



# Community Health Worker (CHW) Training

Public Health Division Immunization Program

# Objectives

## To Learn & Understand:

- ✓ Vaccine preventable diseases and immunizations.
- ✓ Approaches to addressing client misconception surrounding immunizations.
- ✓ Cultural approaches in addressing infectious diseases.
- ✓ Vaccines and their adverse reactions.
- ✓ Basics of mortality and morbidity in prevention education.
- ✓ Fundamentals of antivirals.
- ✓ Immunity and herd immunity.
- ✓ Basics of vaccines, their needs, and how to promote them.
- ✓ Importance of collaboration in health education.



# Definitions to Know



**Virus-** A germ that causes infections.

**Infection-** An invasion of the body by harmful micro-organisms or parasites.

**Active Immunity-** Begins when the body is exposed to a disease and triggers the immune response to send antibodies to begin fighting off that disease.

**Vaccine-Induced Immunity-** Begins through the beginning of a killed or weakened form of the disease organism through the vaccine.

**Natural Immunity-** Begins from exposed to a disease through an infection.

**Passive Immunity-** Antibodies given to help fight a disease.

**Antibodies-** Proteins produced by the body to neutralize or destroy.

**Pathogen-** Organism that cause diseases.

# Definitions to Know



**Non-Infectious Disease**- Diseases that are not caused by pathogens.

**Infectious Disease**- Disorders caused by organisms that can be passed from person to person.

**Antigen**- A toxin or substance that activates an immune response in the body.

**Bacteria**- One-celled micro-organisms that damage cells with toxins.

**Chronic Disease**- Conditions that last one year or longer, usually require ongoing medical attention and cannot be prevented by vaccines or cured by medication.

**Droplet Transmission**- Occurs when direct spray of large droplets enter the eyes or nose when an infected person: coughs, sneezes, blows their nose, or talks.

# What is an infectious disease?

An infectious disease is a disorder caused by micro-organisms, such as bacteria, viruses, fungi or parasites called germs. They can be contracted and passed from person to person. Some are transmitted by the environment .

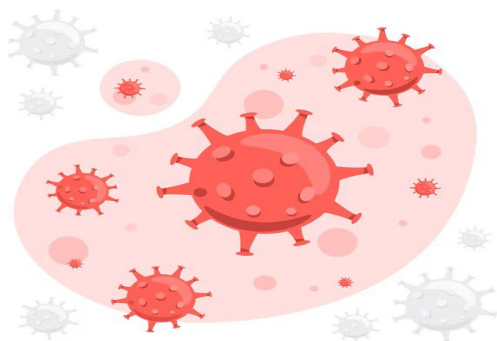
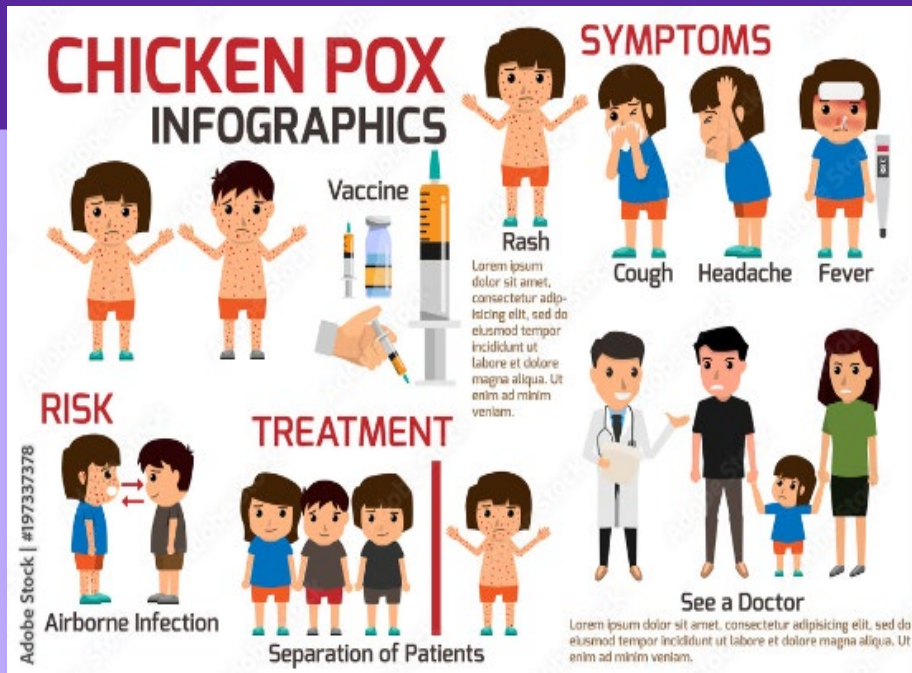
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*It is important to understand what vaccine preventable diseases are and understanding the different types of vaccines given.*

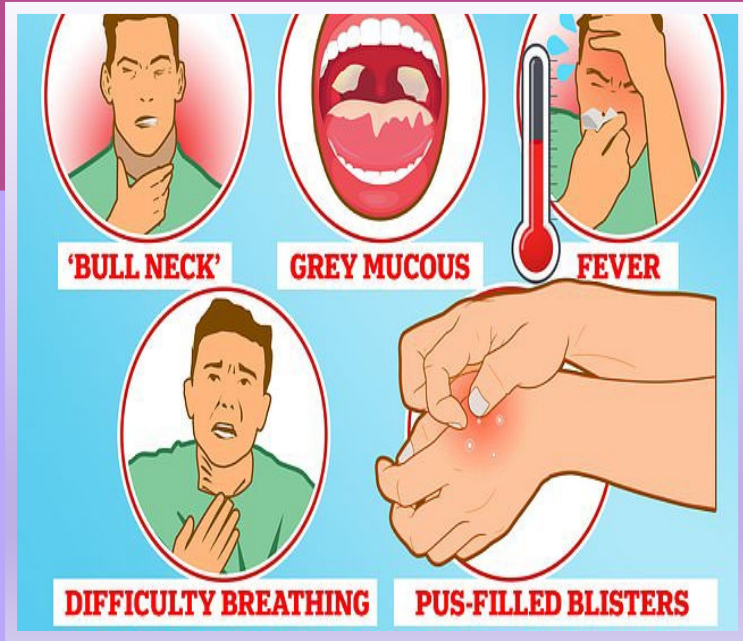


# Varicella (Chickenpox)

- Chickenpox is a highly contagious disease caused by varicella-zoster virus. A person with the virus is contagious 1-2 days prior to the rash appearing, until all lesions have crusted (scabbed over). It mainly spreads from unvaccinated people with chickenpox to others who have never had the virus.
- Symptoms usually last about 4 to 7 days which include: itchy, blister-like rash throughout the body, in addition to fever, cough, headaches, loss of appetite and tiredness.
- Chickenpox can be severe to those who are at a higher risk for complications like pregnant women, infants under 12 months, and people with weakened immune systems.
- Spread of the virus can easily be by directly touching the blister-like rash, or mucus of an infected person, or through the air when someone with chickenpox coughs or sneezes.



# Diphtheria (DTAP)



- Diphtheria is a rare serious infection caused by bacteria of the nose and throat potentially fatal heart and nerve damage by bacterial toxin in the blood.
- Symptoms usually begins 2 to 5 days after a person becomes infected, which include: weakness, sore throat, fever, swollen neck glands, grey mucous, difficulty breathing, and pus-filled blisters.
- Any skin ulcers could take 2 to 3 months to fully heal, although scarring may be permanent. If toxins reach the bloodstream, it can cause damage to the heart, kidneys, and nerves in the body.
- Spread of the virus can happen by touching an infected wound, mucus of an infected person, or through someone who has the virus is coughing or sneezing and releases contaminated droplets to people nearby.



Diphtheria can cause a swollen neck, sometimes referred to as a *bull neck*

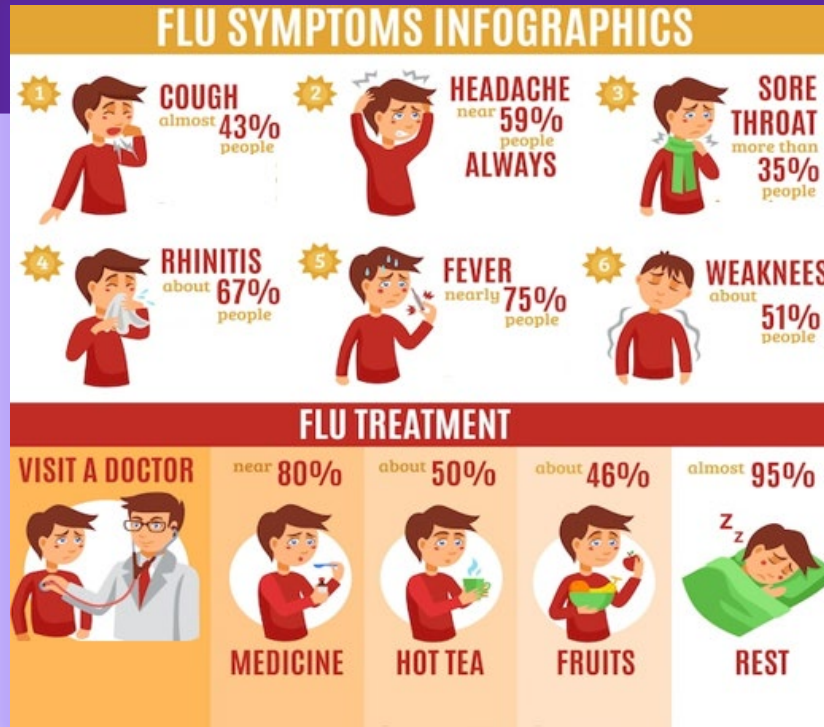


An adherent, dense, grey pseudomembrane covering the tonsils is classically seen in diphtheria.



A diphtheria skin lesion on the leg

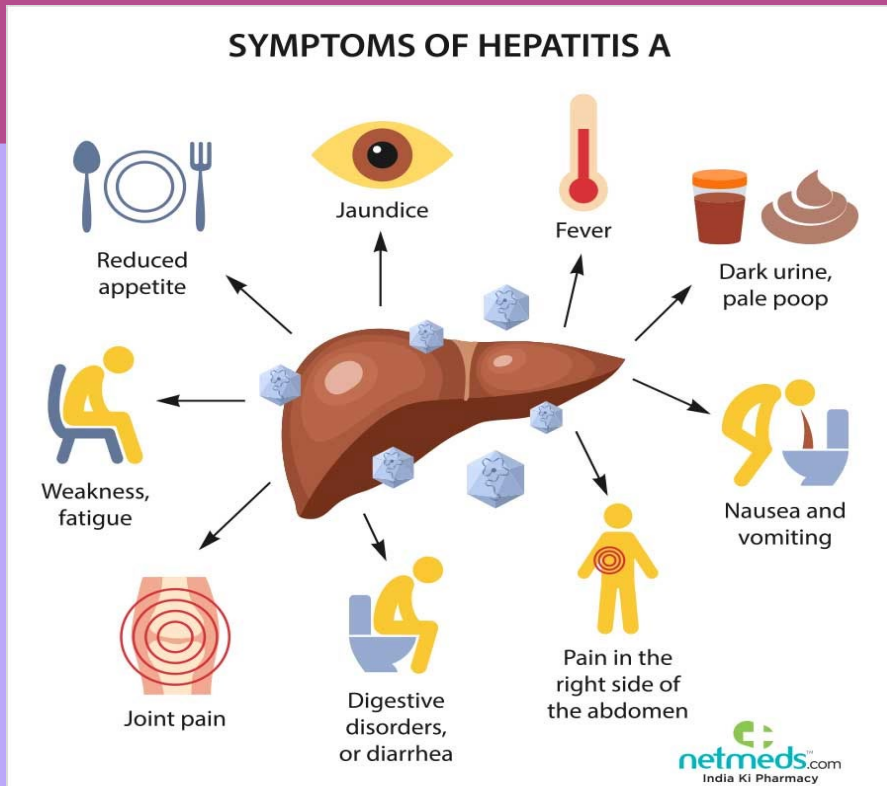
# Influenza (Flu)



- Influenza is a contagious virus that attacks the respiratory system causing infection in the nose, throat, and sometimes lungs.

