Patient name:	
Birthdate:	Chart number:
Clinic name and address	

Before administering any vaccines, give the patient copies of all pertinent Vaccine Information Statements (VISs) and make sure he/she understands the risks and benefits of the vaccine(s). Always provide or update the patient's personal record card.

Vaccine	Type of Vaccine <sup>1</sup>	Date given	Funding source (F,S,P) <sup>2</sup>	IXOULE	Vaccine		Vaccine Information Statement (VIS)		Vaccinator <sup>5</sup> (signature or
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			& Site <sup>3</sup>	Lot#	Mfr.	Date on VIS <sup>4</sup>	Date given <sup>4</sup>	initials & title)
Tetanus, Diphtheria, Pertussis									
(e.g., Td, Tdap) Give IM. <sup>3</sup>									
Hepatitis A <sup>6</sup>									
(e.g., HepA, HepA-HepB) Give IM. <sup>3</sup>									
Hepatitis B <sup>6</sup> (e.g., HepB, HepA-HepB) Give IM. <sup>3</sup>									
Human papillomavirus									
(HPV2, HPV4) Give IM. <sup>3</sup>									
Measles, Mumps, Rubella (MMR) Give SC.3									
Varicella (VAR) Give SC. <sup>3</sup>									
Pneumococcal (e.g., PCV13, conjugate;									
PPSV23, polysaccharide) Give PCV13 IM. <sup>3</sup> Give PPSV23 IM or SC. <sup>3</sup>									
Meningococcal									
Meningococcal (e.g., MenACWY, conjugate; MPSV4, polysaccharide)									
Give MenACWY IM. <sup>3</sup> Give MPSV4 SC. <sup>3</sup>									

See page 2 to record influenza, Hib, zoster, and other vaccines (e.g., travel vaccines).

- 1. Record the generic abbreviation (e.g., Tdap) or the trade name for each vaccine (see table at right).
- 2. Record the funding source of the vaccine given as either F (federal), S (state), or P (private).
- 3. Record the route by which the vaccine was given as either intramuscular (IM), subcutaneous (SC), intradermal (ID), intranasal (IN), or oral (PO) and also the site where it was administered as either RA (right arm), LA (left arm), RT (right thigh), or LT (left thigh).
- 4. Record the publication date of each VIS as well as the date the VIS is given to the patient.
- 5. To meet the space constraints of this form and federal requirements for documentation, a healthcare setting may want to keep a reference list of vaccinators that includes their initials and titles.
- 6. For combination vaccines, fill in a row for each antigen in the combination.

Abbreviation	Trade Name and Manufacturer
Tdap	Adacel (sanofi pasteur); Boostrix (GlaxoSmithKline [GSK])
Td	Decavac (sanofi pasteur); generic Td (MA Biological Labs)
НерА	Havrix (GSK); Vaqta (Merck)
НерВ	Engerix-B (GSK); Recombivax HB (Merck)
НерА-НерВ	Twinrix (GSK)
HPV2	Cervarix (GSK)
HPV4	Gardasil (Merck)
MMR	MMRII (Merck)
VAR	Varivax (Merck)
PCV13, PPSV23	Prevnar 13 (Pfizer); Pneumovax 23 (Merck)
MenACWY	Menactra (sanofi pasteur); Menveo (Novartis)
MPSV4	Menomune (sanofi pasteur)

Patient name:		
Birthdate:	Chart number:	
Clinic name and address		_

Before administering any vaccines, give the patient copies of all pertinent Vaccine Information Statements (VISs) and make sure he/she understands the risks and benefits of the vaccine(s). Always provide or update the patient's personal record card.

