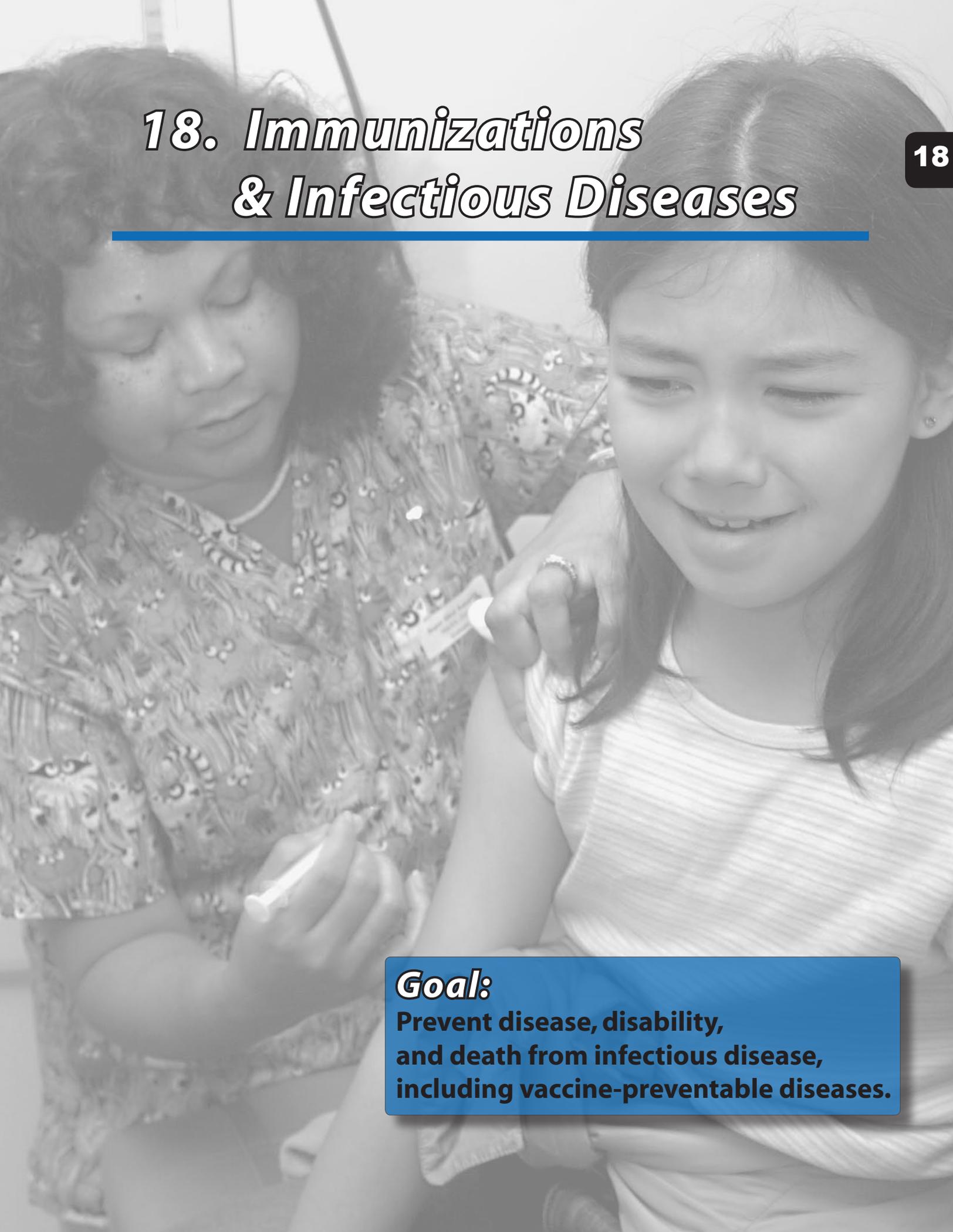


# 18. Immunizations & Infectious Diseases



**Goal:**

Prevent disease, disability,  
and death from infectious disease,  
including vaccine-preventable diseases.