- Symptoms usually appear 1 to 4 days after exposure to the virus, and usually lasts 5 to 7 days. Common symptoms sometimes include fever, body aches, chills and sweats.
- Other symptoms include:
  - ✓ Headache
  - ✓ Dry persistent cough
  - ✓ Runny or stuffy nose
  - ✓ Sore Throat
  - ✓ Eye pain
  - ✓ Shortness of breath
  - ✓ Tiredness and weakness
- Complications from flu may include bacterial pneumonia, ear infection, sinus infection, worsening of chronic medical conditions (such as congestive heart failure, asthma, or diabetes) or life-threatening sepsis.
- The virus spreads through mucus of an infected person, or through the air when someone with flu coughs, sneezes or talks.

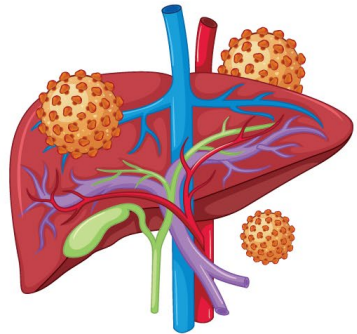
# Hepatitis A (Hep A)



- Hepatitis A is one of several viruses that cause liver inflammation and affect the liver's ability to function. Hep A is a highly contagious liver infection, which can be found in the stool and blood of an infected person.

- Hepatitis A is one of several viruses that cause liver inflammation and affect the liver's ability to function. Hep A is a highly contagious liver infection, which can be found in the stool and blood of an infected person.
- Symptoms can last up to two months, but Hep A is usually not a long-lasting illness. Not everyone with Hep A show symptoms.
- If symptoms develop, they can include:
  - ✓ Clay-or gray-colored stool
  - ✓ Joint Pain
  - ✓ Loss of appetite
  - ✓ Yellowing of the skin and eyes (Jaundice)
  - ✓ Low-grade fever
  - ✓ Intense itching
  - ✓ Dark urine
- Rare cases of Complications of Hep A can cause a sudden (acute) loss of liver function, especially in older adults or people with chronic liver disease. Some people with acute liver failure may need a liver transplant.
- Spread of the virus can be caused through close personal contact of someone who is infected or ingested through contaminated food, or drinks.

# Hepatitis B (Hep B)



Dark urine



Fatigue



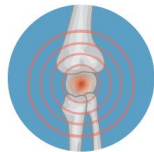
Abdominal pain



Loss of appetite



Nausea & Vomiting



Joint pain




Jaundice

- Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease. 19

- Most people do not experience any symptoms when newly infected. Some people have acute illness with symptoms that last several weeks:
  - ✓ Dark urine
  - ✓ Feeling very tired
  - ✓ Nausea
  - ✓ Jaundice (yellowing of skin and eyes)
  - ✓ Vomiting
  - ✓ Pain in the abdomen
- Severe, acute hepatitis can lead to liver failure. Most people will recover from acute illness, some people with chronic hepatitis B will develop progressive liver disease. People with acute liver failure may need a liver transplant.
- Spread of the virus can be transmitted from mother to child during deliver, in early childhood, as well as through contact with blood or bodily fluids with an infected partner, unsafe injections or exposure to sharp instruments.

# Haemophilus Influenzae (HIB)



**HIB-RELATED ILLNESSES**

- Meningitis
- Pneumonia (lung infection)
- Severe swelling in the throat, making it hard to breathe
- Infections of the blood, joints, bones, and heart

**SYMPTOMS**

- Fever (other Hib symptoms vary from illness to illness)
- For meningitis:
  - Confusion
  - Headache or stiff neck
  - Pain from bright lights
  - Nausea
  - Sluggishness
  - Poor reflexes

**COMPLICATIONS**

- Brain damage
- Hearing loss
- Loss of limbs
- Death

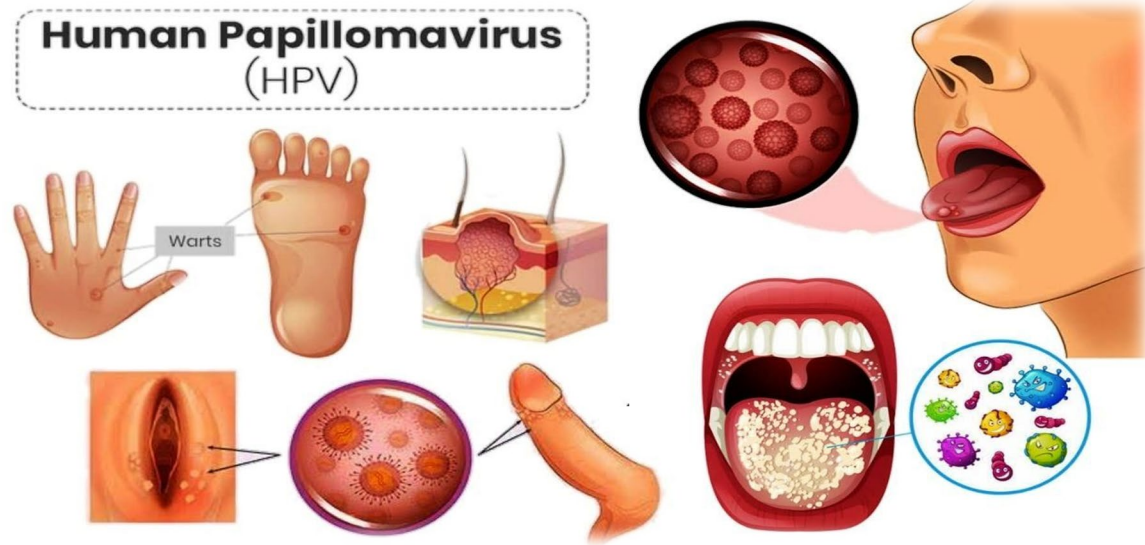
**TREATMENTS**

- Hospital care often is needed
- Antibiotics kill the bacteria
- Machines help with breathing problems
- Medications treat symptoms

- HIB is a type bacterial virus that can lead to a potentially deadly brain infection especially in young children.

- Symptoms depends on the part of the body that become infected. Hib symptoms vary from illness to illness. Some symptoms of the virus include:
  - ✓ Severe headache
  - ✓ Stiff neck
  - ✓ Convulsions or seizures
  - ✓ Severe drowsiness
  - ✓ Difficulty waking up
  - ✓ Loss of consciousness
  - ✓ Difficulty breathing
  - ✓ Confusion
  - ✓ Nausea
- Complications of HIB infection can cause conditions including:
  - **Meningitis**- infection of the lining of the brain and spinal cord.
  - **Sepsis**- A severe immune reaction.
  - **Epiglottitis**- Infection of part of your windpipe.
  - **Pneumonia**- Infection of the lungs.
- Spread of HIB disease is transmitted through contact with mucus or droplets from the nose and throat of an infected person coughing or sneezing.

# Human Papilloma (HPV)

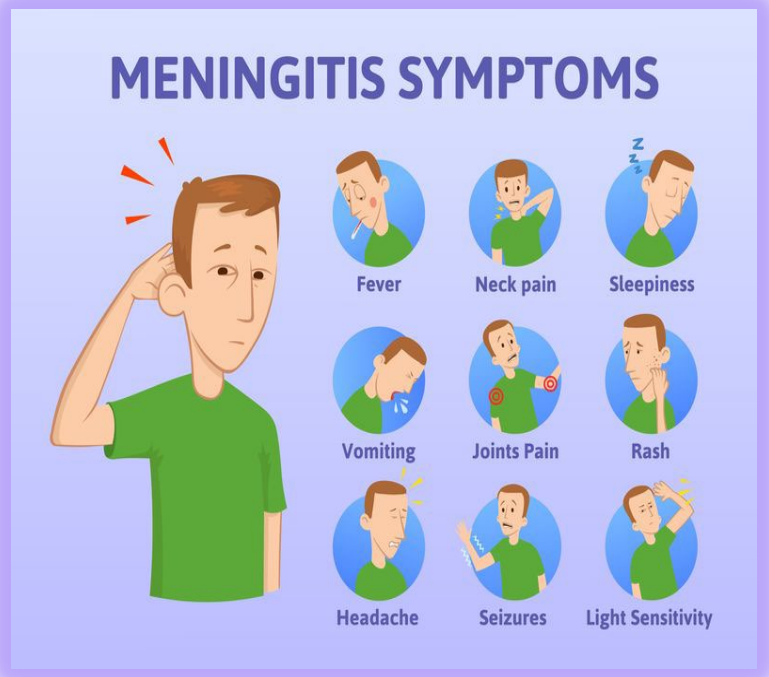


- A small, non-enveloped virus that infects skin or mucosal cells. There is no cure for the virus, and in most cases, it goes away on its own but can cause severe health problems.

- HPV does not usually cause any symptoms but in some cases, symptoms may include:
  - ✓ **Genital warts**- Flat lesions, small cauliflower-like bumps or tiny stemlike protrusions.
  - ✓ **Common warts**- Rough, raised bumps which usually occur on hands and fingers.
  - ✓ **Plantar warts**- Hard, grainy growths that usually appear on heels or balls of your feet.
  - ✓ **Flat warts**- Flat-topped, slightly raised lesions which usually appear on the face for men, children and on the legs for women.
- Spread of the virus is commonly spread through sexual intercourse with someone who has the virus through vaginal, anal, or skin to skin contact during sex.

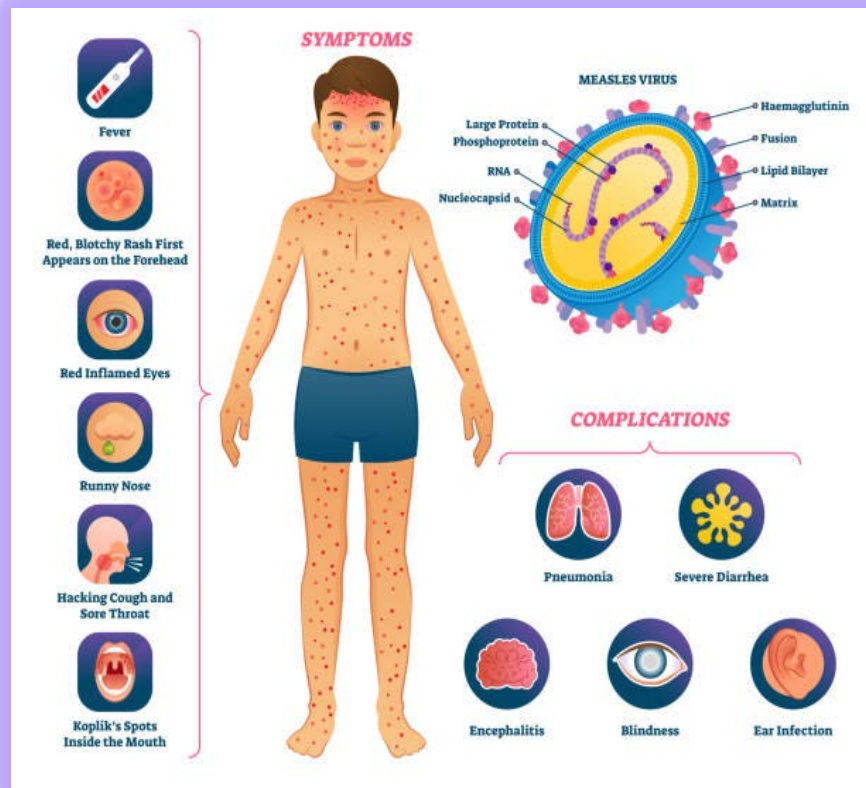
# Meningococcal (Mening B)

- Meningococcal is a rare, serious illness caused by bacteria called *Neisseria meningitidis*.
- Illnesses associated with the disease can be deadly such as meningitis (infection of the lining of the brain and spinal cord) and infection in the bloodstream.
- Approximately 1 in 10 people carry the bacteria in the back of their nose and throat without any symptoms. Those patients who become symptomatic may experience the following:
  - ✓ Fever
  - ✓ Headache
  - ✓ Stiff neck
  - ✓ Light sensitivity
  - ✓ Rash
  - ✓ Joint pain
  - ✓ Nausea/vomiting
- Infants who contract the virus show fewer common symptoms. Infant symptoms may include:
  - ✓ Irritable
  - ✓ Inactive
  - ✓ vomiting
  - ✓ Poor feeding
  - ✓ Having bulge spots on soft spot
- Complications of the virus is serious. As many as 20% of people who survive have long-term consequences that include deafness, limb loss, nerve damage, kidney or brain damage.
- Spread of Mening B may be by respiratory droplets, sharing saliva or kissing for long periods of time.