Vaccine	Type of Vaccine <sup>1</sup>	(mo/dov/yr)   Source	Funding Source	Noute	Vaccine		Vaccine Information Statement (VIS)		Vaccinator <sup>5</sup> (signature or
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(F,S,P) <sup>2</sup>	& Site <sup>3</sup>	Lot #	Mfr.	Date on VIS <sup>4</sup>	Date given <sup>4</sup>	initials & title)
Influenza									
(e.g., IIV3, trivalent inactivated;									
IIV4, quadrivalent inactivated;									
RIV, recombinant inac-									
tivated; LAIV4, quadrivalent live									
attenuated) Give IIV and RIV IM. <sup>3</sup>									
Give LAIV IN. <sup>3</sup>									
Hib Give IM. <sup>3</sup>									
Zoster (Zos) Give SC.3									
Other									

See page 1 to record Tdap/Td, hepatitis A, hepatitis B, HPV, MMR, varicella, pneumococcal, and meningococcal vaccines.

- 1. Record the generic abbreviation (e.g., Tdap) or the trade name for each vaccine (see table at right).
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- 4. Record the publication date of each VIS as well as the date the VIS is given to the patient.
- 5. To meet the space constraints of this form and federal requirements for documentation, a healthcare setting may want to keep a reference list of vaccinators that includes their initials and titles.

Abbreviation	Trade Name and Manufacturer
LAIV (Live attenuated influenza vaccine]	FluMist (MedImmune)
IIV (Inactivated influ- enza vaccine), RIV (recombinant influenza vaccine)	Afluria (CSL Biotherapies); Agriflu (Novartis); Fluarix (GSK); Flublok (Protein Sciences Corp.); Flucelvax (Novartis); FluLaval (GSK); Fluvin (Novartis); Fluzone, Fluzone Intradermal, Fluzone High-Dose (sanofi pasteur)
Hib	ActHIB (sanofi pasteur); Hiberix (GSK); PedvaxHib (Merck)
ZOS (shingles)	Zostavax (Merck)

Patient name: Mohammed Sharík

Birthdate: 4/14/1981 Chart number:

Clinic name and address Small Town Clinic

1st and Main Streets
Anywhere, AB 12345

Before administering any vaccines, give the patient copies of all pertinent Vaccine Information Statements (VISs) and make sure he/she understands the risks and benefits of the vaccine(s). Always provide or update the patient's personal record card.

Vaccine	Type of Vaccine <sup>1</sup>	Date given	Funding source	Koule	Vaccine		Vaccine Information Statement (VIS)		Vaccinator <sup>5</sup> (signature or
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(mo/day/yr)	(F,S,P) <sup>2</sup>	& Site <sup>3</sup>	Lot # Mfr.		Date on VIS <sup>4</sup>	Date given <sup>4</sup>	initials & title)
Tetanus,	Td	8/1/2002	P	IM/LA	U0376AA	AVP	6/10/94	8/1/02	JTA
Diphtheria, Pertussis (e.g., Td, Tdap)	Td	9/1/2002	P	IM/LA	U0376AA	AVP	6/10/04	9/1/02	PWS
Give IM. <sup>3</sup>	Td	3/1/2003	P	IM/LA	И0376AA	AVP	6/10/94	3/1/03	TAA
	Тдар	6/14/2010	P	IM/LA	AC52B030AA	GSK	6/14/10	6/14/10	JTA
Hepatitis A <sup>6</sup>	НерА-НерВ	8/1/2002	P	IM/RA	HAB239A4	GSK	8/25/98	8/1/02	JTA
(e.g., HepA, HepA-HepB) Give IM. <sup>3</sup>	НерА-НерВ	9/1/2002	P	IM/RA	HAB239A4	4SK	8/25/98	9/1/02	PWS
GIVE IVI.	НерА-НерВ	3/1/2003	P	IM/RA	HAB239A4	4SK	8/25/98	3/1/03	TAA
Hepatitis B <sup>6</sup>	НерА-НерВ	8/1/2002	P	IM/RA	HAB239A4	4SK	7/11/01	8/1/02	JTA
(e.g., HepB, HepA-HepB) Give IM. <sup>3</sup>	НерА-НерВ	9/1/2002	P	IM/RA	HAB239A4	4SK	7/11/01	9/1/02	PWS
	НерА-НерВ	3/1/2003	P	IM/RA	HAB239A4	4SK	7/11/01	3/1/03	TAA
Human papillomavirus (HPV2, HPV4)					_ ( 0				
Give IM. <sup>3</sup>									
Measles, Mumps, Rubella	MMR	8/1/2002	P	SC/RA	0025L	MRK	6/13/02	8/1/02	JTA
(MMR) Give SC. <sup>3</sup>	MMR	11/1/2002	P	SC/RA	0025L	MRK	6/13/02	11/1/02	TAA
Varicella	VAR	8/1/2002	P	SC/LA	0799M	MRK	12/16/98	8/1/02	JTA
(VAR) Give SC. <sup>3</sup>	VAR	11/1/2002	P	SC/LA	0689M	MRK	12/16/98	11/1/02	TAA
Pneumococcal (e.g., PCV13, conjugate;									
PPSV23, polysaccharide)									
Give PCV13 IM. <sup>3</sup> Give PPSV23 IM or SC. <sup>3</sup>									
5170 11 5 7 25 HVI 01 5C.									
Meningococcal (e.g., MenACWY, conjugate; MPSV4, polysaccharide)	Menveo	7/12/2010	P	IM/RA	28011	NOV	1/2/8/08	7/12/10	JTA
Give MenACWY IM. <sup>3</sup> Give MPSV4 SC. <sup>3</sup>									