## 18. Immunizations & Infectious Diseases

Health Goal for the Year 2010: Prevent disease, disability, and death from infectious diseases, including vaccine preventable diseases.					
	Indicator	Alaska Data Source	U.S. Baseline	Alaska Baseline	Alaska Target Year 2010
1	Reduce or eliminate indigenous cases of vaccine-preventable disease (number of reported cases per year).	DHSS, DPH, Epidemiology			
1a	Congenital rubella syndrome		9 (2000)	0 (2000)	0
1b	Diphtheria		1 (2000)	0 (2000)	0
1c	Haemophilus influenzae type b (Hib) invasive disease		1,398 (2000)	45 (2000)	0
1d	Hepatitis B		8,036 (2000)	13 (2000)	0
1e	Measles		60 (2000)	1 (2000)	0
1f	Mumps		338 (2000)	8 (2000)	0
1g	Pertussis		7,867 (2000)	21 (2000)	0
1h	Polio (wild type)		0 (2000)	0 (2000)	0
1i	Rubella		176 (2000)	0 (2000)	0
1j	Tetanus		36 (2000)	0 (2000)	0
1k	Varicella (chicken pox)		27,382 (2000) (not nationally reportable)	Developmental	
1l	Hepatitis A		13,397 (2000)	13 (2000)	0
2	Reduce hepatitis B cases reported (rate per 100,000 persons).	DHSS, DPH, Epidemiology	2.9 (2000)	2.1 (2000)	0
3	Reduce cases of Haemophilus influenza type b meningitis in young children (rate per 100,000 children aged 1-23 months).	DHSS, DPH, Epidemiology	13 (1998)	4 cases* (1999)	0
4	Reduce invasive pneumococcal infections (rate per 100,000 persons).	Arctic Investigations Program/ CDC			
4a	Children under 2 years (per 100,000)		76 (1997) (children under 5)	205 (1986-1999)	40
4b	Alaska Native children under 2 years (per 100,000)			488 (1986-1999)	
4c	Adults 65 years and older (per 100,000)		62 (1997)	81 (1986-1999)	65
4d	Alaska Native adults 65 years and older (per 100,000)			121 (1986-1999)	
5	Reduce hepatitis A (rate per 100,000 persons).	DHSS, DPH, Epidemiology	4.9 (2000)	2.1 (2000)	0
6	Reduce tuberculosis (new cases per 100,000 population).	DHSS, DPH, Epidemiology	5.8 (2000)	17.2 (2000)	6.8

## 18. Immunizations & Infectious Diseases

18

Health Goal for the Year 2010: Prevent disease, disability, and death from infectious diseases, including vaccine preventable diseases.					
	Indicator	Alaska Data Source	U.S. Baseline	Alaska Baseline	Alaska Target Year 2010
7	Increase the proportion of all tuberculosis patients who complete curative therapy within 12 months.	DHSS, DPH, Epidemiology	74% (1996)	90% (1998)	100%
8	Increase the proportion of contacts and other high-risk persons with latent tuberculosis infection (LTBI) who complete a course of treatment.	DHSS, DPH, Epidemiology	62% (1997)	66% (1999)	85%
9	Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children (aged 19-35 months).	National Immunization Survey			
9a	4 doses diphtheria-tetanus-pertussis (DtaP) vaccine		82% (2000)	81% (2000)	95%
9b	3 doses H. influenzae type b (Hib) vaccine		93 % (2000)	90% (2000)	95%
9c	3 does hepatitis B vaccine		88% (2000)	83% (2000)	95%
9d	1 dose MMR		91% (2000)	89% (2000)	95%
9e	3 doses polio vaccine		90% (2000)	88% (2000)	95%
9f	1 dose varicella vaccine		68% (2000)	47% (2000)	95%
10	Increase the proportion of young children aged 19-35 months who receive all vaccines that have been recommended doses of DtaP, polio, MMR, Hib, Hepatitis B (the 4:3:1:3:3 series).	National Immunization Survey	73% (2000)	71% (2000)	90%
11	Maintain vaccination coverage levels for children in licensed day care facilities.	Immunization Program, Epidemiology			
11a	Diphtheria-tetanus-acellular pertussis (DtaP)		96%	88%	95%
11b	Measeles-mumps-rubella (MMR) vaccine		93%	96%	95%
11c	Polio vaccine		95%	94%	95%
11d	Hepatitis B vaccine		Developmental	No baseline	95%
11e	Varicella vaccine		Developmental	No baseline	95%
11f	Hepatitis A vaccine			No baseline	95%
12	Maintain vaccination coverage levels for children in kindergarten through the first grade.	Immunization Program, Epidemiology			
12a	Diphtheria-tetanus-acellular pertussis (DtaP)		97%	96% (1999)	95%
12b	Measles-mumps-rubella (MMR) vaccine		96%	96% (1999)	95%
12c	Polio vaccine		97%	96% (1999)	95%

## 18. Immunizations & Infectious Diseases

Health Goal for the Year 2010: Prevent disease, disability, and death from infectious diseases, including vaccine preventable diseases.					
	Indicator	Alaska Data Source	U.S. Baseline	Alaska Baseline	Alaska Target Year 2010
18d	Hepatitis B vaccine		Developmental	Developmental	95%
18e	Hepatitis A vaccine			Developmental	95%
19	Increase the proportion of providers who have measured the vaccination coverage levels among children in their practice population within the past 2 years.	Immunization Program, Epidemiology			
19a	Public health providers		66% (1997)	100% (1999)	100%
19b	Private Providers		6% (1997)	8% (1999)	50%
21	Increase the proportion of adults aged 65 years and older who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.	DHSS, DPH, Epidemiology			
21a	Influenza vaccine		64% (1998)	60% (1999)	90%
21b	Pneumococcal vaccine		46% (1998)	43% (1999)	90%

\* Rate not calculated for numbers <5

**DHSS** - Department of Health and Social Services

**DPH** - Division of Public Health

**RPMS** - Resource Patient Management System

**CDC** - Centers for Disease Control and Prevention

## Overview

Infectious diseases remain major causes of illness, disability, and death. New infectious agents and diseases are being detected, and some diseases once under control have reemerged in recent years. In addition, antimicrobial resistance is evolving rapidly in a variety of hospital- and community- acquired infections. Many challenges still exist in the prevention and control of infectious diseases.

