Medical Exemptions: Separating Fact from Fiction
U.S. measles cases in first five months of 2019 surpass total cases per year for past 27 years

Low vaccination rates a big factor in ongoing measles outbreak

https://www.cdc.gov/measles/cases-outbreaks.html
### 2018 and 2019 Ocean County, NJ Measles Outbreaks

<table>
<thead>
<tr>
<th></th>
<th>2018 Outbreak</th>
<th>2019 Outbreak*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number of Cases</strong></td>
<td>33</td>
<td>12</td>
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<tr>
<td><strong>Rash Onset Date Range</strong></td>
<td>10/17/18 to 11/30/18</td>
<td>2/28/19 to 3/30/19</td>
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</tbody>
</table>
| **County of Residence**        | Ocean County – 30  
   Passaic County – 3 | Ocean County – 8  
   Monmouth County – 4 |
| **Age Range**                  | 6 months - 59 years | 5 months - 51 years |
| **Mean Age**                   | 11.5 years     | 17 years       |
| **Percent 18 or Under**        | 88%            | 67%            |
| **Vaccination Status** (measles-containing vaccine) | • 79% were unvaccinated  
   • 3% had 1 documented dose  
   • 15% had 2 documented doses  
   • 3% had unknown status | 100% were unvaccinated or had unknown status |
| **Hospitalized (does not include ED visits)** | 0              | 0              |
Vaccine Exemptions in the News

U.S. • WASHINGTON

Washington State Limits Exemptions for Non-Medical Reasons

CALIFORNIA’S VACCINATION RATE SLIPS AS MEDICAL EXEMPTIONS RISE

(CNN) — Maine has become the fourth state in the nation to prohibit people from opting out of immunization for religious or philosophical reasons.
New Jersey Immunization Regulations

N.J.A.C. 8:57-4
• Establishes minimum immunization requirements for attendance in New Jersey schools

N.J.A.C. 8:57-6
• Establishes uniform immunization requirements for attendance at institutions of higher education

Religious
Medical

Philosophical, Moral or Conscientious objections are not acceptable in New Jersey
Parent or guardian must provide a signed written statement requesting an exemption “on the ground that the immunization interferes with the free exercise of the pupil’s religious rights”

The RE does not need to state the child’s religion or specific tenants, notarized, or signed by a religious leader

No annual update is required

Religious affiliated schools can grant or deny religious exemptions from the required immunizations for pupils entering or attending their institutions
PERCENT OF REPORTED RELIGIOUS AND MEDICAL EXEMPTIONS, NEW JERSEY, 2005-2017, ANNUAL IMMUNIZATION STATUS REPORT

Medical Exemption
Religious Exemption
Medical Exemption (ME)
N.J.A.C. 8:57 – 4.3

Can only be written by a medical doctor, doctor of osteopathic medicine or an advanced practice nurse licensed to practice in the United States.

Must indicate a specific time period.

Reason(s) for medical contraindication must be enumerated by the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Pediatrics (AAP).
ACIP Contraindications and Precautions Guidelines for immunizations: https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf

2019 ACIP Recommended Immunization Schedule http://www.cdc.gov/vaccines/schedules/index.html

Vaccine Preventable Disease Program http://www.nj.gov/health/cd/vpdp.shtml

N.J.A.C. 8:57-4 and 8:57-6 http://lexisnexis.com/njol

Medical Exemptions: Separating Fact from Fiction Webinar

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Disclosure

I have no past or present financial interest or involvement with any of the products/companies that will be mentioned in this presentation.
U.S. measles cases surpass 1,000
Measles resurgence

• In 2000, the United States achieved a historic public health goal: the elimination of measles, defined by the absence of sustained transmission of the virus for more than 12 months

• However, measles continued to be reintroduced into the US by travelers

• Currently there are measles outbreaks in Europe, Asia, Africa, and the Middle East
Measles reaching a 27-year high

- CDC reported 1,044 cases as of June 13, 2019
- Cases have been reported in 28 states
- Outbreaks are ongoing in NY, CA, PA, WA
- The US is risking loss of WHO designation
Measles in the United States

Prior to 1963, about 3 to 4 million people contracted measles each year.