See page 2 to record influenza, Hib, zoster, and other vaccines (e.g., travel vaccines).

- 1. Record the generic abbreviation (e.g., Tdap) or the trade name for each vaccine (see table at right).
- 2. Record the funding source of the vaccine given as either F (federal), S (state), or P (private).
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- 6. For combination vaccines, fill in a row for each antigen in the combination.

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Td	Decavac (sanofi pasteur); generic Td (MA Biological Labs)
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HepB	Engerix-B (GSK); Recombivax HB (Merck)
НерА-НерВ	Twinrix (GSK)
HPV2	Cervarix (GSK)
HPV4	Gardasil (Merck)
MMR	MMRII (Merck)
VAR	Varivax (Merck)
PCV13, PPSV23	Prevnar 13 (Pfizer); Pneumovax 23 (Merck)
MenACWY	Menactra (sanofi pasteur); Menveo (Novartis)
MPSV4	Menomune (sanofi pasteur)

Patient name: Mohammed Sharík

Birthdate: 4/14/1981 Chart number:

Clinic name and address Small Town Clinic 1st and Main Streets Anywhere, AB 12345

Before administering any vaccines, give the patient copies of all pertinent Vaccine Information Statements (VISs) and make sure he/she understands the risks and benefits of the vaccine(s). Always provide or update the patient's personal record card.