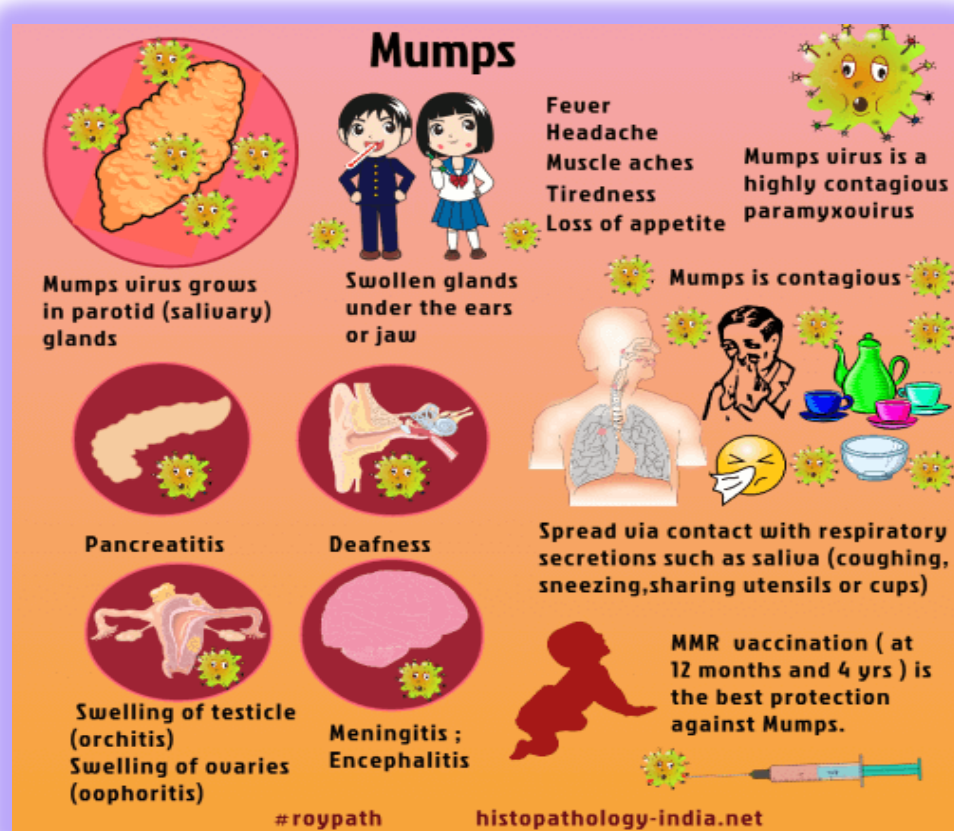
# Rubeola (Measles)

- Rubeola is an infectious and highly contagious disease causing a red rash on the skin. Also called rubeola, measles is a childhood infection caused by a virus.
- Signs and symptoms appear around 10 to 14 days after exposure to the virus.
- Symptoms of measles usually include:
  - ✓ Fever
  - ✓ Dry cough
  - ✓ Inflamed Eyes (conjunctivitis)
  - ✓ Tiny white spots with bluish-white centers on a red background found inside the mouth on the inner lining of the cheek – also called kolpik's spots
  - ✓ Skin rash made up of large, flat blotches that often flow into one another
  - ✓ Runny nose
  - ✓ Sore throat
- Complications of Rubeola infection may include:
  - ✓ Diarrhea & Vomiting
  - ✓ Ear Infection
  - ✓ Bronchitis, laryngitis or croup
  - ✓ Pneumonia
  - ✓ Encephalitis
  - ✓ Pregnancy problems
- A person with measles can spread the virus to others for about eight days, starting four days prior to the rash appearing and ending when the rash has been present for four days.



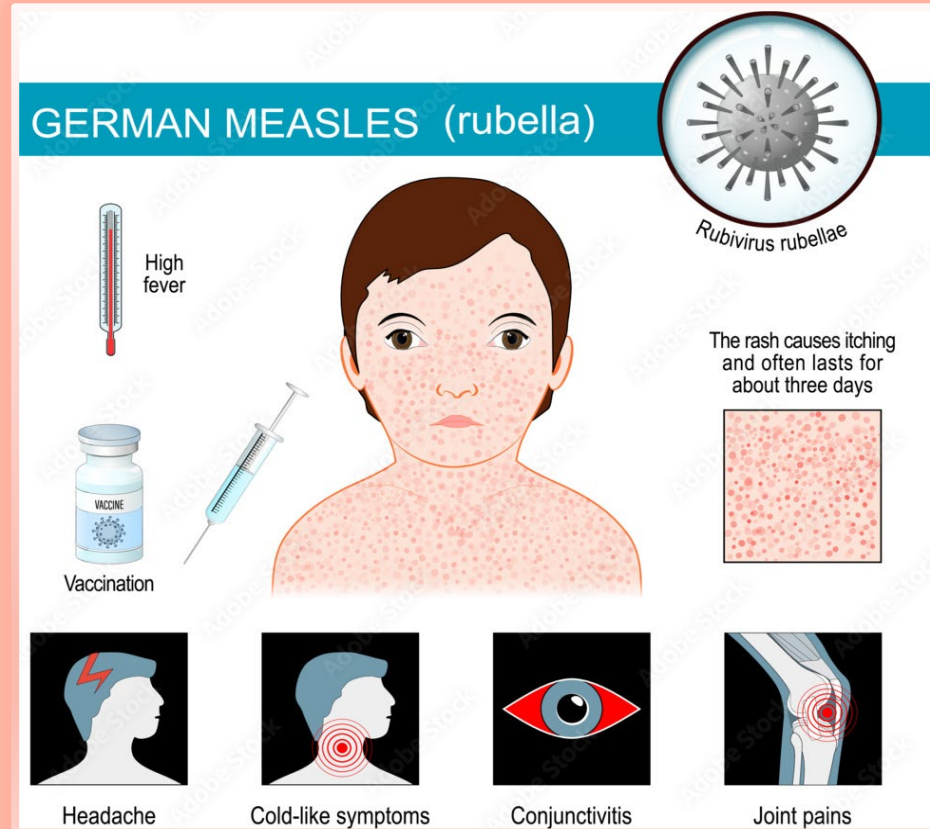
# Mumps

- Mumps is a contagious disease caused by a virus that effects the salivary gland.
- It can take 2 to 4 weeks for people to show signs of infection. Early symptoms can begin a few days before swelling.
- Common signs of mumps include:
  - ✓ Trouble chewing
  - ✓ Fever
  - ✓ Headache
  - ✓ Muscle aches
  - ✓ Tiredness
  - ✓ Loss of appetite
- Complications of mumps are more likely among people who aren't vaccinated. Complications may include:
  - ✓ Swollen testicles
  - ✓ Swollen ovaries
  - ✓ Encephalitis
  - ✓ Meningitis
  - ✓ Hearing loss
  - ✓ Pancreatitis
  - ✓ Miscarriage
- An infected person can easily spread mumps by sneezing, coughing, or talking.

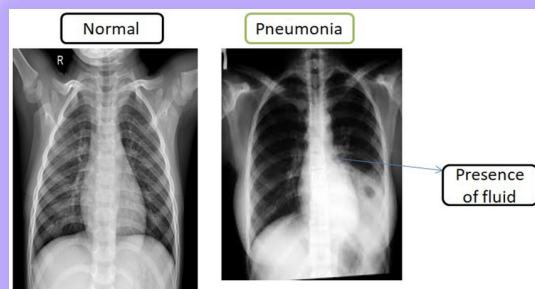
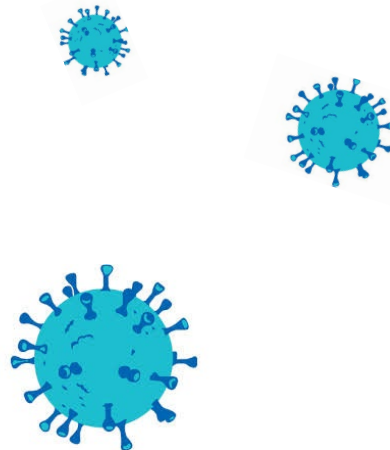
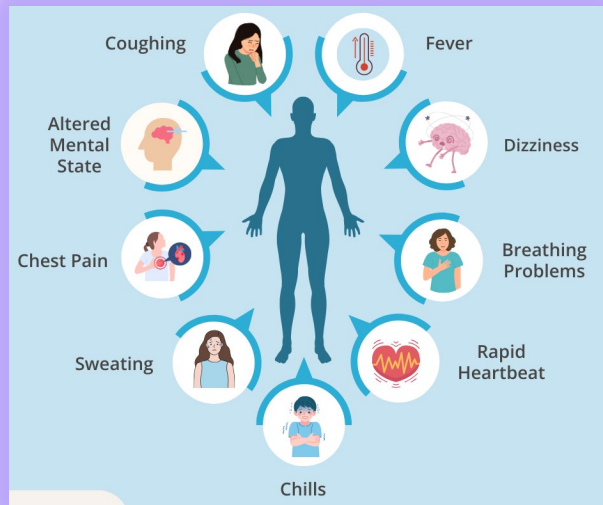


# Rubella (German Measles)

- Rubella is a contagious infection caused by the rubella virus. It's also called German measles or three-day measles.
- Symptoms of rubella are often difficult to notice, especially in children. Signs and symptoms generally appear between two and three weeks after exposure to the virus. The virus usually lasts about 1 to 5 days and may include:
  - ✓ Mild fever of 102 F
  - ✓ Headache
  - ✓ Stuffy or runny nose
  - ✓ Red, itchy eyes
  - ✓ Enlarged, tender lymph nodes
  - ✓ A fine, pink rash that begins on the face and quickly spreads to the trunk, arms and legs
  - ✓ Aching joints, especially in young women
- A women infected during pregnancy is at risk for miscarriage and serious birth defects which includes heart problems, loss of hearing, loss of eyesight, intellectual disabilities, liver or spleen damage.
- Spread through direct contact with saliva or mucus.