Immunization or vaccination is one of the greatest medical success stories in human history – and has saved millions of lives in the 20th century. Vaccines are substances that interact with a person’s immune system to produce an immune response identical to that produced by the natural infection. Many serious diseases are prevented by routine childhood immunizations. Since the introduction of these vaccines, rates of diseases such as polio, measles, mumps, rubella, diphtheria, pertussis (whooping cough), and meningitis caused by *Haemophilus influenzae* type b have declined by 95 percent to 100 percent.

Diseases spread through communities by infecting unimmunized people and the small percentage of people for whom an immunization did not work. Individuals who are unimmunized increase the risk that they, and others in their community, will get the diseases vaccines can prevent. For some highly contagious diseases, such as measles, even a small number of unimmunized or underimmunized people can lead to an outbreak.

The 1989-1991 measles epidemic in the United States was responsible for over 55,000 cases and more than 120 deaths. Most of the cases occurred in pre-school children who had not been immunized.

Every dollar spent on vaccine saves at least \$7 in medical costs and \$25 in the overall costs related to vaccine-preventable diseases. The estimated direct medical cost of the 1989-1991 measles outbreak in the United States was over \$150 million. This does not include the indirect costs to the family, such as lost days of work, school and child care. Current estimates of direct medical costs and indirect (work loss) costs of hepatitis B related liver disease, for example, exceed \$500 million annually.

## Issues and Trends in Alaska

### Introduction

Communicable diseases have had great historical significance for Alaska since the nineteenth century when, between 1835 and 1840, an epidemic of smallpox may have killed as many as one third of all Alaska Natives. The “Great Death” of 1900, a massive epidemic of influenza and measles, destroyed entire families. Survivors of the epidemic suffered the loss of their culture along with the deaths of elders and healers. Tuberculosis was a major cause of death and disability in Alaska from 1900 well into the 1950s. Many Alaskans tell poignant stories today of the suffering caused by tuberculosis pulmonary disease, scrofula, and Pott’s Disease.

Reduction in the incidence of and mortality from infectious diseases has been a significant public health achievement in Alaska during the past 50 years. Despite the progress that has been made, infectious diseases remain a significant cause of illness and death in Alaska. Alaska continues to have the highest rate of invasive *Haemophilus influenzae* group B (Hib) in the nation. *Streptococcus pneumoniae*, a leading cause of pneumonia, ear infections, and meningitis, is now increasingly resistant to antibiotics. Other common infections in Alaska include Hepatitis C, *Helicobacter pylori*, and respiratory syncytial virus (RSV). Influenza A poses a new threat to summer visitors to Alaska. Foodborne illnesses include paralytic shellfish poisoning, botulism, salmonella, Norwalk agent, and *E. coli* 0147:H7.

The increased burden of infectious disease in Alaska Natives contributes to the health status disparities between Alaska Natives and other Alaskans. Alaska Natives continue to suffer from higher rates of tuberculosis and invasive *H. influenzae* and *S. pneumoniae* disease. Alaskan Natives with chronic Hepatitis B infection experience high rates of liver disease and liver cancer. Severe RSV disease in Alaska Native infants results in high rates of hospitalization and chronic lung disease. Community-acquired methicillin resistant *Staphylococcus aureus* (MRSA) is now endemic in some rural Alaska Native communities.

### Vaccine-Preventable Diseases

Many vaccine-preventable illnesses have become rare in Alaska (Table 18-1), but individual cases and outbreaks of other diseases continue to occur. Hib dis-

## 18. Immunizations & Infectious Diseases

**Table 18-1**

Reported Cases of Vaccine-Preventable Diseases Alaska: 1996-2000						
	1996	1997	1998	1999	2000	Five Year Totals
Diphtheria	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0
Pertussis	3	16	15	4	21	59
Measles	63	0	33	0	1	97
Mumps	3	8	3	3	8	25
Rubella	0	0	0	0	0	0
Polio	0	0	0	0	0	0
Hib	6	4	1	9	45	65
Hepatitis A	53	33	17	15	13	131
Hepatitis B	16	15	13	18	13	75

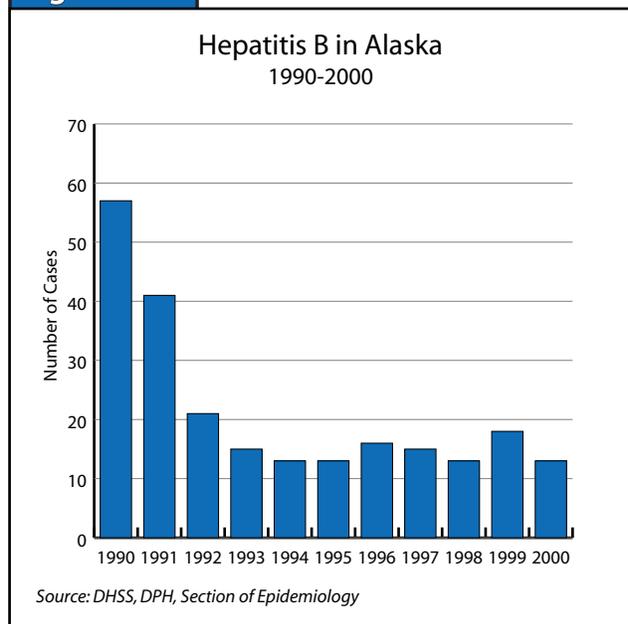
ease, despite a dramatic decrease in incidence, remains a significant threat to infants. Outbreaks of measles occurred in Juneau in 1996 and in Anchorage in 1998. The state must have the capacity to respond rapidly to potential outbreaks and to institute prevention measures.