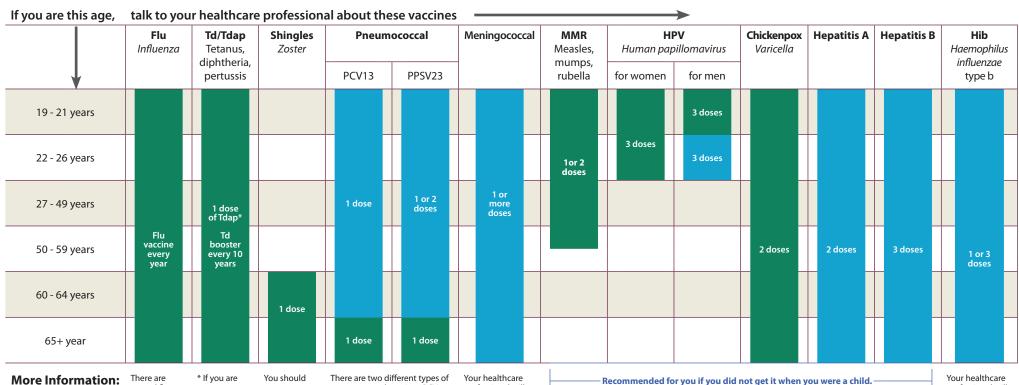
Vaccine	Type of Vaccine <sup>1</sup>	Date given (mo/day/yr)	Funding Source	Route	Vaccine		Vaccine In Stateme	Vaccinator⁵ (signature or	
	Type of vaccine		(F,S,P) <sup>2</sup>	& Site <sup>3</sup>	Lot #	Mfr.	Date on VIS <sup>4</sup>	Date given <sup>4</sup>	initials & title)
Influenza	TIV	11/1/2002	P	IM/RA	U088211	AVP	6/26/02	11/1/02	PWS
(e.g., IIV3, trivalent inactivated:	TIV	10/10/2003	P	IM/LA	и091145	AVP	5/6/03	10/10/03	DLW
IIV4, quadrivalent inac-	Fluzone	10/8/2004	P	IM/RA	N100461	AVP	5/24/04	10/8/04	TAA
tivated; RIV, recombinant inac-	TIV	12/12/2005	P	IM/LA	и2169МА	SPI	7/18/05	12/12/05	JTA
tivated; LAIV4, quadrivalent live	Fluvirin	10/9/2006	P	IM/LA	878771P	NOV	6/30/06	10/9/06	KKC
attenuated)	FluMíst	11/15/07	P	IN	500337P	MED	7/6/07	11/15/07	DCP
Give IIV and RIV IM. <sup>3</sup> Give LAIV IN. <sup>3</sup>	Afluría	10/12/2008	P	IM/RA	06949111A	CSL	7/24/08	10/12/08	JTA
OIVE LAIV IN.	Flulaval	10/12/2009	P	IM/LA	2F600411	GSK	8/11/09	10/2/09	DCP
	H1N1	12/7/2009	P	IM/RA	1009224P	NOV	10/2/09	12/7/09	DLW
	Fluaríx	9/9/2010	P	IM/LA	J5G53	GSK	8/10/10	9/9/10	JRM
	Fluzone ID	10/10/2011	P	ID/LA	UT4720BA	PMC	7/26/11	10/10/11	CJP
	TIV	9/5/2012	P	IM/RA	M50907	CSL	7/2/12	9/5/12	DLW
	RIV	12/12/2013	P	IM/RA	350603F	PSC	7/26/13	12/12/13	JRM
						4			
Hib Give IM. <sup>3</sup>									
Zoster (Zos) Give SC. <sup>3</sup>									
Other	Oral typhoid	7/12/12X4	P	PO	TXE355	BER	5/29/12	7/12/12	MAT
	- 1412 5812.10301	7.222			.,	2010	3, 2, 12	// == ==	7.0.01
				7					

See page 1 to record Tdap/Td, hepatitis A, hepatitis B, HPV, MMR, varicella, pneumococcal, and meningococcal vaccines.

- 1. Record the generic abbreviation (e.g., Tdap) or the trade name for each vaccine (see table at right).
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Abbreviation	Trade Name and Manufacturer
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IIV (Inactivated influ- enza vaccine), RIV (recombinant influenza vaccine)	Afluria (CSL Biotherapies); Agriflu (Novartis); Fluarix (GSK); Flublok (Protein Sciences Corp.); Flucelvax (Novartis); FluLaval (GSK); Fluvirin (Novartis); Fluzone, Fluzone Intradermal, Fluzone High-Dose (sanofi pasteur)
Hib	ActHIB (sanofi pasteur); Hiberix (GSK); PedvaxHib (Merck)
ZOS (shingles)	Zostavax (Merck)

#### 2015 Recommended Immunizations for Adults: By Age



several flu vaccines available. Talk to your healthcare professional about which flu vaccines is right for you.

pregnant, you should get a Tdap vaccine during the 3rd trimester of every pregnancy to help protect vour babies from pertussis (whooping

cough).

get zoster vaccine even if vou've had shingles before.

pneumococcal vaccine: PCV13 (conjugate) and PPSV23 (polysaccharide). Talk with your healthcare professional to find out if one or both pneumococcal vaccines are recommended for you.

professional will let you know how many doses you need.

If you were born There are two HPV vaccines but only one HPV vaccine (Gardasil®) in 1957 or after, and don't have a should be given to men. record of being vaccinated or

many doses you may need.