Of those infected:

• 48,000 were hospitalized
• 4,000 developed encephalitis
• 400 to 500 died
Measles Transmission

• Transmitted primarily by respiratory droplets and small-particle aerosols; truly airborne
• Can remain viable in the air for up to 2 hours
• Each infected person can go on to infect an additional 9 to 18 individuals
• Non-immunized individuals have up to a 90% chance of contracting the disease if exposed to the virus
MMR Vaccine

• 93% effective after the first dose; 97% after 2 doses
• 90% of susceptibles will develop measles if exposed
• Vaccine side effects include fever, mild rash, upper respiratory symptoms, and pain and swelling at the injection site
• MMR is a live attenuated vaccine and should not be given to pregnant women or patients who are severely immunocompromised
Measles Resurgence: Why?

- Loss of herd immunity: 95% required for measles
- Distrust of science
- Misinformation regarding the vaccine
- Exemptions to mandatory vaccination
  - Non-medical exemptions
  - Inappropriate medical exemptions

Contraindications and Precautions

- Contraindication: the vaccine should not be administered
- Precaution: a condition in a recipient that might increase the risk for a serious adverse reaction, might cause diagnostic confusion, or might compromise the ability of the vaccine to produce immunity. You should weigh the risks and benefits of the vaccine.
Contraindications to MMR

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
  • Anaphylactic reaction to neomycin
  • Allergy to egg is NOT A CONTRAINDICATION!

• Pregnancy

• Known severe immunodeficiency

• Family history of altered immunocompetence UNLESS recipient is immune competent!

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
Precautions to MMR

• Moderate or severe acute illness with or without fever
• Recent (within 11 months) receipt of antibody-containing blood product
• History of thrombocytopenia or thrombocytopenic purpura
• Need for tuberculin skin testing
• Personal or family history of seizures

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
Who Qualifies for Exemption?

• Anyone with a contraindication
  • Permanent only if contraindication is permanent

• Some with a precaution, this should be individualized
  • Precautions are usually time limited
Does this Patient Qualify?

• JJ’s mother has lupus and the father has lung cancer and is on immunosuppressants. JJ is 13 months old and entirely well.

• Should JJ be immunized with MMR?
Does this Patient Qualify?

- TD has had many infections and there is a family history of severe combined immunodeficiency. TD is 12 months old.

- Should TD be immunized with MMR?
Does this Patient Qualify?

• SW is allergic to eggs, dust mites, cat and dog dander, peanuts, tree nuts and penicillin. Her parents and siblings all have allergies. SW is 16 months old and not yet immunized against measles.

• Should SW be immunized with MMR?
Does this Patient Qualify?

• MT has been diagnosed juvenile rheumatoid arthritis and is currently on chronic high dose prednisone.

• Should MT be immunized with MMR?
Does this Patient Qualify?

• TZ was tested and found to have one copy of a methylenetetrahydrofolate reductase (MTHFR) gene variant

• Should TZ be immunized with MMR?
Other Vaccines

• The following vaccines are required for school attendance in NJ: MMR, VZV, HIB, PCV, DTaP, Tdap, Hepatitis B, IPV, meningococcal conjugate vaccine (MCV4), and influenza

• MMR and VZV are live vaccines
VZV Contraindications

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
  • Anaphylactic reaction to neomycin
• Known severe immunodeficiency
• Pregnancy
• Family history of altered immunocompetence UNLESS recipient is immune competent!

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
VZV Precautions

• Recent receipt of antibody-containing blood product
• Moderate or severe acute illness
• Receipt of specific antiviral drugs
• Use of aspirin or aspirin-containing products
HIB (*Haemophilus influenzae* type b)

**Contraindications:**

- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
- Age less than 6 weeks

**Precautions:**

- Moderate or severe acute illness

[www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf)
PCV (Pneumococcal conjugate vac.)