Public Health Nurses (PHN) are major immunization providers, administering 40,000 doses of vaccine in 1999. The increasing complexity of the vaccine schedule increases PHN workloads at a time when nurses are in short supply nationally and in Alaska. Recruiting and retaining sufficient numbers of PHNs and increasing collaboration with Native health organizations and other immunization providers will be necessary to maintain or increase immunization levels in the next decade.

Changes in the state immunization schedule will soon decrease the disease burden of several more common communicable diseases. Varicella and pneumococcal conjugate vaccines have been added to the routine childhood immunization schedule. School immunization requirements now include Hepatitis A and B immunization, and childcare facilities now require Hib and varicella vaccines as well as Hepatitis A and B.

The decline in new cases of Hepatitis B (Figure 18-1) is one small part of a big success. Hepatitis B is endemic in some Alaska Native groups. Rates as high as 8 percent for Hepatitis B surface antigen (HbsAg) positivity and 29 percent for total seropositivity have been reported. High rates of perinatal and early childhood infection led to a substantial burden of hepatocellular carcinoma and chronic liver disease in adults.

**Figure 18-1**



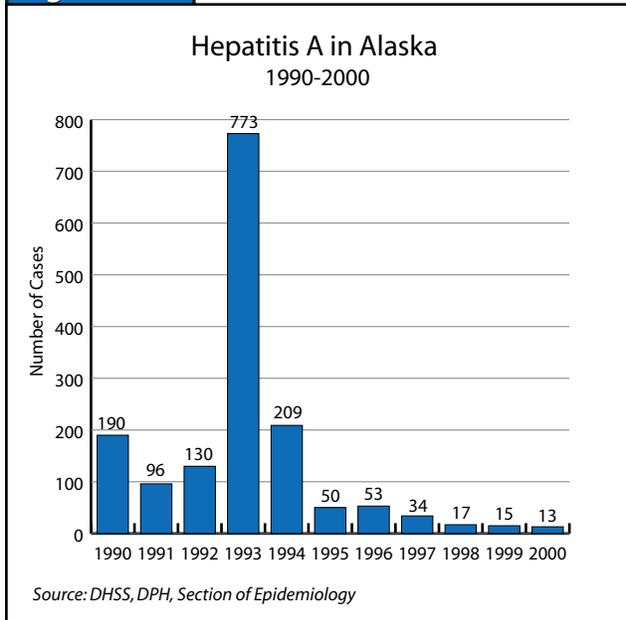
Primary prevention programs with Hepatitis B vaccine began in southwest Alaska in 1981. None of the 1,630 susceptible persons immunized in 1981-82 developed sustained HBsAg positivity or clinical hepatitis in the first ten years after vaccination. Immunization has eliminated new chronic Hepatitis B infection among children under 10 in an endemic region.

Chronic Hepatitis B disease remains among those born before the introduction of widespread infant vaccination, including many women of childbearing age. Immigrants from other endemic areas of the world continue to arrive in Alaska. Maintaining the current low rate of Hepatitis B disease, therefore, requires constant vigilance to maintain high levels of Hepatitis B immunization in infants and to continue catch-up immunization of older children.

Hepatitis A is another vaccine-preventable disease with a significant history in Alaska. A statewide epidemic in the mid-seventies peaked with over 1,000 reported cases. Cyclical outbreaks continued to occur every 8 to 12 years (Figure 18-2) despite efforts at community education and prophylaxis with immune serum globulin. Although Hepatitis A is often regarded as a benign, self-limiting disease, four deaths occurred during the 1993 outbreak.

Research with Alaska Natives showed a clear demarcation between previously infected adults and younger, susceptible persons in many small communities. A statewide program to vaccinate all children in Alaska

Figure 18-2



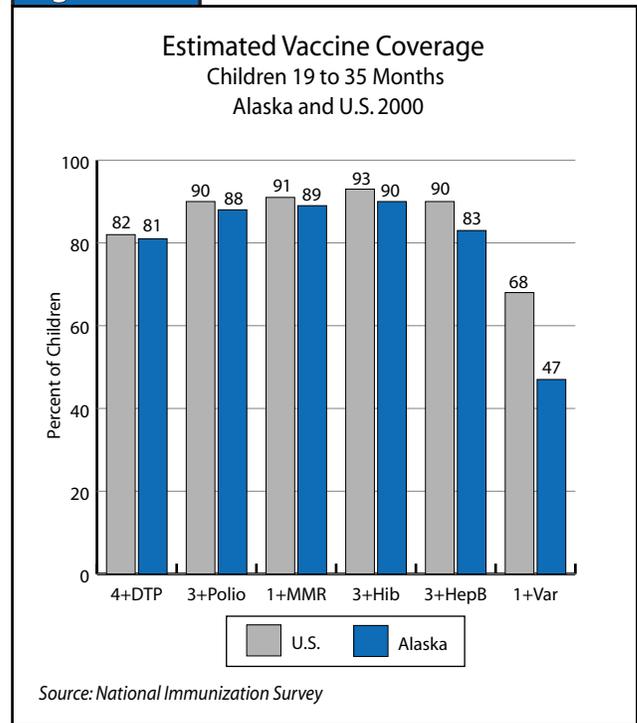
began in early 1996 to decrease the numbers of susceptible children that sustain community epidemics.