If you are a male 22 through 26 having had vears old and have sex with men measles, mumps you should complete the HPV and rubella, vaccine series if you have not already done so. talk to your healthcare professional about how

professional will let you know how many doses you need.



Recommended For You: This vaccine is recommended for you unless your healthcare professional tells you that you cannot safely receive it or that you do not need it.



May Be Recommended For You: This vaccine is recommended for you if you have certain risk factors due to your health, job, or lifestyle that are not listed here. Talk to your healthcare professional to see if you need this vaccine.

If you are traveling outside the United States, you may need additional vaccines.

Ask your healthcare professional about which vaccines you may need at least 6 weeks prior to your travel.

For more information, call 1-800-CDC-INFO (1-800-232-4636) or visit www.cdc.gov/vaccines



**U.S. Department of Health and Human Services** Centers for Disease Control and Prevention

#### 2015 Recommended Immunizations for Adults: By Health Condition

If you have this health condition. talk to your healthcare professional about these vaccines Flu Hepatitis B Td/Tdap **Shingles Pneumococcal** Meningococcal MMR **HPV** Chickenpox Hepatitis A Hib Influenza Tetanus, Zoster Measles, Human papillomavirus Varicella Haemophilus influenzae diphtheria, mumps, pertussis PCV13 PPSV23 rubella for women for men type b \*see below 1 - 2 doses Pregnancy 3 doses post-HSCT\* **SHOULD SHOULD SHOULD** Weakened Immune through **NOT GET** NOT GET **NOT GET** 3 doses age 26 years recipients only System VACCINE VACCINE VACCINE HIV: CD4 count less more than 200 doses HIV: CD4 count 200 1 dose 1 dose 1 or 3 of Tdap or greater 2 doses 3 doses doses followed Flu Kidney disease or by Td booster 3 doses 3 doses vaccine through through doses poor kidney function every age 26 age 21 every 10 year 2 doses years years years Asplenia (if you do not 1 dose 1 or for those 1 or 2 1 or 3 have a spleen or if it more doses doses 60 years doses does not work well) 3 doses or older Heart disease Chronic lung disease 1 or 3 Chronic alcoholism doses 1 dose

**More Information:** 

Diabetes (Type 1 or Type 2)

Chronic Liver Disease

There are several flu vaccines available. Talk to your healthcare professional about which flu vaccines is right for you.

pregnant, you should get a Tdap vaccine during the 3rd trimester of every pregnancy to help protect your babies from pertussis

(whooping

cough).

\* If you are

You should get zoster vaccine even if you've had shingles before. There are two different types of pneumococcal vaccine: PCV13 (conjugate) and PPSV23 (polysaccharide). Talk with your healthcare professional to find out if one or both pneumococcal vaccines are recommended for you.

Your healthcare professional will let you know how many doses you need.

doses

Recommended for you if you did not get it when you were a child.

If you were born in 1957 or after, o and don't have a record of being vaccinated or having had you measles, mumps and rubella, talk to your healthcare professional about how many doses you may need.

There are two HPV vaccines but only one HPV vaccine (Gardasil®) should be given to men.

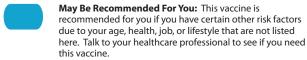
If you are a male 22 through 26 years old and have sex with men you should complete the HPV vaccine series if you have not already done so.

Your healthcare professional will let you know how many doses you need.

3 doses

\*Hematopoietic stem cell transplant

**Recommended For You:** This vaccine is recommended for you *unless* your healthcare professional tells you that you cannot safely receive it or that you do not need it.



YOU SHOULD NOT GET THIS VACCINE

If you are traveling outside the United States, you may need additional vaccines.

Ask your healthcare professional about which vaccines you may need at least 6 weeks prior to your travel.