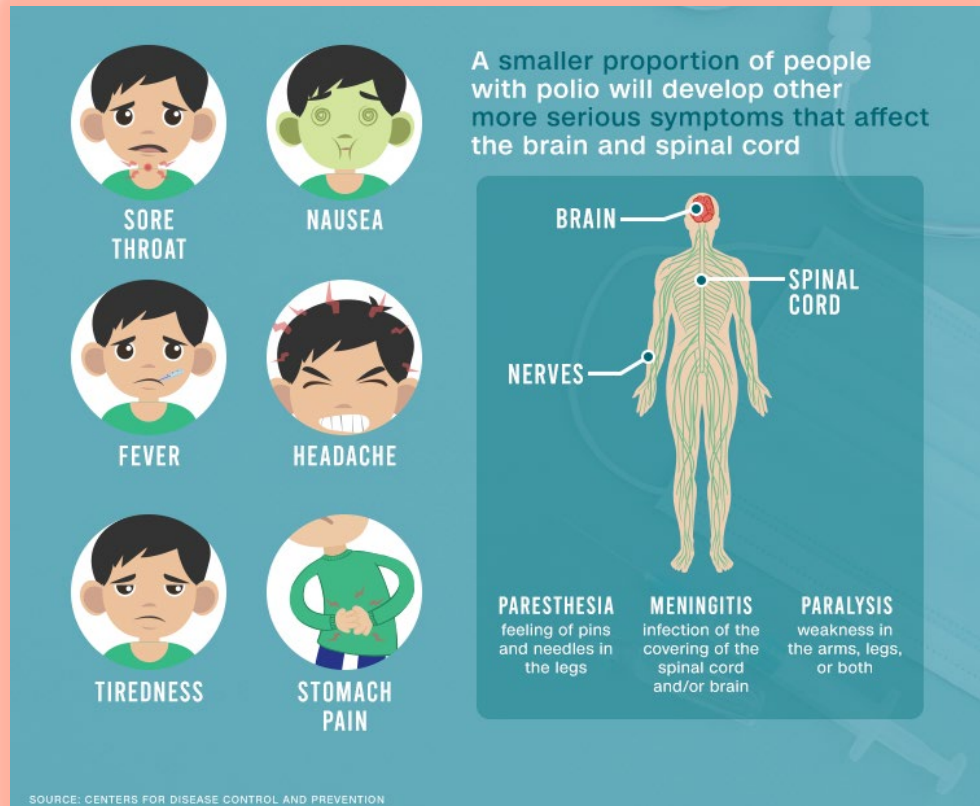


# Pneumococcal



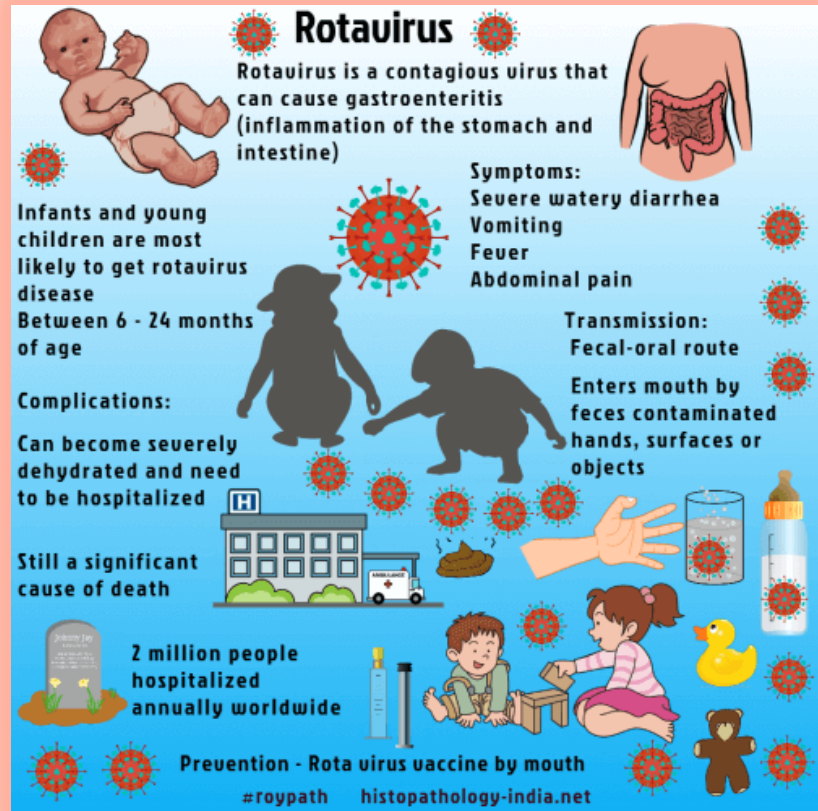
- Pneumococcal is an infection called Streptococcus pneumoniae that can range from ear and sinus infections to more severe infections like pneumonia and/or bloodstream infections.
- Symptoms of the virus depend on the part of the body affected. Some of these infections can cause long-term problems. Sometimes children carry the bacteria with little or no symptoms.
- Symptoms can include:
  - ✓ Fever
  - ✓ Cough
  - ✓ Shortness of breath
  - ✓ Chest pain
  - ✓ Ear pain
  - ✓ Stiff Neck
  - ✓ Confusion
  - ✓ Increased sensitivity to light
  - ✓ Joint pain
  - ✓ Chills
  - ✓ Sleeplessness
  - ✓ Irritability
- Children 2 years and younger, adults 65 and older, and people who are immunocompromised are a higher risk.
- People may spread pneumococcal bacteria to others through direct contact with saliva or mucus.

# Polio (Poliomyelitis)



- Polio is a disabling and deadly disease by the poliovirus. The virus mainly effects nerves in the spinal cord or brain stem.
- About 5% of people with the poliovirus get a mild version of the disease. Even if there are no symptoms, the virus can still be passed to others. Symptoms include:
  - ✓ Fever
  - ✓ Headache
  - ✓ Muscle aches
  - ✓ Sore throat
  - ✓ Fatigue
  - ✓ Stomach pain
  - ✓ Loss of appetite
  - ✓ Nausea
  - ✓ Vomiting
- Severe complications of the disease can affect the ability to breathe and can cause death. Long-term complications for people who recover may include:
  - ✓ Permanent paralysis
  - ✓ Muscle shortening that causes deformed bones or joints
  - ✓ Chronic pain
  - ✓ Post-polio syndrome
- Polio spreads when the stool of an infected person is introduced into the mouth of another person through contaminated water or food. The virus can live in feces for many weeks. It spreads immediately up to two weeks after symptoms.

# Rotavirus (RV)



- Rotavirus is a very contagious virus that causes diarrhea. The virus is put into the environment by an infected person's stool.
- Rotavirus infection usually starts within 2 days of exposure to the virus.
- Early symptoms include:
  - ✓ Fever
  - ✓ Vomiting
  - ✓ Watery Diarrhea
  - ✓ Abdominal pain
- Complications of the virus can lead to severe diarrhea in young children. Left untreated, dehydration can become a life-threatening condition regardless of its cause.
- Common ways of spread include unwashed hands, objects or surfaces that are contaminated with feces then put your hands and fingers in your mouth, consumed contaminated food.

# Shingles (Herpes Zoster)

- Shingles is a viral infection that causes a painful rash. Shingles can occur anywhere on your body and, may look like a single stripe of blisters that wraps around the torso. Anyone who has had chickenpox may develop shingles later in life.

- Shingles symptoms usually affect only a small section on one side of the body. These symptoms may include:

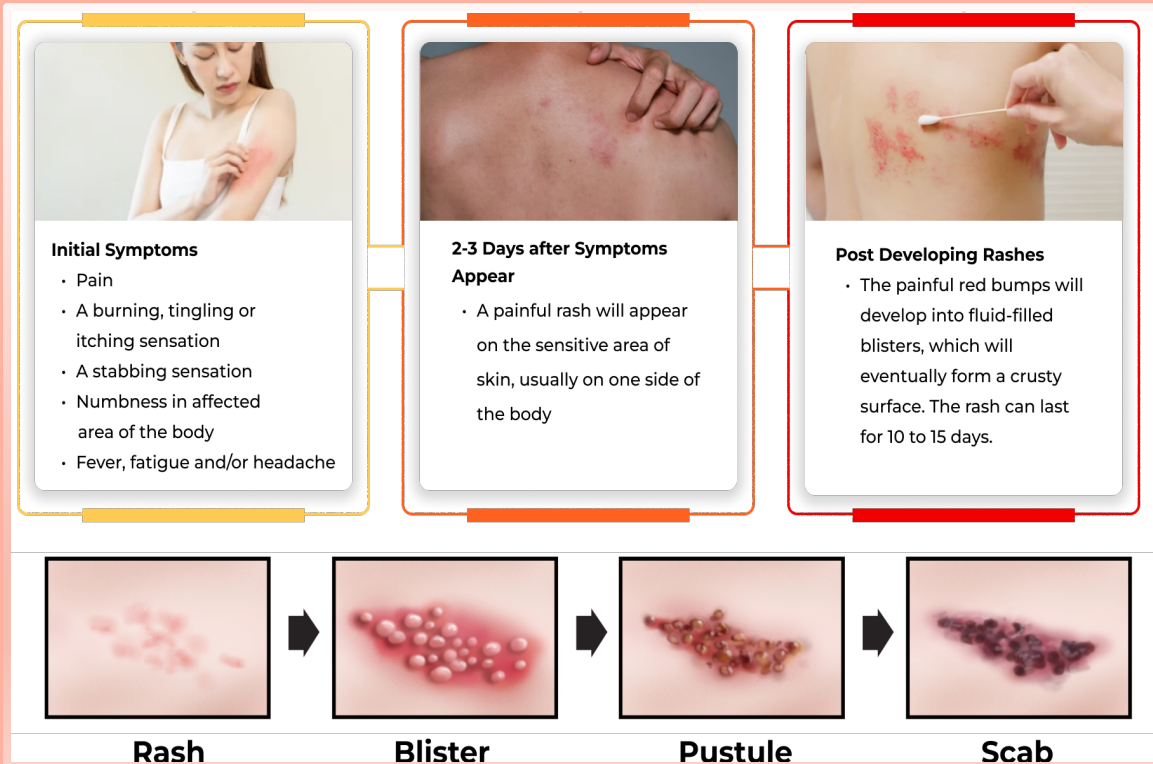
- ✓ Pain, burning or tingling
- ✓ Sensitivity to touch
- ✓ Red rash that begins a few days after the pain
- ✓ Fluid-filled blisters that break open and crust over
- ✓ Itching

Some people experience:

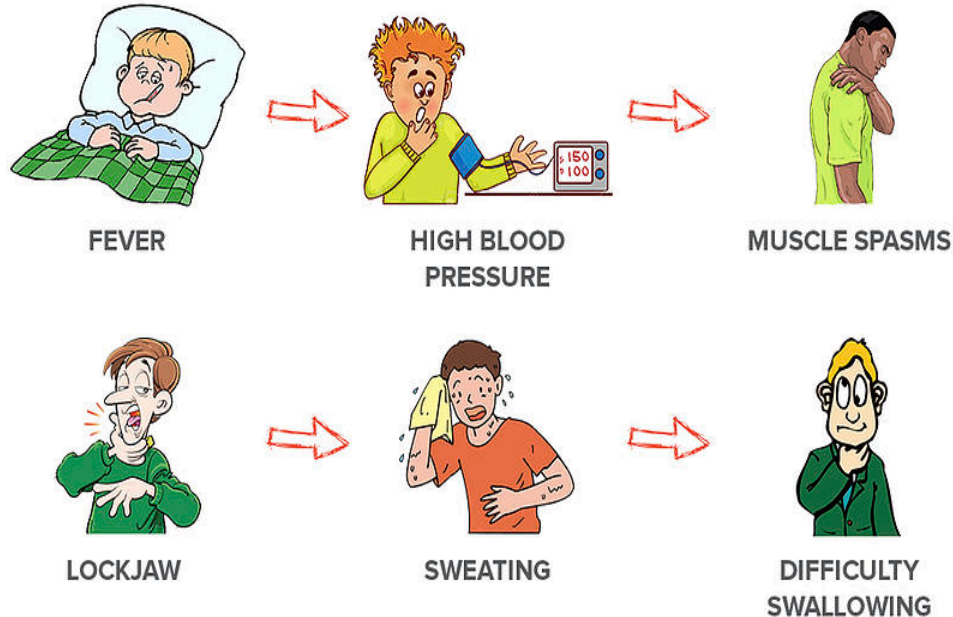
- ✓ Fever
- ✓ Sensitivity to light
- ✓ Headache
- ✓ Fatigue

- A common complication is long-term nerve pain. Rarely, shingles can lead to blindness, pneumonia, hearing problems, brain inflammation, or death.