Vaccine coverage levels of 90 percent are, in general, sufficient to prevent circulation of vaccine preventable diseases. Although national coverage may exceed 90 percent, variation in the level of coverage among smaller areas may include subgroups of the population at substantially lower levels of protection. In Alaska immunization rates are similar to the United States for most vaccines, and are currently at the highest level ever recorded (Figure 18-3). The Alaska goal for 2010 is to have 90 percent of children receiving all recommended doses of DTP, polio, Hib, MMR, and Hepatitis B vaccine (the 4:3:1:3:3 series). Seventy-one percent of Alaskan children 19 to 35 months of age had completed this series in 2000, compared to 73 percent nationally.

Immunization rates are assessed through the National Immunization Survey, a population-based telephone survey. Although this is the best data available, the survey may miss homeless families, those without phones, and those who do not speak English.

There is no statewide vaccine registry in Alaska. Public Health Nursing and Native health corporations maintain computerized vaccine registries of their clients. The Division of Public Health's Immunization Program offers immunization audits to private providers throughout the state.

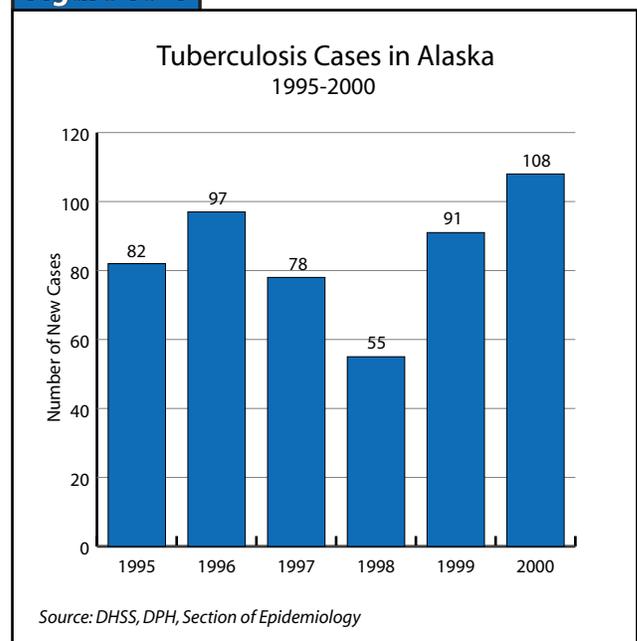
Figure 18-3



### Tuberculosis

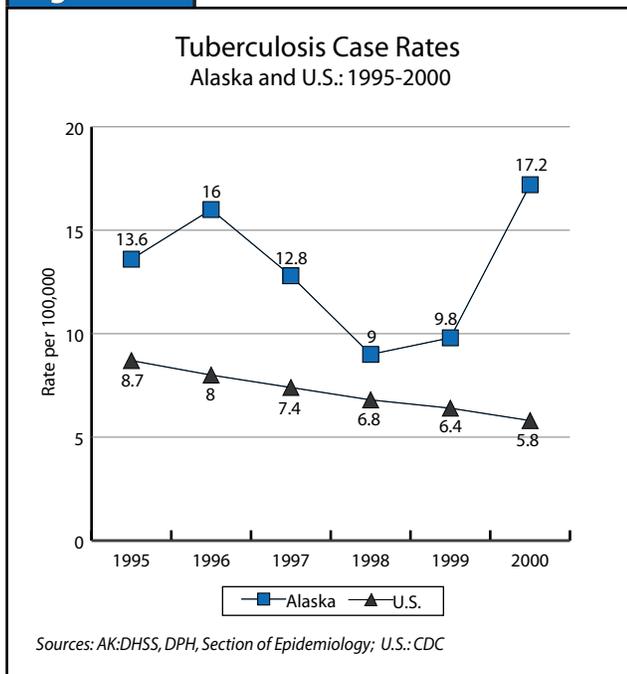
Tuberculosis remains a major public health issue in Alaska. In 1946, 43 percent of all death certificates of Alaska Natives listed tuberculosis as the cause of death. Cases of tuberculosis have declined greatly, but significant village and family outbreaks continue to occur (Figure 18-4). Two major outbreaks in An-

