

# Bristol Bay Service Area



## OVERVIEW

### Alaska Native 2006 User Population.

<b>BRISTOL BAY AREA HEALTH CORPORATION</b>	<b>5,295</b>
Bristol Bay Service Area - BBAHC (part)	5,295

Users are defined as beneficiaries who used a facility that reports through the IHS data system at least once between 10/1/2003 and 9/30/2006.

**Environmental Factors.** The Bristol Bay Service Area is 46,714 square miles in size. The region has great variations in the climate, topography, people, economics and culture. The service area surrounds Bristol Bay and extends from the Pacific side of the Alaska Peninsula northeast to Lake Iliamna on the east.

Map 5.1



A coastal-type climate prevails over the area in which temperatures are cool and rainfall is moderate. It ranges from 50 to 70 degrees F in summer, and from 10 to 20 degrees in winter. Winter snow accumulations range from very heavy in the mountains to light along the coast, where high winds and frequent thaws keep the tundra relatively free of snow. Winds of 25 to 35 miles per hour for extended periods are not uncommon.



**Utilities.** Most village homes have electricity, and the majority have some form of sanitation facility. Most Dillingham homes have a septic system, and about 25% of homeowners pipe their wastewater to a sewage lagoon for treatment.

**Communication.** Kanakanak Hospital is linked to 27 village clinics by a wide area computer network (WAN). Store and forward technology, streaming and teleradiology services are transmitted via this network.

Another part of the network links Kanakanak physicians with the ANMC in Anchorage and other specialists outside of the State.

**Transportation.** Daily airline service links King Salmon, Dillingham, and Anchorage. Transportation scheduled between outlying villages and Dillingham is mainly by local air carriers, supplemented by boats in summer and snowmobiles in winter. The only roads for automobile travel are between Dillingham, Aleknagik and Kanakanak; between Iliamna and Newhalen; and between Naknek and King Salmon. Equipment and supplies must be shipped via air-freight or water transport. Ocean barges deliver most fuel, building materials and furniture.

**Housing.** A limited number of employee apartments are located on the Kanakanak Hospital compound in Dillingham, with priority given to on-call staff. Private housing and land are available for sale in the community, but housing is expensive and often difficult to find.

**Education.** Dillingham has an independent school system that includes kindergarten through twelfth grade as well as a private church school and an independent Preschool and Day Care Program. College courses are available through the Dillingham campus of the University of Alaska-Fairbanks.

**Natural Resources.** Fish and game are the major natural resources in the region with the salmon industry dominating the local economy. Bristol Bay is one of the world's richest salmon fisheries. During the summer commercial fishing season, the population doubles or triples. Communities with canneries attract the majority of the summer transient population as well as residents from other area villages. The region has a growing eco-tourism industry.

Table 5.1  
**Bristol Bay Area Service Area  
 Number of Homes With and Without Complete  
 Water and Sewer Service<sup>1</sup>**

	Number Homes With	Number Homes Without	Total Number of Homes <sup>2</sup>
BRISTOL BAY AREA SERVICE AREA	1,341	214	1,555
Bristol Bay Area Health Corporation (part)	1,341	214	1,555

<sup>1</sup> Complete service means operable plumbed indoor water and sewer service. Information applies only to year-round primary homes, including individual homes, duplexes and apartment units. Data from FY 2002.  
<sup>2</sup> Excludes homes covered by urban local government water and sewer service.  
 Source: Alaska Area Native Health Service Office of Environmental Health.

Table 5.2  
**Bristol Bay Area  
 Education Status  
 for the Population 25 Years and Over**

	Males	Females
White Alone Population:		
High school graduate (includes equivalency)	245	98
Bachelors degree or higher	264	266
AI/AN* Alone Population:		
High school graduate (includes equivalency)	652	485
Bachelors degree or higher	55	58

\*AI/AN=American Indian/Alaska Native.  
 Source: U.S. Census Bureau, P148A, P148C Sex by education attainment for the population 25 years and over, 2000 Census Summary File 3