- You cannot transmit shingles from someone who has them, but you can transmit chickenpox from someone who has shingles if you have not had chickenpox or are unvaccinated.



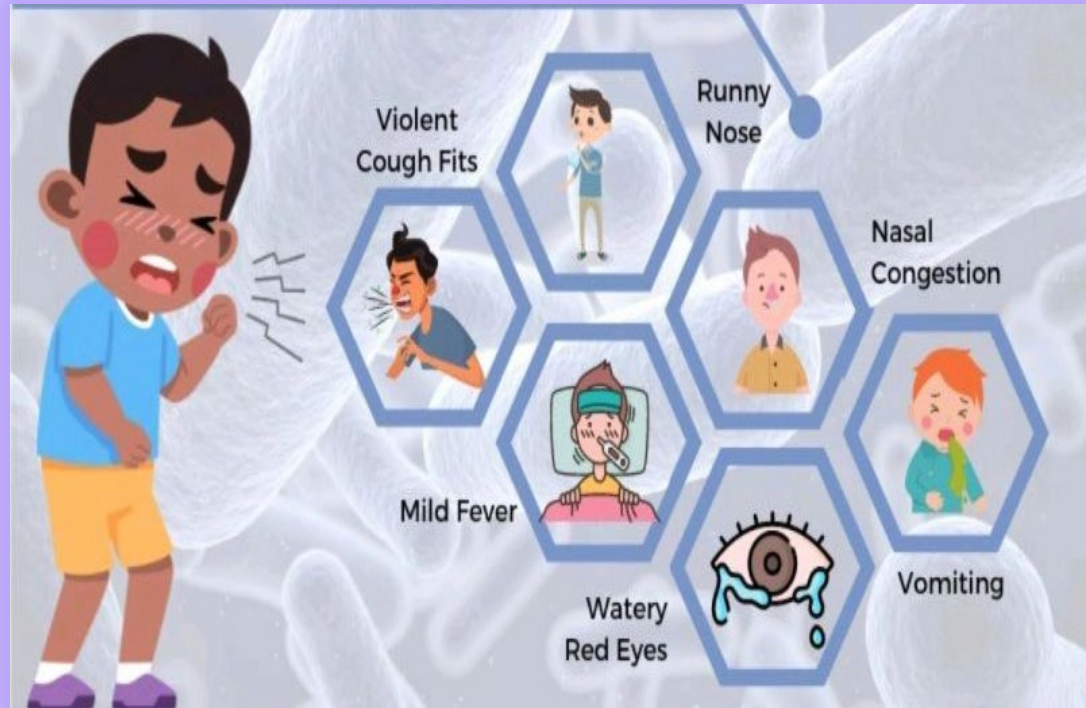
# Tetanus (Lockjaw)



- Tetanus is a serious disease of the nervous system caused by a bacteria called *Clostridium tetani* that produces toxin that invades the body causing painful muscle pains.

- The most common type of tetanus is called generalized tetanus. Signs and symptoms begin gradually then progressively worsen over two weeks.
- Symptoms include:
  - ✓ Painful muscle spasms and stiff, immovable muscle (muscle rigidity) in your jaw.
  - ✓ Tension of muscles around your lips, sometimes producing a persistent grin
  - ✓ Painful spasms and rigidity in you neck muscles
  - ✓ Difficulty swallowing
  - ✓ Rigid abdominal muscles
- Progression in the disease may include:
  - ✓ High/Low blood pressure
  - ✓ Rapid heart rate
  - ✓ Fever
  - ✓ Extreme sweating
- It is spread through spores of the tetanus bacteria. These spores are found throughout the environment including soil, dust, and manure. These spores develop into bacteria when they enter the body.

# Pertussis (Whooping Cough)



- Pertussis is a contagious respiratory infection that’s caused by bacteria *Bordetella pertussis*. It’s known for uncontrollable, violent coughing that makes it hard to breathe.
- Symptoms usually begin with:
  - ✓ Mild fever
  - ✓ Runny nose
  - ✓ Nasal congestion
  - ✓ Vomiting
  - ✓ Watery red eyes
  - ✓ Violent cough fits
- If symptoms go untreated, it can cause rapid coughing until all air in your lungs is gone followed by a “whooping” sound.
- Complications occur during the strenuous coughing, such as:
  - ✓ Bruised or cracked ribs
  - ✓ Abdominal hernias
  - ✓ Broken blood vessels in the skin or whites of your eyes
- It is spread from person to person by droplets through sneezing or coughing when you share breathing space.
- You stay contagious up to two weeks after cough starts, antibiotics help, but do not take away cough completely.

# Coronavirus (Covid-19)

 Fever or Chills	 Cough	 Shortness of Breath or Difficulty Breathing	 Fatigue
 Muscle or Body Aches	 Headache	 New Loss of Taste	 New Loss of Smell
 Sore Throat	 Congestion or Runny Nose	 Nausea or Vomiting	 Diarrhea

- Coronavirus, also called Covid-19 disease, is caused by a virus. The virus is a severe acute respiratory syndrome.
- Covid-19 symptoms often show up 2 to 14 days after contact with the virus. Symptoms can include:
  - ✓ Dry Cough
  - ✓ Shortness of breath
  - ✓ Loss of taste or smell
  - ✓ Fatigue
  - ✓ vomiting or diarrhea
  - ✓ Muscle or body aches
  - ✓ Fever or chills
  - ✓ Cold-like symptoms




Complications of severe Covid-19 illness can include:

- ✓ Acute respiratory distress syndrome, when the body's organs do not get enough oxygen.
- ✓ Shock caused by the infection or heart problems.
- ✓ Overreaction of the immune system, called the inflammatory response.
- ✓ Blood clots
- ✓ Kidney injury
- Covid-19 spreads when an infected person breathes out droplets and very small particles that contain the virus. Droplets and particles can be transferred from person to person through their eyes, mouth or by touching contaminated surfaces.

# Respiratory Syncytial Virus

- A common respiratory virus causing infections of the lungs and respiratory tract. Most children by the age of 2 have been infected with the virus. RSV can also infect adults.
- RSV infection most commonly appears about 4-6 days after exposure to the virus.
- Symptoms may include:
  - ✓ Congested or runny nose
  - ✓ Dry Cough
  - ✓ Low-grade fever
  - ✓ Sore throat
  - ✓ Sneezing
  - ✓ Headache
- Complications of RSV can spread to the lower respiratory tract, causing pneumonia or bronchiolitis-inflammation of the small airway passages entering the lungs. Symptoms may include:
  - ✓ Fever
  - ✓ Severe cough
  - ✓ Wheezing
  - ✓ Lethargy
  - ✓ Cough
  - ✓ Bluish color of the skin due to lack of oxygen
  - ✓ Poor feeding
  - ✓ Short, shallow and rapid breathing
  - ✓ Irritability
- Spread of the virus can be through contact with droplets from the nose and throat of an infected person when they cough and sneeze.

**Respiratory Syncytial Virus (RSV)**  
**SYMPTOMS**

INFANTS	CHILDREN	ADULTS
Irritability Poor feeding Lethargy Apnea (pauses in breathing) Fever (not always present)	Runny nose Decreased appetite Cough Sneezing Fever	Runny nose Sore throat Cough Headache Fatigue
		

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# Immunity



It's important to understand the immune system and how the body fights illness. When germs invade the body, they attack and multiply leading to infection causing illness. The immune system protects your body from harmful substances, germs and cell changes that could make you sick.

- ✓ Blood contains red blood cells to carry oxygen to tissues and organs.
- ✓ White blood cells are for fighting infection which work by swallowing up germs leaving behind parts of the germs called antigens. The body then identifies these antigens as dangerous, so the body produces antibodies to attack the antigens.

# Active Immunity



Results when exposure to an illness triggers the immune response to replicate antibodies to fight off disease.

Occurs when a vaccine is introduced into the body.

Takes time to build in the body

Long-lasting

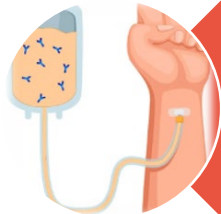
# Passive Immunity



Results through the placenta during pregnancy, breastfeeding or blood transfer.



Immunity begins Immediately.



Occurs when a person is given antibodies to fight off disease.



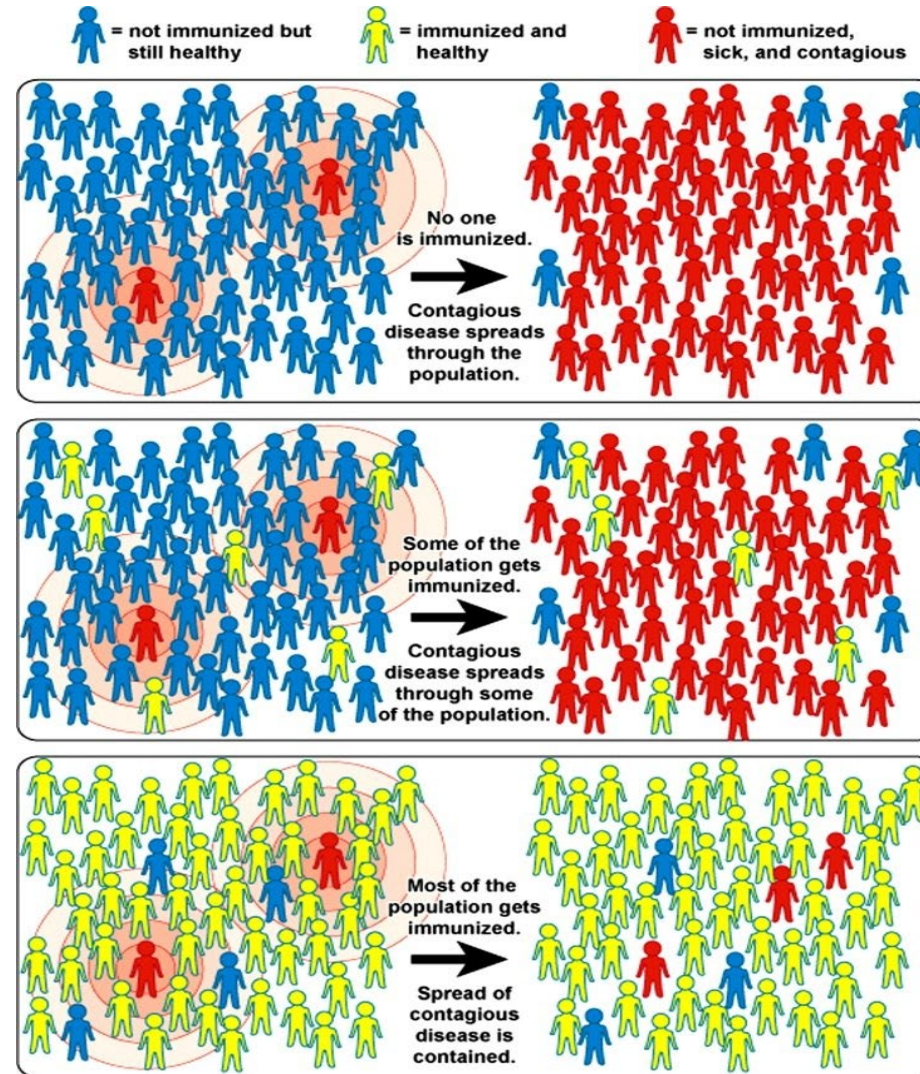
Short-lasting.