Figure 18-4



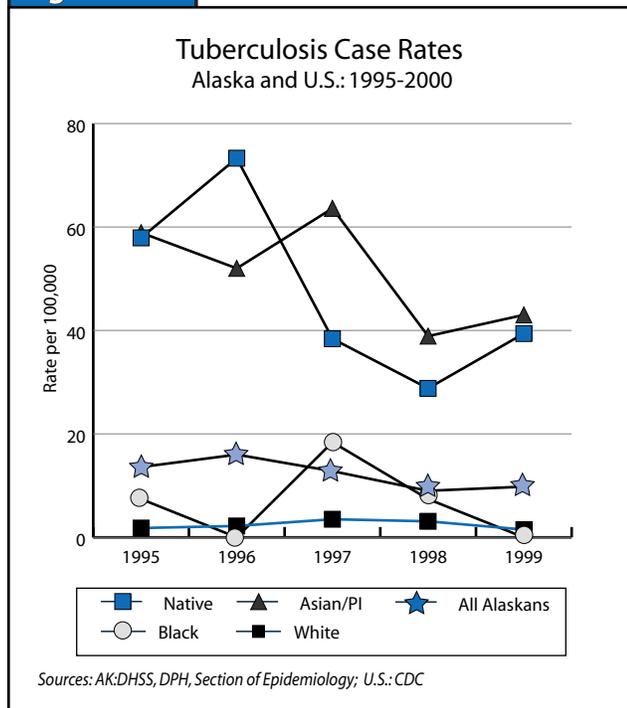
## 18. Immunizations & Infectious Diseases

**Figure 18-5**



chorage and southwest Alaska in 2000 raised the total number of cases in the state to 108, giving Alaska the highest case rate in the nation (Figure 18-5). In Alaska as in the United States as a whole, TB is more common in Alaska Native and Asian populations (Figure 18-6).

**Figure 18-6**



### Hepatitis C

The large number of people with chronic Hepatitis C infection identified during the 1990s has caused concern throughout Alaska. Acute infections with Hepatitis C are usually asymptomatic and are rarely identified or reported. Eighty percent of people infected with Hepatitis C, however, develop chronic infection. Those with chronic infection are at risk for cirrhosis, portal hypertension, liver failure, and liver cancer.

Transfer of infected blood through injection drug use or blood transfusion is the most efficient and significant mode of Hepatitis C transmission. Blood screening for antibody to Hepatitis C began in 1992 and has virtually eliminated post-transfusion Hepatitis C infection in the United States. Look-back campaigns continue to identify individuals infected before 1992, and others are tested for Hepatitis C as they develop symptoms from long-standing chronic infection. Reports of newly identified chronic infections may continue to increase for many years.

There is no vaccine against Hepatitis C. Treatment of chronic infection is expensive and is not always effective. Sexual, perinatal, or household transmission of Hepatitis C is rare, and most new infections occur among injection drug users. The Sections of Epidemiology and Public Health Nursing receive many requests for information and education about and testing for Hepatitis C.

### Current Strategies and Resources

#### Surveillance

The Section of Epidemiology of the State of Alaska Division of Public Health is responsible for the surveillance, investigation, and control of infectious diseases. The Public Health Laboratory in Anchorage provides reference and diagnostic services in serology, parasitology, bacteriology, and mycology. The Fairbanks Public Health Laboratory provides the only virology services in the state and participates in the international surveillance of influenza isolates.

The Alaska Native Epicenter conducts epidemiological research for the Alaska Tribal Health Consortium. The Viral Hepatitis Program at the Alaska Native Medical Center researches the natural history of viral hepatitis and prevention and treatment of liver disease in Alaska Natives.

The Centers for Disease Control’s Arctic Investigations Program in Anchorage provides support for infectious disease prevention. Current research projects include antimicrobial resistance, *Haemophilus influenzae*, *Helicobacter pylori*, respiratory syncytial virus, *Streptococcus pneumoniae*, viral hepatitis, and an arbovirus serosurvey.

### Tuberculosis

The goal of the Tuberculosis (TB) Control Program is the elimination of TB from Alaska.

Tuberculosis remains deeply entrenched in many regions of Alaska and will remain so for generations. A strong public health team, knowledgeable about current issues of TB control, is necessary if we hope to eradicate the disease once called the “Scourge of Alaska.”

The highest priority for TB control is to ensure that persons with the disease complete curative therapy. If treatment is not continued for a sufficient length of time, such persons become ill and contagious again. Completion of therapy is essential to prevent transmission of the disease as well as to prevent the development of drug-resistant TB. The measurement of completion of therapy is a long-accepted indicator of the effectiveness of community TB control efforts.

Highlights of the current work plan include:

- With the assistance of the Alaska TB Committee, create a statewide plan to eliminate tuberculosis.
- Work with school nurses and PHNs across Alaska to continue to implement the new school TB screening regulations implemented on February 10, 1999.
- Use the revised TB control statute to ensure the public’s safety if persons with TB refuse or are unable to take the anti-TB medications that will render them noninfectious.
- Continue to place particular emphasis on detection and epidemiological investigation of clusters of TB cases. Such investigations, especially when they are conducted in remote villages, are time and labor intensive, requiring extensive tuberculin skin testing and collection of sputum specimens for culture.
- Annually analyze characteristics of cases of TB disease in order to identify trends in TB morbidity in Alaska.
- Implement and encourage use of new national guidelines for treatment of latent TB infection (LTBI) when indicated.

- Provide consultation, information, and education about TB and its diagnosis and treatment to health care providers (CHAs, PHNs, nurse practitioners, physicians, physician assistants) throughout Alaska.
- Monitor compliance of schools with statutory requirements for periodic tuberculin skin testing of school children, and annually tabulate and analyze reports of these results.
- Fund chest x-ray services and limited laboratory services for persons with no other resources to pay.
- Provide anti-TB medications for TB infection and disease, free of charge for all Alaskans.
- Meet quarterly with the Alaska TB Committee (Sections of Laboratories and Nursing, Norton Sound HC, ANMC infection control, Department of Corrections, Anchorage DHHS) to discuss problems and develop solutions.
- Coordinate with the AIDS/HIV Program to assure accurate and full case ascertainment.