## **Federally Recognized Tribes.**

Native Village of Aleknagik - P.O. Box 115, Aleknagik, AK 99555  
Native Village of Chignik - General Delivery, Chignik, AK 99563  
Native Village of Chignik Lagoon - General Delivery, Chignik Lagoon, AK 99565  
Chignik Lake Village - P.O. Box 33, Chignik Lake, AK 99548  
Village of Clark's Point - P.O. Box 16, Clark's Point, AK 99569  
Curyung Tribal Council (aka Native Village of Dillingham) - P.O. Box 216, Dillingham, AK 99576  
Egegik Village - P.O. Box 189, Egegik, AK 99579  
Native Village of Ekuk - General Delivery, Ekuk, AK 99576  
Ekwok Village - P.O. Box 49, Ekwok, AK 99580  
Native Village of Goodnews Bay - P.O. Box 3, Goodnews Bay, AK 99589  
Igiugig Village - P.O. Box 4008, Igiugig, AK 99613  
Ivanoff Bay Village - P.O. Box KIB, Ivanof Bay, AK 99502  
Native Village of Kanatak - c/o Becharof Corp. 1577 C Street Plaza, #110, Anchorage, AK 99501  
King Salmon Tribe - General Delivery, King Salmon, AK 99613  
Kokhanok Village - P.O. Box 1007, Kokhanok, AK 99606  
New Koliganek Village Council (aka Koliganek Village) - P.O. Box 5057, Koliganek, AK 99559  
Levelock Village - P.O. Box 70, Levelock, AK 99625  
Manokotak Village - P.O. Box 169, Manokotak, AK 99628  
Naknek Native Village - P.O. Box 106, Naknek, AK 99633  
New Stuyahok Village - P.O. Box 49, New Stuyahok, AK 99636  
Newhalen Village - P.O. Box 207, Iliamna, AK 99606  
Nondalton Village - General Delivery, Nondalton, AK 99640  
Pedro Bay Village - P.O. Box 47020, Pedro Bay, AK 99647  
Native Village of Perryville - P.O. Box 101, Perryville, AK 99648  
Native Village of Pilot Point - P.O. Box 449, Pilot Point, AK 99649  
Platinum Traditional Village - General Delivery, Platinum, AK 99651  
Native Village of Port Heiden - P.O. Box 49007, Port Heiden, AK 99549  
Portage Creek Village (aka Ohgsenakale) - General Delivery c/o Choggiung, Portage Creek, AK 99576  
South Naknek Village - P.O. Box 70106, South Naknek, AK 99670  
Traditional Village of Togiak - P.O. Box 209, Togiak, AK 99678  
Twin Hills Village - P.O. Box TWA, Twin Hills, AK 99576-8996  
Ugashik Village - General Delivery via, King Salmon, AK 99613

## **DESCRIPTION OF HEALTH-CARE DELIVERY SYSTEM**

Since 1980, the Service Area has been operated by the Bristol Bay Area Health Corporation (BBAHC), the first tribal organization in the United States to take over the operation of an IHS hospital (Kanakanak) under the Indian Self Determination Act. BBAHC operates the Kanakanak Hospital in Dillingham, two sub-regional clinics in Chignik and Togiak, and 27 village clinics under P.L. 93-638, Title V.

**Kanakanak Hospital** - 6000 Kanakanak Road, P.O. Box 130, Dillingham, AK 99576

The 30,000 square foot, 16-bed *Kanakanak Hospital* provides general medical, pediatric and obstetric services. It is equipped with two negative pressure rooms and a 24 hour emergency room. Outpatient services include primary care, a four chair dental clinic, optometry, audiology,



respiratory therapy and physical therapy. Ancillary services include laboratory, mammography, ultrasound, fluoroscopy and teleradiology. Specialty services available on-site include flexible sigmoidoscopy, colonoscopy, chemotherapy and cardiac stress treadmill.

Adjoining the hospital are BBAHC's health education, community health representatives, diabetes prevention, tobacco prevention, community health aide training, emergency medical services (EMS) training, and EMS administration.

Located within the *Kanakanak Hospital* compound are the *BBAHC Counseling Center* which houses mental health and substance abuse education, prevention and treatment, The hospital campus is also the location of the prenatal home *Aanamata "Our Mother's" House*.

Located off the hospital campus are the *Kanakanak House*, BBAHC's location for environmental health and injury prevention programs, *Our House* providing short term residential treatment for severely emotionally disturbed adults, and *Jake's Place* providing residential treatment for substance abusing adults. The *Division of Family and Youth Services Building* is the location of BBAHC's childhood early periodic screening, diagnosis and treatment (EPSDT) program. The BBAHC women and children's nutrition program is located in the *Valerie Larson Family Resource Center* in Dillingham.

The Nitaput Child Advocacy Center in the *Safe and Free Environment Building* is equipped for the BBAHC Sexual Assault Response Team (SART). The *Safe and Free Environment Building* also houses the domestic violence prevention program and provides temporary shelter for victims of domestic assault.

The *Kanakanak Hospital* is fully accredited by The Joint Commission though a system-wide accreditation including the *Kanakanak Hospital*, *BBAHC Counseling Center*, *Our House*, the sub-regional clinics and community health aide clinics. The *Kanakanak laboratory* is accredited by the College of American Pathologists, and the pharmacy is State licensed.

BBAHC operates the *Chignik Bay Sub-Regional Clinic*, P.O. Box 90, Chignik Bay, AK 99564, which is staffed with two community health aides, a mid-level practitioner and a medical receptionist. The *Chignik Bay Sub-Regional Clinic* has a x-ray unit, which provides early diagnosis and often saves transportation costs associated with proper diagnosis and treatment in Dillingham.