# Herd Immunity

- Exists when many people have been infected and become immunized with a vaccine and the chain of infection is broken.

- A way of protecting a whole community from a disease by getting a population to be vaccinated.

- Higher vaccination rates protect the public and non-vaccinated people. Protection requires a high percentage of a community to be vaccinated to be effective.



- If enough people in a community, or a “herd” are immune to a disease, it helps protect all individuals in that community, even the unvaccinated.

- Herd immunity is important for those individuals who cannot get a vaccine, such as an individual who has an autoimmune disorder, or who is immunocompromised.

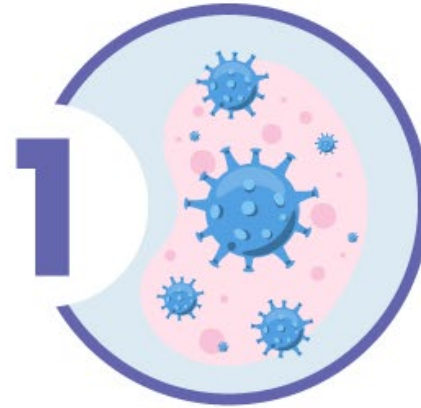
- Polio and Smallpox were once deadly in the U.S. and are due to widespread vaccination efforts, these diseases have become rare.
- Covid-19 falls under the same category today.

# How Vaccines Work

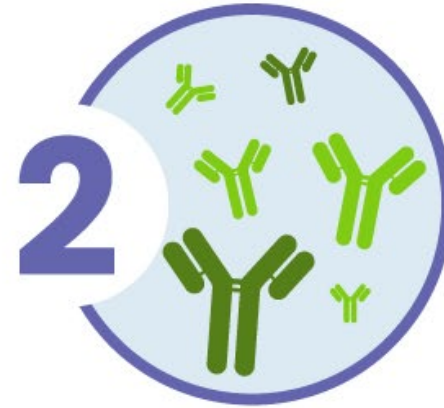
- Vaccines are made from parts of the same germs that cause the infectious disease imitating an infection. Vaccines are given to introduce your body to these germs so your immune system can react to the vaccine and make antibodies.

## Example

- *The Inactivated Polio Vaccine (IPV) is made from the polio virus, but the germs are weakened so it doesn't make you sick.*



1 A vaccine is a weak or inactive form of a virus or bacteria.



2 Your immune system responds by making antibodies.



3 If you are exposed to the virus or bacteria later, the antibodies quickly fight the disease.

# Routine Vaccines: Birth-18 Years

<p><b>Hepatitis B- Hep B</b></p>	<p><b>Rotavirus- RV1/RV5</b></p>	<p><b>Diphtheria, Tetanus, &amp; Acellular Pertussis-DTAP</b></p>	<p><b>Haemophilus Influenzae- HIB</b></p>
<p>3-dose series (Birth, 1-2, 6-18 months)</p>	<p>2-dose series (2, 4 months) or 3-dose series (2, 4, 6 months)</p>	<p>5-dose series (2, 4, 6, 15-18 months, 4-6 years)</p>	<p>3-dose series (2, 4, 12-15 months) or 4-dose series (2, 4, 6, 12-15 months)</p>
<p><b>Pneumococcal-PCV13/PPSV23</b></p>	<p><b>Inactivated Poliovirus-IPV</b></p>	<p><b>Measles, Mumps, Rubella-MMR</b></p>	<p><b>Varicella-VAR</b></p>
<p>4-dose series ( 2, 4, 6, 12-15 months)</p>	<p>4-dose series ( 2, 4, 6-18 months,4-6 yrs.)</p>	<p>2-dose series ( 12-15 months,4-6 yrs.)</p>	<p>2-dose series ( 12-15 months,4-6 yrs.)</p>



# Routine Vaccines: Birth-18 Years (Continued)

<b>Tetanus, Diphtheria &amp; Acellular Pertussis-TDAP</b>	<b>Hepatitis A- Hep A</b>	<b>Meningococcal B- MenB-4C/ MenB-Fhbp</b>	<b>Influenza-Flu Annual dose</b>
1-dose (11-12 years)	2-dose series ( 6, 12-23 months)	2-dose series at least 1 month apart 2-dose series at least 6 months apart	2-dose series if child has never received a flu vaccine
<b>Human Papillomavirus-HPV</b>	<b>CONT. Human Papillomavirus-HPV</b>	<b>Respiratory Syncytial Virus</b>	<b>Coronavirus-Covid-19</b>
Dose dependent on age of initial vaccination Age 9-14 years at initial vaccination: 2-dose series at (birth, 6-12 months) *minimum interval: 5 months; repeat dose if administered too soon.	Age 15 years or older at initial vaccination: 3-dose series (birth, 1-2, 6 months) *minimum intervals: dose 1 to dose2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon.	1-dose RSV Vaccine Pregnant at 32 weeks 0 days through 36 weeks and 6 days gestation from September through January in most of the continental United States.	Annual dose Dose dependent on vaccination series type.



**Table 1** Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024



These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars. To determine minimum intervals between doses, see the catch-up schedule (Table 2).

Vaccine and other immunizing agents	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 yrs	17–18 yrs	
Respiratory syncytial virus (RSV-mAb [Nirsevimab])	1 dose depending on maternal RSV vaccination status, See Notes			1 dose (8 through 19 months), See Notes														
Hepatitis B (HepB)	1 <sup>st</sup> dose	← 2 <sup>nd</sup> dose →		← 3 <sup>rd</sup> dose →														
Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	See Notes													
Diphtheria, tetanus, acellular pertussis (DTaP <7 yrs)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	3 <sup>rd</sup> dose				← 4 <sup>th</sup> dose →			5 <sup>th</sup> dose						
Haemophilus influenzae type b (Hib)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	See Notes			← 3 <sup>rd</sup> or 4 <sup>th</sup> dose, See Notes →										
Pneumococcal conjugate (PCV15, PCV20)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	3 <sup>rd</sup> dose				← 4 <sup>th</sup> dose →									
Inactivated poliovirus (IPV <18 yrs)			1 <sup>st</sup> dose	2 <sup>nd</sup> dose	← 3 <sup>rd</sup> dose →						4 <sup>th</sup> dose						See Notes	
COVID-19 (1vCOV-mRNA, 1vCOV-aPS)	1 or more doses of updated (2023–2024 Formula) vaccine (See Notes)																	
Influenza (IIV4)	Annual vaccination 1 or 2 doses										Annual vaccination 1 dose only							
<b>Or</b> Influenza (LAIV4)											Annual vaccination 1 or 2 doses			<b>Or</b> Annual vaccination 1 dose only				
Measles, mumps, rubella (MMR)					See Notes		← 1 <sup>st</sup> dose →				2 <sup>nd</sup> dose							
Varicella (VAR)							← 1 <sup>st</sup> dose →				2 <sup>nd</sup> dose							
Hepatitis A (HepA)					See Notes		2-dose series, See Notes											
Tetanus, diphtheria, acellular pertussis (Tdap ≥7 yrs)													1 dose					
Human papillomavirus (HPV)													See Notes					
Meningococcal (MenACWY-CRM ≥2 mos, MenACWY-TT ≥2years)				See Notes											1 <sup>st</sup> dose			2 <sup>nd</sup> dose
Meningococcal B (MenB-4C, MenB-FHbp)														See Notes				
Respiratory syncytial virus vaccine (RSV [Abrysvo])														Seasonal administration during pregnancy, See Notes				
Dengue (DEN4CYD; 9–16 yrs)														Seropositive in endemic dengue areas (See Notes)				
Mpox																		

Range of recommended ages for all children
  Range of recommended ages for catch-up vaccination
  Range of recommended ages for certain high-risk groups
  Recommended vaccination can begin in this age group
  Recommended vaccination based on shared clinical decision-making
  No recommendation/ not applicable

# Vaccine Myths

- **Natural Acquired immunity is better than the immunity provided from vaccines.** **False**-Natural infections can cause severe complications that can be deadly, even if the disease/illness is mild.
- **Vaccines side effects are not worth the vaccine.** **False**-While side-effects are common most are mild.
- **Vaccine preventable diseases are rare in the United States.** **True**-Even though rare they do circulate around the world and can be brought to the U.S. putting the unvaccinated at higher risk.



# Types of Vaccines

Inactivated

Conjugate

Subunit

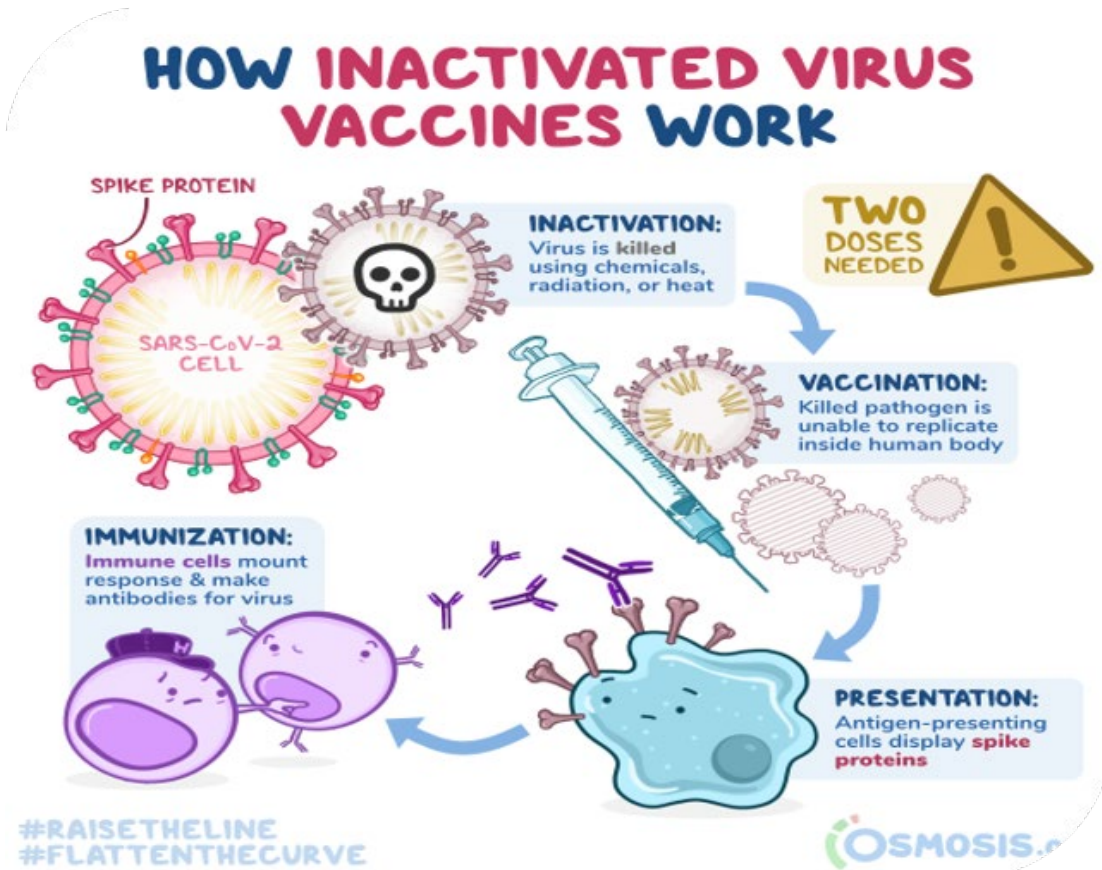
Toxoid

Live



# Inactivated Vaccines

- Inactivated Vaccines or Killed Vaccines are made by inactivating or killing the germ in the process of making the vaccine. They fight viruses and bacteria to produce immune responses. This is different than live vaccines because multiple doses are necessary to build up and/or maintain immunity.
- Inactivated Vaccines include:
  - ✓ Inactivated Poliovirus (IPV)
  - ✓ Hepatitis A Vaccine
  - ✓ Influenza (Flu)
  - ✓ Rabies Vaccine