Because TB cannot be diagnosed unless it is suspected, program staff will continue to make presentations to regional physicians, mid-level providers and Community Health Aides about TB, its clinical presentation, and the means by which it can be diagnosed and treated. Program staff will also continue to work with regional public health personnel to develop methods to assure compliance of patients -- particularly those with active TB disease – taking anti-TB therapy.

Allocation of personnel and resources, along with delegation of responsibilities for tuberculosis control activities, should be accomplished through meetings with IHS and Native Health Corporations. This includes patient transport, x-rays, clinical diagnosis, treatment, and management, quarantine, and payment for epidemic field investigations.

Planning efforts with the Anchorage DHHS and the Section of Nursing should continue to develop strategies to reach foreign-born people at risk for TB.

Resources for homeless people with TB must be developed in collaboration with Anchorage DHHS and the Section of Nursing. Although homelessness is mainly a problem in the Anchorage Borough, it is a problem in other urban Alaskan centers and from some rural communities.

Improved pharmacy services will be pursued in order to provide timely arrival of medications in villages.

## 18. Immunizations & Infectious Diseases

### Immunization Program

The goal of the Alaska Immunization Program is to eliminate morbidity from vaccine preventable disease in Alaska by (1) assuring that at-risk populations are appropriately immunized and (2) controlling outbreaks of vaccine preventable diseases.

Highlights of the current work plan include:

- A statewide information campaign to notify parents, schools, childcare facilities and medical providers about Alaska's new immunization requirements for vaccines against hepatitis A, hepatitis B, Haemophilus influenzae type b, and varicella for children attending school (hepatitis A and B) or child care facilities (all diseases listed).
- Surveillance for vaccine preventable diseases and implementation of appropriate control measures for suspected or confirmed cases.
- Immunization training activities for public and private health care providers.
- Promote the need for immunizations throughout life, for both adolescents and adults.
- Develop plans for incorporation of new vaccines into the childhood immunization program, as appropriate.
- Continue to examine issues related to development of an immunization registry in Alaska.
- Encourage the computerization of local vaccine records for easier retrieval.
- Coordinate with the Department of Education and Early Development and other involved persons to monitor immunization levels and ensure continued enforcement of newly added vaccines required for children in schools and childcare facilities.
- Support activities of local, regional, and state wide immunization partnerships.
- Periodically assess age-specific immunization rates among Alaska infants and children.
- Provide Alaska healthcare providers with information, consultation, and education about vaccine-preventable diseases, methods of diagnosis, and control measures.
- Conduct quality assurance reviews at public health centers and within the private sector.

Because Alaska has made a major commitment to increasing the immunization levels of all children in the state, additional resources are needed both from the Department and within individual communities. Development of new vaccines, which increase the

complexity of the recommended childhood immunization schedule, creates additional service problems. During 1998, varicella vaccine, which has extremely difficult storage and handling requirements, was added to Alaska's Universal Vaccine Distribution Program. Pneumococcal conjugate vaccine was added in 2001. To provide an opportunity to reduce the total number of injections needed per visit, a combination Hib/Hepatitis B vaccine will be offered to providers. Although these are extremely positive developments, the addition of these vaccines to the already packed childhood immunization schedule may have a detrimental effect on completion levels for other vaccines which have been available for years.

In the summer of 2000, the Institute of Medicine released the report "Calling the Shots: Immunization Finance Policies and Practices." This report calls for increased immunization funding at both the federal and state levels. It also called for a move to formula-based funding, which potentially could be problematic for those states with smaller populations, such as Alaska. Policy developments resulting from this report will need to be closely monitored to determine their impact on Alaska.

The continued development of immunization partnerships with providers and the community at large will be a major priority for the program during the coming years. The success of many of the program's planned activities will rest on developing partnerships to meet immunization goals.

### Hepatitis A and Hepatitis B

Hepatitis B and Hepatitis A are endemic to Alaska, and immunization of infants and children against these viruses is a major priority. Alaska continues to have a large pool of adult carriers chronically infected with Hepatitis B. The immunization of newborns protects those born to HBsAg positive mothers from the perinatal infection that usually leads to chronic infection, liver disease, and liver cancer. Routine childhood immunization protects children and adolescents from household and sexual transmission of the Hepatitis B virus and prevents transmission to the next generation of children.

Children have the highest rates of hepatitis A and are primary sources for new infections in the community. Routine childhood immunization for Hepatitis A may prevent the cyclical outbreaks that have caused significant morbidity and mortality throughout Alaska.

### Bacterial Meningitis in Children

Despite the dramatic reduction in Hib meningitis following the introduction of the Hib vaccine, cases continue to occur. The rate of invasive Hib disease in Alaskan children was the highest in the nation at 15.1 cases per 100,000 children in 1996-97. Rates in other states varied from 0 to 2.9 per 100,000. Most cases of Hib meningitis in infants are associated with late or incomplete immunizations. Providing doses at two and four months, before the peak age for meningitis in infants, is difficult for providers and parents, especially in remote areas. On-time Hib immunization of infants, therefore, is a major priority.