The *Togiak Subregional Clinic, General Delivery, Togiak, AK 99678*, is staffed with a mid-level practitioner, a medical receptionist, and four community health aides. The BBAHC Chignik and Togiak clinics are both HRSA, Section 330 Community Health Centers.



## COMMUNITY HEALTH AIDE PROGRAM (CHAP)

Community health aides are located in 27 villages:

North Aleknagik	Egegik	Koliganek	Nondalton	Port Heiden
South Aleknagik	Ekwok	Levelock	Pedro Bay	South Naknek
Chignik Bay	Goodnews Bay	Manokotak <sup>1</sup>	Perryville <sup>1</sup>	Togiak
Chignik Lagoon <sup>1</sup>	Igiugig	Naknek	Pilot Point	Twin Hills <sup>1</sup>
Chignik Lake <sup>1</sup>	King Salmon	Newhalen	Platinum	
Dillingham	Kokhanok	New Stuyahok		

<sup>1</sup> Also HRSA, Section 330, Community Health Centers

(The Nilavena Clinic in Iliamna is now operated by Southcentral Foundation)

## NON-TRIBAL HEALTH AGENCIES, FACILITIES AND TYPES OF SERVICES PROVIDED TO SERVICE POPULATION

The *Dillingham Public Health Center* has State of Alaska public health nurses, family and youth services, public assistance services and social services.

Two private chiropractic offices operate out of Dillingham, one on a permanent basis, the other on an itinerant basis. A private dentist is located in Dillingham.

The *Camai Health Clinic*, located in Naknek, is operated by the Bristol Bay Borough and is a HRSA 330 Community Health Center. A private dentist practices in Naknek at the *Camai Dental Clinic*.

The Dillingham Senior Citizen Center provides recreation and lunch service to seniors, and the regional housing authority has housing units available there for seniors.

Dillingham has a volunteer fire department and rescue squad and several communities have Emergency Medical Service (EMS) village response teams.

## HEALTH SERVICES AND FACILITIES PLANNING ISSUES

**BBAHC has identified the following planning assumptions for addressing future demands for health care services:**

1. The percentage of elderly in the Native population continues to increase. The demand for geriatric services and long-term care will grow.
2. The closest current long-term care facilities are all over 350 air miles away, with a waiting time of two weeks to two months for admission. There are no current plans by any outside agency to increase long-term care facilities in the area.





3. "Swing-bed" or "step-down-care" capabilities due to conditions resulting from the size of the service area and lack of any other facilities within 350 miles will need to be continued and/or expanded. The one room set aside for psychiatric and alcohol patients is totally inadequate for the population, and a minimum of six beds would be desirable.
4. Home health care capabilities are limited within the service area at the current time.
5. There is an increased number of cancer patients. These patients utilize a substantial amount of outpatient and inpatient services. Without adequate space at Kanakanak Hospital, more patients need to be transferred to the Alaska Native Medical Center or to other contract hospitals in Anchorage or Seattle.
6. Substance abuse will continue to increase within the service area. Patient education and prevention activities will need to be continued/expanded.
7. Alcohol related complications will continue to increase thus impacting both inpatient and outpatient capabilities. Additional space and programs are needed to address alcohol and substance abuse issues, particularly with adolescents.
8. Title 47 (Public Inebriates) regulations will continue to impact both inpatient and outpatient services.
9. Expanded health education and safety programs are needed to help decrease the demand for medical and dental services.
10. The role of the village clinic will expand as the village population grows and the demand for more village-based services increases. In addition to both updated and increased village clinic space, office space and housing for village-based counselors in each village needs to be addressed along with appropriate transportation and equipment needs.
11. The demand for mental health services will increase and will be met through expanded outpatient services requiring a larger mental health facility. Because of the addition of the crisis/respite facility, the need for transitional living arrangements beyond 90 days has greatly increased. Still needed are a group home for 3-4 residents with 3-4 attached supported apartments.
12. General transportation capabilities will continue to be dependent on air travel. The possibilities of adverse weather conditions will always impact future health care delivery planning. In particular, regularly scheduled air transportation to Goodnews Bay and Platinum from Dillingham, and to the Iliamna Lake villages is a real need.
13. There will be a need for expanded community services such as physician visits, dental services, optometry visits, health education, etc. and program space to accommodate these health care providers. The desire for more village-based positions will also increase.
14. Increased hospital and outpatient clinic based services will require greater staffing. Increased staff will result in a need for increased space as will the nationwide trend to increase outpatient care instead of hospitalization.
15. The life expectancy for Natives will continue to increase and chronic diseases will increase resulting in the need for additional rehabilitative services as well as long-term care options.
16. The need for dental services will continue to grow.
17. The increase in chronic disease and other physical disabilities will require a fully staffed physical and occupational therapy department.
18. Expanded patient quarters are needed for overnight stay for follow-up appointments and weather problems. Additional space is needed for temporary quarters for both patients and health care providers.