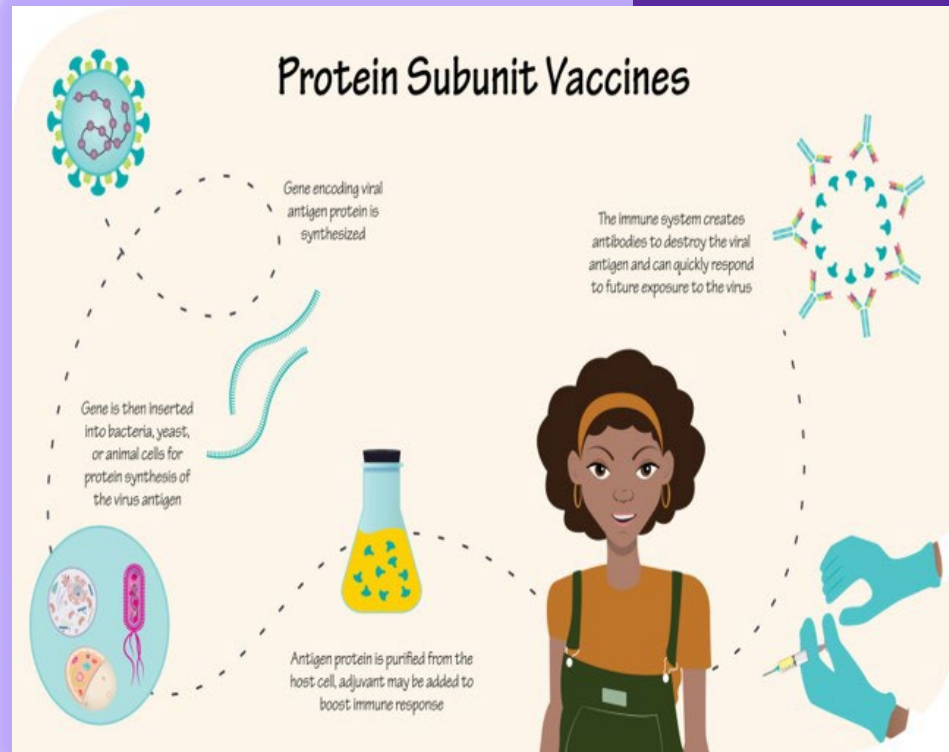


# Subunit Vaccines

Subunit Vaccines only contain fragments of the germ (subunit parts) to make a strong and effective immune response. Since not all parts of the germ are entered through the vaccine side effects are less common.

Subunit Vaccines include:

- ✓ Acellular Pertussis Vaccine
- ✓ Meningococcal Vaccine
- ✓ Pneumococcal Vaccine
- ✓ Hepatitis B

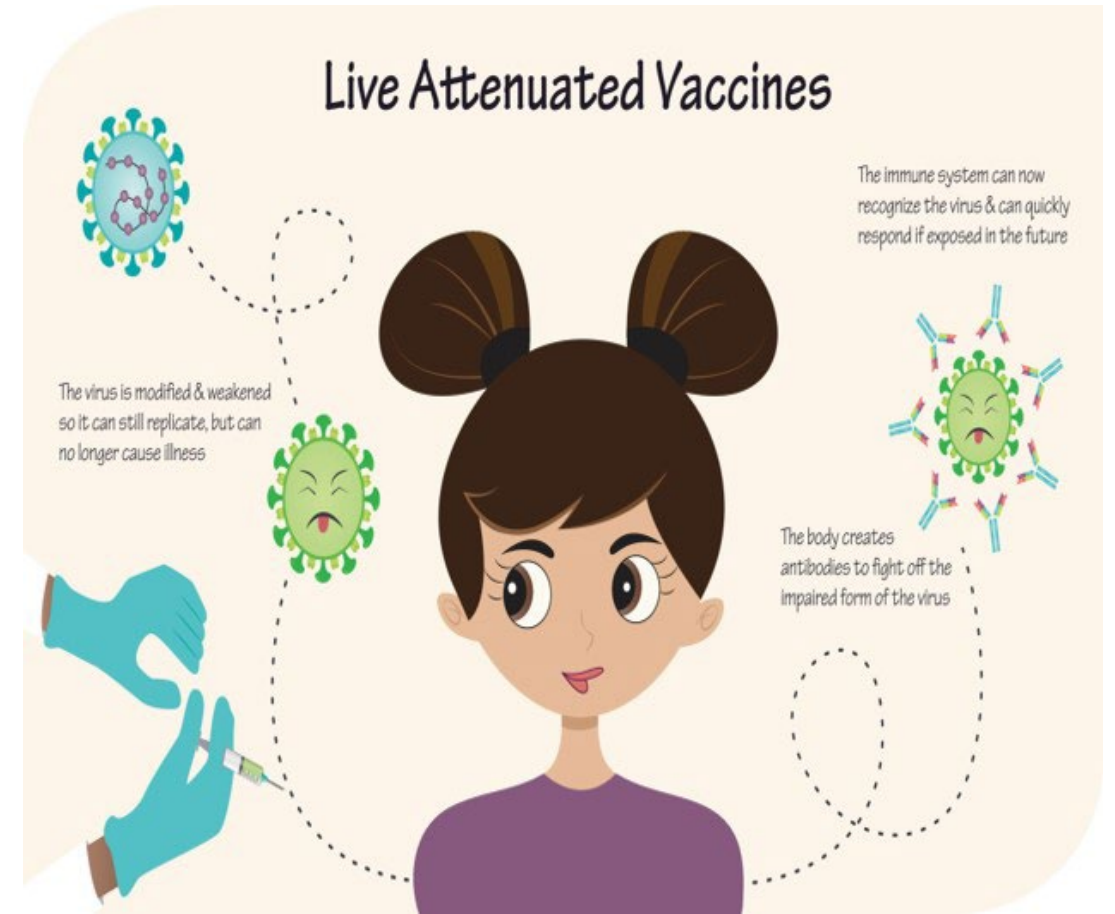


# Live Vaccines

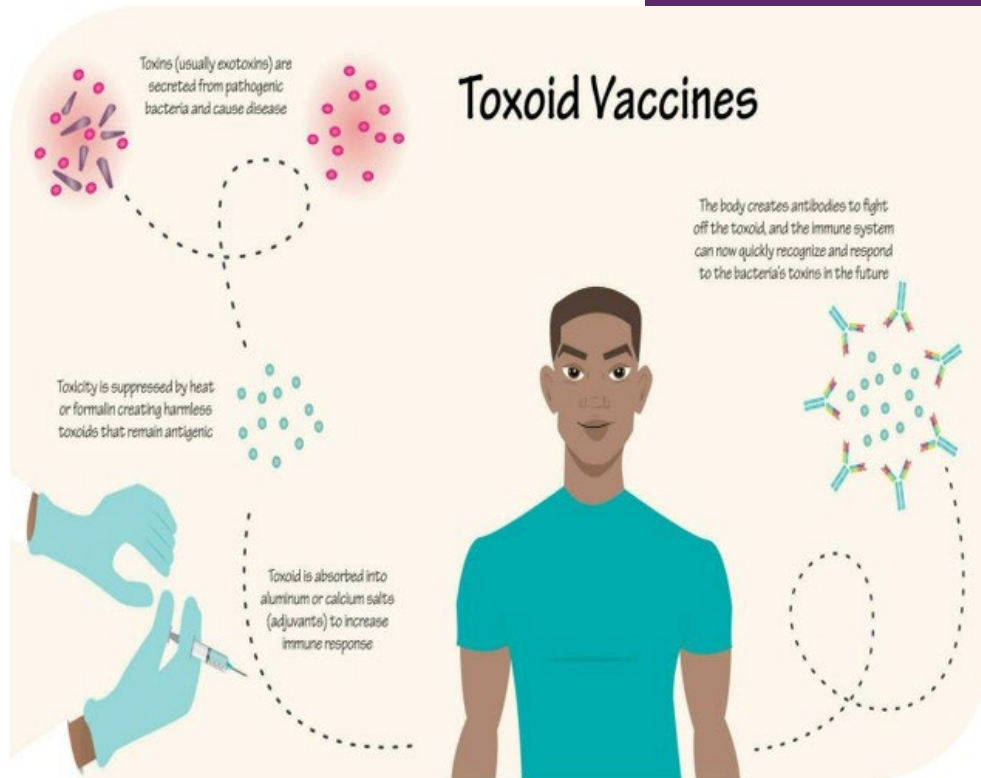
- Live Vaccines are the closest thing to natural infections. A weakened form of the germ is used so it does not cause serious disease.

***\*Children with weakened immune systems cannot get live vaccines.***

- Live Vaccines Include:
  - ✓ Measles, mumps, rubella (MMR combined vaccine)
  - ✓ Rotavirus
  - ✓ Smallpox
  - ✓ Chickenpox
  - ✓ Yellow fever



# Toxoid Vaccines



Toxoid Vaccines prevent disease that are caused by the toxins in the body by using a toxin made from the germ that causes the disease. The toxins are weakened so they cannot cause illness. This creates immunity to the parts of the germ that cause illness rather than the actual germ. \*Immunity to the harmful effects of the infection.

Toxoid Vaccines include:

- ✓ Diphtheria Vaccine
- ✓ Tetanus Vaccine

# Conjugate Vaccines

- Conjugate Vaccines fight different types of bacteria. The bacteria in these vaccines have antigens with a sugar-like outer coating that hides the antigen, making it hard for a young child's immature immune system to recognize and respond to it. This is a type of subunit vaccine which combines a weak antigen as a carrier, so that the immune system has a stronger response.
- Conjugate Vaccines include:
  - ✓ Pneumococcal Conjugate
  - ✓ Hib



# FAQ's About Vaccines

- **Are vaccines safe?** Yes. Like with all medications there are some side effects, but most are minor. Serious side effects are rare, and patients should report any side effects to their health care provider.
- **Do vaccines cause autism?** No. There is no link between Autism Spectrum Disorder (ASD) and vaccines. Vaccine ingredients such as thimerosal is a preservative used in some vaccines to prevent contamination in multi-dose vaccines. Thimerosal contains mercury and is not like the one contained in fish which can cause damage because of their high levels. There is no link between thimerosal and autism.
- **Does clean water and modern hygiene protect me from diseases without vaccination?** No. While clean water and modern hygiene help prevent and slow the spread of disease, they do not eliminate the disease.



# FAQ's About Vaccines (Continued)

- **Is it okay to receive multiple vaccines in the same visit?** Yes. The vaccine schedule is designed to provide maximum protection safely. The CDC shot recommendation schedule should be followed for all vaccination needs.
- **I am healthy and don't need any vaccines.** Incorrect. If you are healthy vaccines are still necessary to help eliminate the spread of disease.
- **Can vaccines overload my baby's immune system?** No. Vaccines do not overload the immune system. A healthy baby's immune system successfully fights off thousands of germs everyday. Antigens are parts of germs that cause the body's immune system to build antibodies, which fight off diseases



# Antivirals



- Medications that help the body fight off viruses that cause disease by blocking the germs so that viruses cannot replicate in healthy cells.
- A preventative measure to lower the risk of getting or spreading viruses because they boost the immune system.
- This helps fight the virus and lower the amount of active virus in the body.
- They treat chronic or life-threatening viral infections such as HIV or Herpes.
- Skipping or starting and stopping medication will allow the virus to adapt or change and the antiviral will no longer be effective. The medication cannot be taken for long periods of time.
- Antivirals ease and shorten duration of episodes of chronic diseases, but do NOT cure the actual viral infection. They can make the virus inactive in the body, therefore preventing the spread of viral infections after a known or suspected exposure.