Contraindications:

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV or diphtheria-toxoid-containing vaccine or to a vaccine component, including yeast

Precautions:

• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
DTaP Contraindications

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
• Encephalopathy not attributable to another identifiable cause, within 7 days of administration of previous dose of DTaP or DTP

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
DTaP Precautions

• Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy (defer DTaP until neurologic status clarified and stabilized)

• Guillain-Barré syndrome < 6 wks after previous dose of tetanus-toxoid-containing vaccine

• History of Arthus-type hypersensitivity reaction

• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
Tdap Contraindications

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
• Encephalopathy not attributable to another identifiable cause, within 7 days of administration of previous dose of DTaP or DTP

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
Tdap Precautions

• Guillain-Barré syndrome < 6 wks after previous dose of tetanus-toxoid-containing vaccine
• Progressive or unstable neurological disorder uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition stabilized
• History of Arthus-type hypersensitivity reaction
• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
HBV (hepatitis B vaccine)

Contraindications:

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
• Hypersensitivity to yeast

Precautions:

• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
IPV (inactivated polio vaccine)

Contraindications:
• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component

Precautions:
• Pregnancy
• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
MenACWY (cong. meningococcal)

Contraindications:

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component

Precautions:

• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
IIV (inactivated influenza vaccine)

Contraindications:

- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component

Precautions:

- Guillain-Barré syndrome < 6 wks after previous dose of influenza vaccine
- Moderate or severe acute illness
- Egg allergy other than hives, (e.g., angioedema, respiratory distress)

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
LAI V Contraindications

• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
• Concomitant use of aspirin in children and adolescents
• Influenza antiviral medications within the previous 48 hours

www.cdc.gov/vaccines/hcp/acip-re cs/general-re cs/contraindications.pdf
LAIV Precautions

• Guillain-Barré syndrome < 6 wks after previous dose of influenza vaccine
• Asthma in persons age 5 years or older
• Medical conditions which might predispose to higher risk of complications of influenza
• Moderate or severe acute illness

www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.pdf
Rise of Vaccine-Preventable Diseases

• The only vaccine-preventable disease that has been completely eradicated from the world is smallpox.

• "The single major reason these diseases have either returned or remained is because of sharp declines in vaccine coverage."
Vaccine Hesitancy

- The World Health Organization considers vaccine hesitancy one of the Top Ten Threats to Global Health in 2019!
- Vaccine hesitancy is the reluctance or refusal to vaccinate despite the availability of vaccines
- Vaccination is one of the most cost-effective ways of avoiding disease: it currently prevents 2-3 million deaths a year, and a further 1.5 million could be avoided if global coverage of vaccinations improved.

www.who.int/emergencies/ten-threats-to-global-health-in-2019
Vaccine Hesitancy

• The reasons why people choose not to vaccinate are complex; a vaccine advisory group to WHO identified complacency, inconvenience in accessing vaccines, and lack of confidence as key reasons underlying hesitancy.

• Health workers, especially those in communities, remain the most trusted advisors and influencers of vaccination decisions, and they must be supported to provide trusted, credible information on vaccines.
Discussing Immunizations with Parents

• The goal is to facilitate decision-making, not to win a debate

• You don’t have to correct every mistaken idea

• Empathize and roll with resistance or knowledge deficits

• Belief trumps science and won’t be changed by a ‘yes, but’ followed by an evidence argument
Core Concepts

• Most parents who delay or refuse vaccines identify with a social network...

...that forms or reinforces their beliefs

• Parents are less likely to get their child vaccinated if you attack their beliefs

• Creates defensiveness and “We tend to believe what we hear ourselves say” (Rollnick, Miller & Butler, 2008, p. 8)
Vaccine Hesitancy and the Rise of Vaccine Preventable Diseases

• Parental refusal of vaccines is a growing concern and is responsible for much of the increased occurrence of vaccine preventable diseases in children

• States that have more lenient laws on vaccination requirements also have an increased rate of exemptions granted

• This leads to greater vulnerability of the population
Questions?

• Any questions that remain unanswered, please email us at njin@njaap.org, we will share your questions with our presenters and we will send you their responses
Thank you!
References

- https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4869767/
- https://www.who.int/emergencies/ten-threats-to-global-health-in-2019
- https://www.cdc.gov/hpv/hcp/vacc-coverage/index.html
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