For more information, call 1-800-CDC-INFO (1-800-232-4636) or visit www.cdc.gov/vaccines

2 doses



U.S. Department of Health and Human Services Centers for Disease Control and Prevention

## Understanding How Vaccines Work

Last reviewed February 2013

For more information on vaccines, vaccine-preventable diseases, and vaccine safety:

http://www.cdc.gov/vaccines/conversations

Diseases that vaccines prevent can be dangerous, or even deadly. Vaccines greatly reduce the risk of infection by working with the body's natural defenses to safely develop immunity to disease. This fact sheet explains how the body fights infection and how vaccines work to protect people by producing immunity.

The body keeps a few T-lymphocytes, called memory cells that go into action quickly if the body encounters the same germ again. When the familiar antigens are detected, B-lymphocytes produce antibodies to attack them.

### The Immune System— The Body's Defense Against Infection

# To understand how vaccines work, it is helpful to first look at how the body fights illness. When germs, such as bacteria or viruses, invade the body, they attack and multiply. This invasion is called an infection, and the infection is what causes illness. The immune system uses several tools to fight infection. Blood contains red blood cells, for carrying oxygen to tissues and organs, and white or immune cells, for fighting infection. These white cells consist primarily of B-lymphocytes, T-lymphocytes, and macrophages:

- Macrophages are white blood cells that swallow up and digest germs, plus dead or dying cells. The macrophages leave behind parts of the invading germs called antigens. The body identifies antigens as dangerous and stimulates the body to attack them.
- Antibodies attack the antigens left behind by the macrophages.
   Antibodies are produced by defensive white blood cells called
   B-lymphocytes.
- **T-lymphocytes** are another type of defensive white blood cell. They attack cells in the body that have already been infected.

The first time the body encounters a germ, it can take several days to make and use all the germ-fighting tools needed to get over the infection. After the infection, the immune system remembers what it learned about how to protect the body against that disease.

#### **How Vaccines Work**

Vaccines help develop immunity by imitating an infection. This type of infection, however, does not cause illness, but it does cause the immune system to produce T-lymphocytes and antibodies. Sometimes, after getting a vaccine, the imitation infection can cause minor symptoms, such as fever. Such minor symptoms are normal and should be expected as the body builds immunity.

Once the imitation infection goes away, the body is left with a supply of "memory" T-lymphocytes, as well as B-lymphocytes that will remember how to fight that disease in the future. However, it typically takes a few weeks for the body to produce T-lymphocytes and B-lymphocytes after vaccination. Therefore, it is possible that a person who was infected with a disease just before or just after vaccination could develop symptoms and get a disease, because the vaccine has not had enough time to provide protection.

#### Types of Vaccines

Scientists take many approaches to designing vaccines. These approaches are based on information about the germs (viruses or bacteria) the vaccine will prevent, such as how it infects cells and how the immune system responds to it. Practical considerations, such as regions of the world where the vaccine would be used, are also important because the strain of a virus and environmental conditions, such as temperature and risk of exposure, may be different in various parts of the world. The vaccine delivery options available may also differ geographically. Today there are five main types of vaccines that infants and young children commonly receive:

• Live, attenuated vaccines fight viruses. These vaccines contain a version of the living virus that has been weakened so that it does not cause serious disease in people with healthy immune systems. Because live, attenuated vaccines are the closest thing to a natural infection, they are good teachers for the immune system. Examples of live, attenuated vaccines include measles, mumps,









and rubella vaccine (MMR) and varicella (chickenpox) vaccine. Even though these vaccines are very effective, not everyone can receive them. Children with weakened immune systems—for example, those who are undergoing chemotherapy—cannot get live vaccines.

