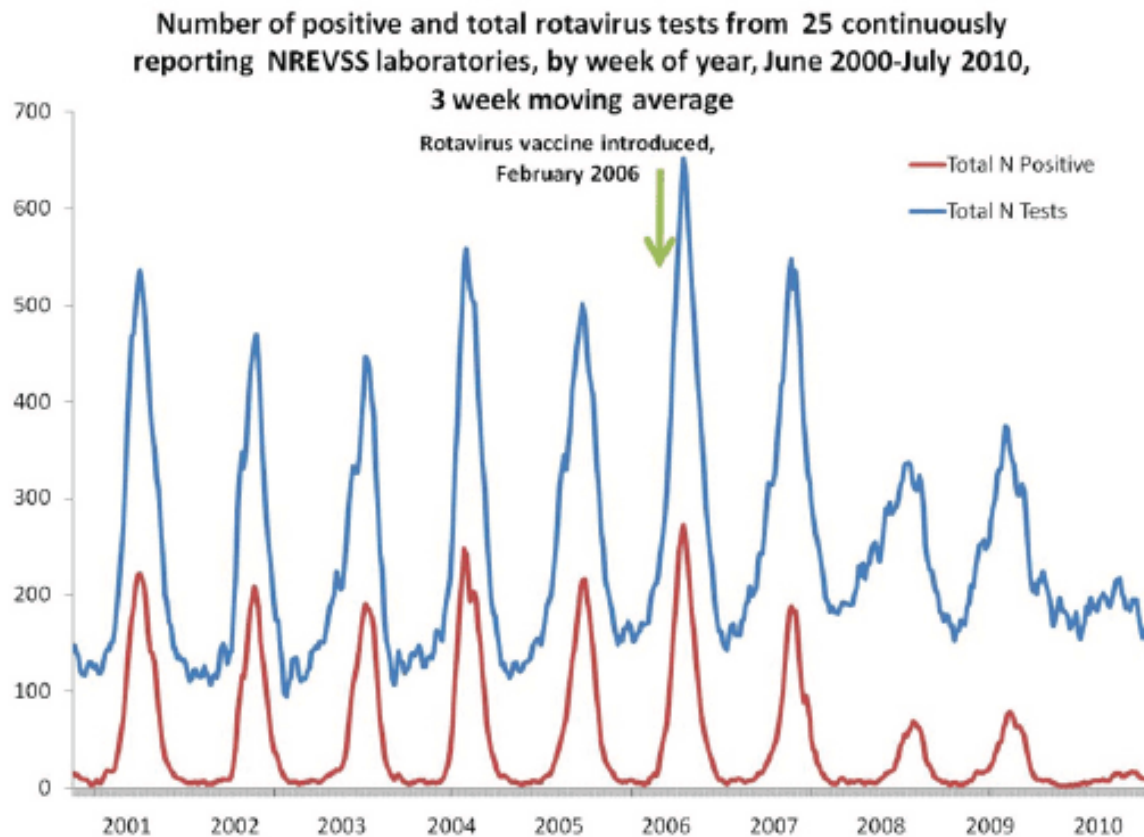
Direct Benefit of Vaccination: Invasive Pneumococcal Disease (IPD) Among All Populations



IPD in MO in children < 5 years old by District, 2012

| | |
|--------------|-----------|
| Central | 1 |
| Eastern | 11 |
| Northwest | 9 |
| Southeast | 3 |
| Southwest | 10 |
| TOTAL | 34 |

Direct Benefit of Vaccination: Rotavirus Testing and Disease



Rotavirus incidence trends from 2001-2010 using passively reported laboratory rotavirus test data from the National Respiratory and Enteric Virus Surveillance System (NREVSS).

Skills of Master Physicians

- Do the little things
- Take time and listen
- Be open
- Find something to like, to love
- Remove barriers
- Let the patient explain
- Share authority
- Be committed and trustworthy

Healing Skills for Medical Practice

Larry R. Churchill, PhD, and David Schenck, PhD

18 November 2008 Annals of Internal Medicine Volume 149 •

Number 10

Skills of Good Actors

- Actively listen & watch what is going on
- Connect with the actor across from you
- Find what you like about characters
- Be prepared before you go onstage
- Do your work, let your colleagues do theirs
- Let your partner explain
- Treat all your colleagues with respect.
- Be committed and trustworthy

Acting Essentials: A Practical Beginning Acting Handbook

Alex Golson

McGraw-Hill 2002

Health Care Providers and Actors

- Competence
- Respect for colleagues
- Clear communication
- Awareness of self and others
- Empathy for clients (patients/audience)
- Ability to connect

“Yes &”: Improv & Medicine

- “Yes, &... is the most important rule in improv... [It] means that whenever two actors are on stage, they agree with each other to the Nth degree.”
 - Halpern C., Close D., Johnson K. H. (1994). Truth in Comedy. Colorado Springs, CO: Meriwether.
- Unconditional Positive Regard (Rogers): **close and positive “regarding,” as active engagement with the other**
- Desired cognitive/emotional stance of the improviser toward her partners.
 - Iberg J. R. (2001). Unconditional positive regard: constituent activities, in Rogers' Therapeutic Conditions: Evolution, Theory and Practice

Our Challenge: Meeting Parents Where They Are While Serving Kids

- Assume parents love their kids.
- Ask parents about the basis for their fears and discomfort.
- Honor and value emotions.
- Acknowledge that parental fear and discomfort is real and even healthy.
- Share your stories.
- Help parents recognize the appropriate target for fear.
- Provide a fertile ground in which trust can grow.

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Questions?

Criticisms?

Comments?