*Streptococcus pneumoniae* has emerged as a major cause of meningitis in infants as cases of Hib meningitis have decreased. *S. pneumoniae* is also responsible for many cases of pneumonia, bacteremia, and otitis media in children. Alaska Native children in the Yukon-Kuskokwim Delta have rates of pneumococcal disease 8 to 10 times higher than children in other parts of the United States. Many of the *S. pneumoniae* isolates in Alaska are antibiotic resistant.

The 23-valent polysaccharide pneumococcal vaccine is not effective in children under two. Pneumococcal conjugate vaccine has now been added to the routine childhood immunization schedule. Timely immunization of infants and toddlers (especially those living in the Yukon-Kuskokwim Delta) with the new vaccine is another priority.

### Hepatitis C

In 1998, the Centers for Disease Control (CDC) recommended that people who had received blood transfusions or organ transplants prior to July 1992 be identified, counseled about the risk of Hepatitis C infection, and offered testing. The Alaska Native Medical Center was among the first hospitals in the nation to begin a “look-back” for patients at risk. The CDC has also recommended Hepatitis C screening for high risk individuals, including hemodialysis patients, injection drug users, children born to Hepatitis C positive women, patients with chronic liver disease, and health care workers with specific exposures to Hepatitis C positive blood.

The Section of Epidemiology has published recommendations for Hepatitis C prevention and screening. Hepatitis C counseling and screening is available through Public Health Nursing.

### Data Issues and Needs

Although a statewide immunization registry could provide useful information on immunization rates and patterns, such a registry would be expensive and difficult to implement. Audits of child care and school immunization records supplement the National Immunization Survey. Audits of school immunization records will soon provide data on the immunization status of older children and adolescents.

Data on the timeliness of infant immunizations is limited. Alaska’s high immunization rates at age two may conceal crucial gaps in the coverage of young infants. Since the peak incidence for Hib meningitis occurs at four to six months, late immunizations could be contributing to Alaska’s high rate of invasive Hib disease.

Estimates of the population of individuals with chronic Hepatitis C infection in Alaska would be useful in health care planning. The Alaska Native Medical Center maintains a registry of clients with Hepatitis C, but such figures are not available for the total state population. Seroprevalence studies in high-risk groups, such as prison inmates and persons with HIV infection, are not available for Alaska.

### Related Focus Areas

A variety of objectives in other *Healthy Alaskans* chapters are linked to objectives in *Immunization and Infectious Disease*.

- *Occupational Safety and Health*
- *Environmental Health*
- *Food Safety*
- *Sexually Transmitted Diseases/HIV Infection*
- *Maternal, Infant, and Child Health*
- *Family Planning*
- *Cancer*
- *Respiratory Diseases*

In the *Occupational Safety and Health* chapter the indicator, reducing occupational exposure to blood-borne pathogens among emergency medical and health care workers, links it to *Immunization and Infectious Diseases*. In *Environmental Health* and *Food Safety* the issues of safe drinking water and safe food link to the *Immunization and Infectious Diseases* chapter. Many infections are caused by key food-borne and waterborne bacteria and can be avoided

## 18. Immunizations & Infectious Diseases

with uncontaminated drinking water and food. In the *Sexually Transmitted Diseases/HIV* chapter, HIV testing in TB patients is an indicator that links it to the *Immunization and Infectious Diseases* chapter. Furthermore, all sexually transmitted diseases are infectious diseases. Many indicators in *Immunization and Infectious Diseases* are connected to *Maternal, Infant, and Child Health*. Maintaining effective vaccination coverage among young children and adolescents and reducing infectious diseases in children such as hepatitis B and meningitis are some examples. Increasing the proportion of adults and adolescents who use contraception that prevents pregnancy and provides barrier protection against disease is an important indicator in *Family Planning* and can prevent cervical cancer. Hepatitis B and sometimes C can be transmitted by sexual contact. The indicator relating to Respiratory Syncytial Virus (RSV) hospitalization rates for infants under 1 year of age in the *Respiratory Diseases* chapter connects it to the *Immunization and Infectious Diseases* chapter.

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### Endnotes

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Arctic Investigations Program

[www.cdc.gov/ncidod/aip/AIP.asp](http://www.cdc.gov/ncidod/aip/AIP.asp)

DHSS: Section of Epidemiology

[www.epi.hss.state.ak.us/programs/infect/infect.stm](http://www.epi.hss.state.ak.us/programs/infect/infect.stm)

DHSS: Section of Public Health Nursing

[www.hss.state.ak.us/dph/nursing/default.htm](http://www.hss.state.ak.us/dph/nursing/default.htm)

#### National

National Network for Immunization Information

[www.immunizationinfo.org/about/index.cfm](http://www.immunizationinfo.org/about/index.cfm)

Hepatitis Information Network

[www.hepnet.com](http://www.hepnet.com)

Immunization Action Coalition

[www.immunize.org](http://www.immunize.org)

National Center for Infectious Diseases

[www.cdc.gov/ncidod/](http://www.cdc.gov/ncidod/)

National Immunization Program

[www.cdc.gov/nip/](http://www.cdc.gov/nip/)

## Chapter Notes