- Inactivated vaccines also fight viruses. These vaccines are made by inactivating, or killing, the virus during the process of making the vaccine. The inactivated polio vaccine is an example of this type of vaccine. Inactivated vaccines produce immune responses in different ways than live, attenuated vaccines. Often, multiple doses are necessary to build up and/or maintain immunity.
- Toxoid vaccines prevent diseases caused by bacteria that produce toxins (poisons) in the body. In the process of making these vaccines, the toxins are weakened so they cannot cause illness. Weakened toxins are called toxoids. When the immune system receives a vaccine containing a toxoid, it learns how to fight off the natural toxin. The DTaP vaccine contains diphtheria and tetanus toxoids.
- Subunit vaccines include only parts of the virus or bacteria, or subunits, instead of the entire germ. Because these vaccines contain only the essential antigens and not all the other molecules that make up the germ, side effects are less common. The pertussis (whooping cough) component of the DTaP vaccine is an example of a subunit vaccine.
- Conjugate vaccines fight a different type of bacteria. These bacteria have antigens with an outer coating of sugar-like substances called polysaccharides. This type of coating disguises the antigen, making it hard for a young child's immature immune system to recognize it and respond to it. Conjugate vaccines are effective for these types of bacteria because they connect (or conjugate) the polysaccharides to antigens that the immune system responds to very well. This linkage helps the immature immune system react to the coating and develop an immune response. An example of this type of vaccine is the Haemophilus influenzae type B (Hib) vaccine.

#### **Vaccines Require More Than One Dose**

There are four reasons that babies—and even teens or adults for that matter—who receive a vaccine for the first time may need more than one dose:

For some vaccines (primarily inactivated vaccines), the first
dose does not provide as much immunity as possible. So, more
than one dose is needed to build more complete immunity. The
vaccine that protects against the bacteria Hib, which causes
meningitis, is a good example.

- In other cases, such as the DTaP vaccine, which protects against diphtheria, tetanus, and pertussis, the initial series of four shots that children receive as part of their infant immunizations helps them build immunity. After a while, however, that immunity begins to wear off. At that point, a "booster" dose is needed to bring immunity levels back up. This booster dose is needed at 4 years through 6 years old for DTaP. Another booster against these diseases is needed at 11 years or 12 years of age. This booster for older children—and teens and adults, too—is called Tdap.
- For some vaccines (primarily live vaccines), studies have shown
  that more than one dose is needed for everyone to develop the
  best immune response. For example, after one dose of the MMR
  vaccine, some people may not develop enough antibodies to
  fight off infection. The second dose helps make sure that almost
  everyone is protected.
- Finally, in the case of the flu vaccine, adults and children (older than 6 months) need to get a dose every year. Children 6 months through 8 years old who have never gotten the flu vaccine in the past or have only gotten one dose in past years need two doses the first year they are vaccinated against flu for best protection. Then, annual flu shots are needed because the disease-causing viruses may be different from year to year. Every year, the flu vaccine is designed to prevent the specific viruses that experts predict will be circulating.

#### **The Bottom Line**

Some people believe that naturally acquired immunity—immunity from having the disease itself—is better than the immunity provided by vaccines. However, natural infections can cause severe complications and be deadly. This is true even for diseases that most people consider mild, like chickenpox. It is impossible to predict who will get serious infections that may lead to hospitalization.

Vaccines, like any medication, can cause side effects. The most common side effects are mild. However, many vaccine-preventable disease symptoms can be serious, or even deadly. Although many of these diseases are rare in this country, they do circulate around the world and can be brought into the U.S., putting unvaccinated children at risk. Even with advances in health care, the diseases that vaccines prevent can still be very serious – and vaccination is the best way to prevent them.

Adapted from the National Institute of Allergy and Infectious Diseases, Understanding Vaccines http://www.niaid.nih.gov/topics/vaccines/

For more information on vaccines call 800-CDC-INFO (800-232-4636) or visit http://www.cdc.gov/vaccines.

#### Community Immunity ("Herd" Immunity)

Vaccines can prevent outbreaks of disease and save lives.

When a critical portion of a community is immunized against a contagious disease, most members of the community are protected against that disease because there is little opportunity for an outbreak. Even those who are not eligible for certain vaccines—such as infants, pregnant women, or immunocompromised individuals—get some protection because the spread of contagious disease is contained. This is known as "community immunity."

In the illustration below, the top box depicts a community in which no one is immunized and an outbreak occurs. In the middle box, some of the population is immunized but not enough to confer community immunity. In the bottom box, a critical portion of the population is immunized, protecting most community members.

The principle of community immunity applies to control of a variety of contagious diseases, including influenza, measles, mumps, rotavirus, and pneumococcal disease.