# Antibiotics

- Do not affect viruses.
- Bacteria reproduces outside of the cell in the body making it easier to target.
- Wider range of development.
- One antibiotic can treat many different bacterial infections.
- Helps the immune system fight off bacterial infections.

**vs**



# Antivirals

- Works against specific viral infections.
- Virus reproduces inside the cell in the body making it harder to target.
- Difficult to develop
- More viral infections than drugs for treatment.

# Healthcare Cultural Competency

- The ability of providers to effectively deliver health care services that meet the social cultural, and linguistic needs of every patient.
- Assist the needs of all community members.
- Be respectful and responsive to all health beliefs and practices that they partake in.



# Being Culturally Competent

- Improve health outcomes and quality of care.
- Contribute to the elimination of racial and ethnic health disparities.
- Provide relevant training by health professionals.



## Five Elements of Cultural Competence

INDIVIDUAL LEVEL

- 1 acknowledge cultural differences
- 2 understand your own culture
- 3 engage in self-assessment
- 4 acquire cultural knowledge & skills
- 5 view behavior within a cultural context

# Lack of Cultural Competency

BE AWARE!

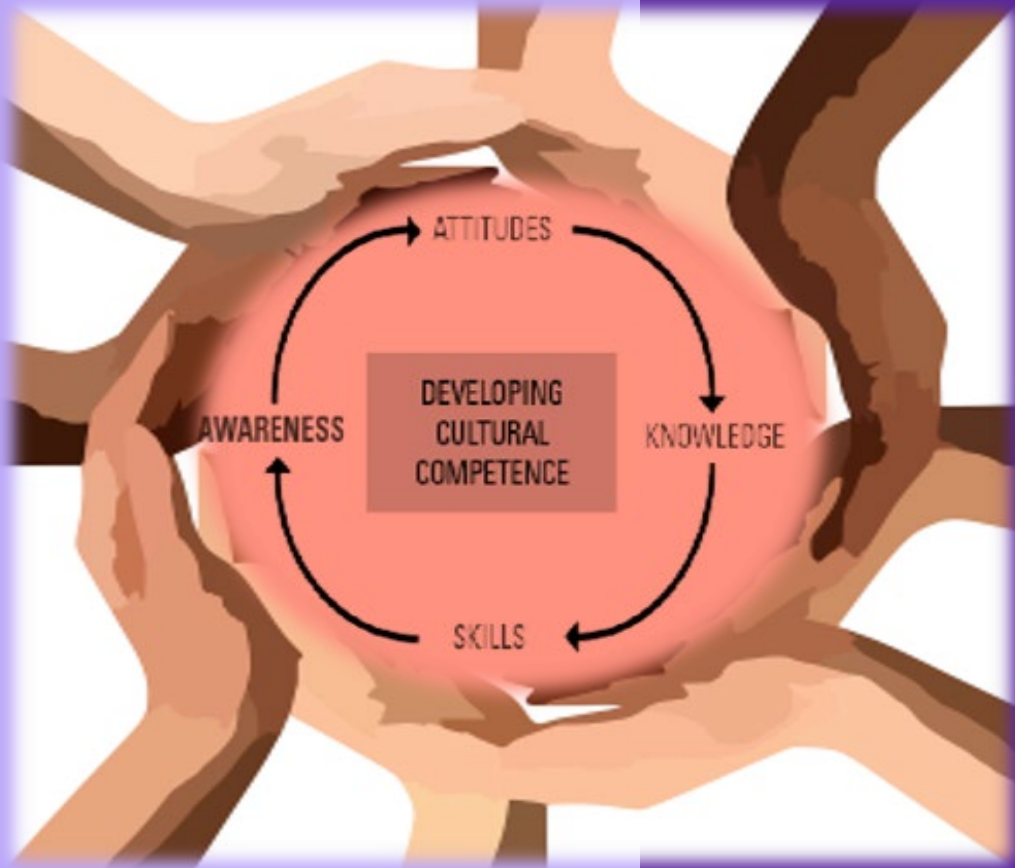
- Causes harmful health results
- Deters communication quality between patients and providers that will increase misdiagnosis and loss of trust.
- Eliminates connection with providers, minimal involvement in medical decisions, and low satisfaction from the patient.

# Understanding the Community

- Do you know your client's literacy level?
- Do you know if your clients have any impairments?
- Did you help summarize your clients' health documents?
- Did you help your clients understand their health records and needs?
- Did you help promote your client's independence to engage in their health?



# Ethnic Minorities



- Often overburdened by chronic health conditions due to lack of understanding.
- Higher morbidity and mortality rates due to chronic disease.
- Healthcare facility visits often occur more often due to chronic illness.

# Health Education



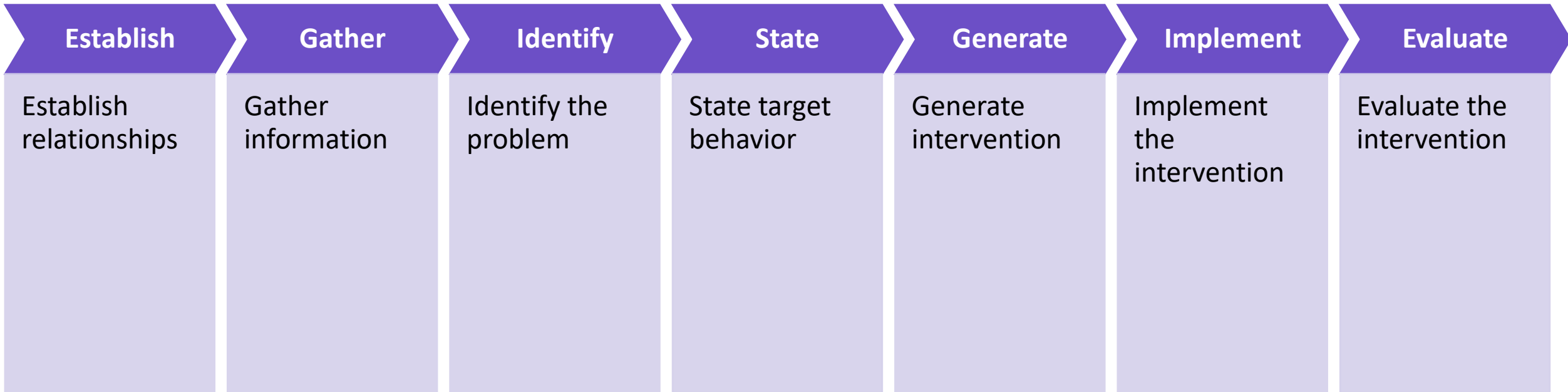
- Health education is a combination of experiences designed for communities to improve their health overall.
- It is very important to understand the communities' behaviors, triggers, environmental conditions, policies, and deficiencies toward healthcare.

# Collaboration in Health



- Collaboration is defined as information or sharing resources for mutual benefit to achieve a common purpose.
- In Public Health, the process begins by identifying the issue and then collaborating for a common goal to seek a resolution. This often requires working with multiple agencies.
- Collaboration in health education can promote the importance of living a healthy life.

# Collaboration Process



# Community Health Worker's Role

- Advocate for the relationship between their community and their providers
- Present strategies to manage illnesses and various diseases.
- Educating and advocating for clients about their health.
- Clients learn best when they can listen, repeat, and practice information.



# Morbidity

- Morbidity is the condition of suffering from a disease or medical condition. Medical condition refers to mental or physical illness, chronic and age-related diseases. Conditions may worsen over time and lower the quality of life.
- Co-Morbidity refers to a person that has more than one illness, that does not always have the same cause, but occur together and worsen together. Ex. Depression, obesity
- Prevention Includes
  - ✓ Early and regular health screenings
  - ✓ Health education
  - ✓ Access to healthcare
  - ✓ Developing healthy habits



# Most Common Morbidities

- Heart disease
- Stroke
- Influenza
- Cancer
- Alzheimer's Disease
- Suicide

# Mortality



- Mortality is the condition of being subject to death; mortal character, nature, or existence.
- Mortality rate, is a measure of the number of deaths in a particular population, scaled to the size of that population, per unit of time.
- Excess mortality is an event or disease that causes more deaths than expected, such as COVID-19 pandemic increased death rate.

# Contact Us

## NMSIIS HELP DESK

**(833) 882-6454**

Immunization record requests, exemption inquiries, data exchange support, VFC support, reconciliations, inventory maintenance, training requests, password resets, duplicate records/patients, NMSIIS access and updates.

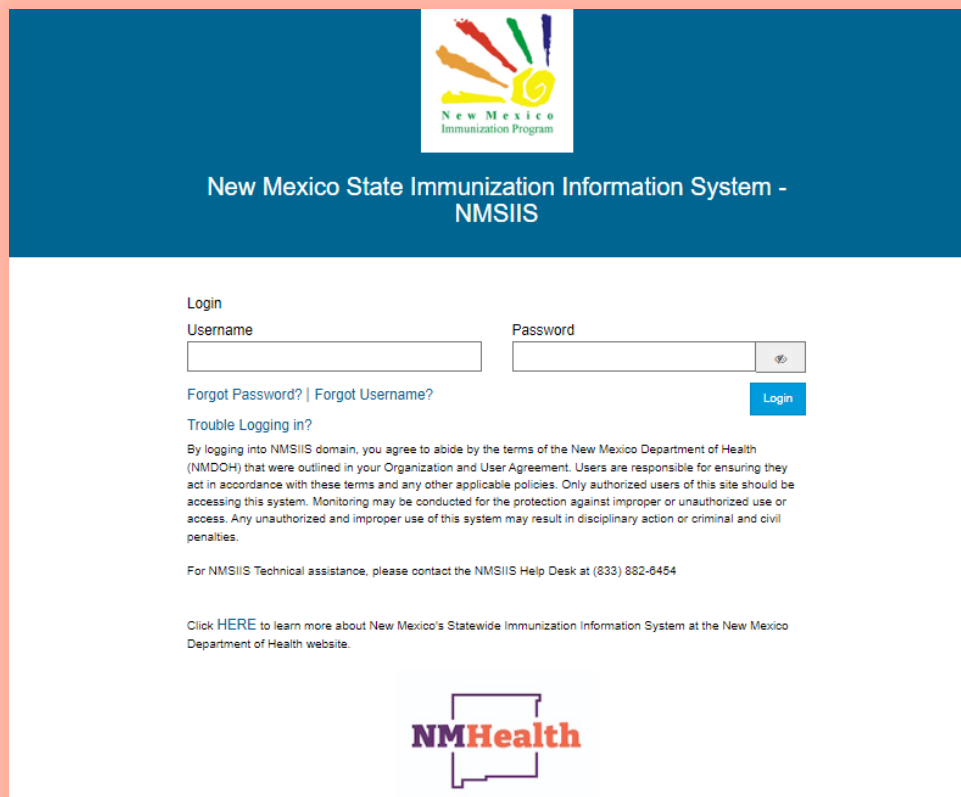
## NMSIIS Email

**[NMSIIS.Access@doh.nm.gov](mailto:NMSIIS.Access@doh.nm.gov)**

NMSIIS organizational and user access, training requests, password resets, duplicates records/patients, immunization record requests, data exchange support, immunization entry.

## NMSIIS/Immunization Program Website

**<https://www.nmhealth.org/about/phd/idb/imp/siis/>**





**Thank You!**

Community Health Workers