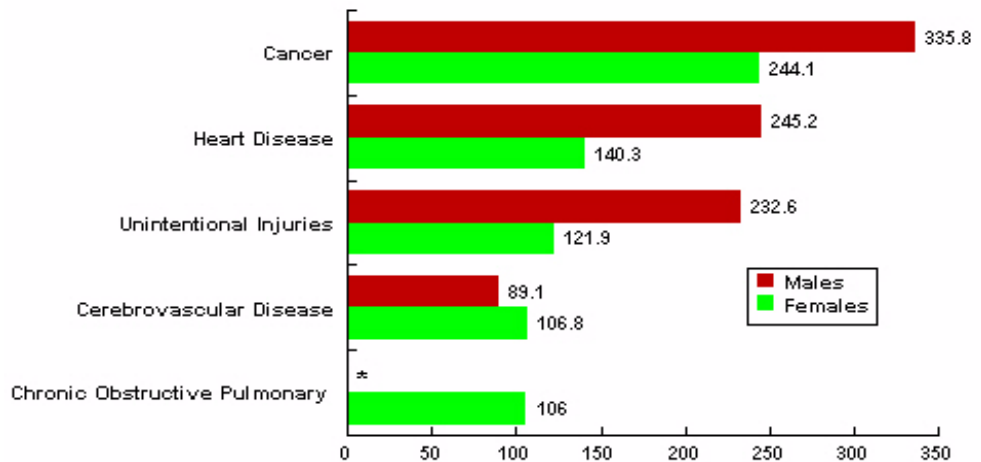
**BBAHC has determined the following facility modifications and/or additions be undertaken to meet the projected health demands of the service area:**

1. A new facility to accommodate dental practice;
2. Expanded outpatient clinic facilities to include additional treatment rooms, office/program areas to support need for increased staff for new and expanded programs such as audiology, physical therapy; and financial counselling;
3. Long-term care facility (nursing home, assisted living) to support aging population;
4. New maternal child health boarding home;
5. A new Community Health Aide Training facility to be located at the Kanakanak Hospital compound;
6. An additional secure room at Kanakanak Hospital;
7. Mental Health program office and group home/apartments for clients;
8. Additional space for families receiving intensive alcohol and drug abuse therapy services;
9. Additional office space for administrative functions;
10. Patient housing;
11. Employee housing;
12. Roof modifications to “new hospital” to meet current state codes;
13. Implement recommendations from initial “deep look” survey;
14. Expanded infrastructure to support needed building plan;
15. Erosion control of Kanakanak bluffs;
16. Adequate sized meeting/training room for all employee on full board meetings, etc.; and
17. Additional space for adolescent alcohol/drug counseling and treatment.

## HEALTH STATUS OF ALASKA NATIVES LIVING IN THE BRISTOL BAY SERVICE AREA

**Mortality.** The following table shows the Bristol Bay Area Native crude death rates for six leading causes.

Graph 5.1  
**Bristol Bay Region**  
**Age-Adjusted Alaska Native Mortality Rates by Male and Female**  
**1999 - 2003**  
**Rates per 100,000**



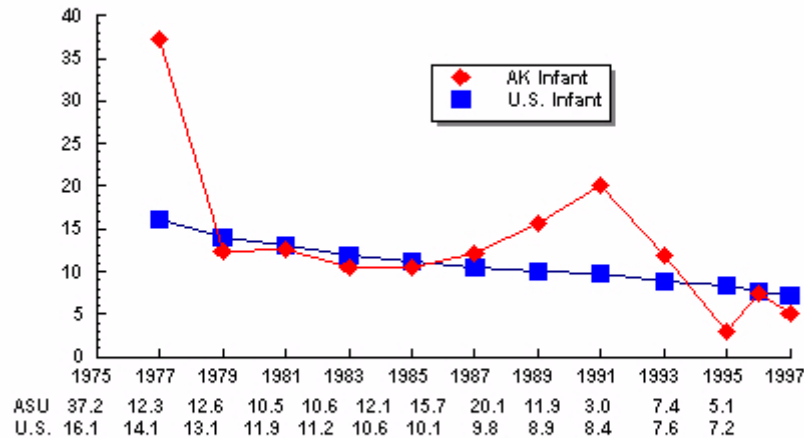
\* = Rates not calculated for fewer than five (5) deaths. Source: *Alaska Native Mortality Update: 1999-2003*, Alaska Native Epidemiology Center, Office of Alaska Native Health Research, Division of Community Health Services, Alaska Native Tribal Health Consortium

# Bristol Bay Service Area



**Infant Mortality** is the number of infant deaths per 1,000 live births.

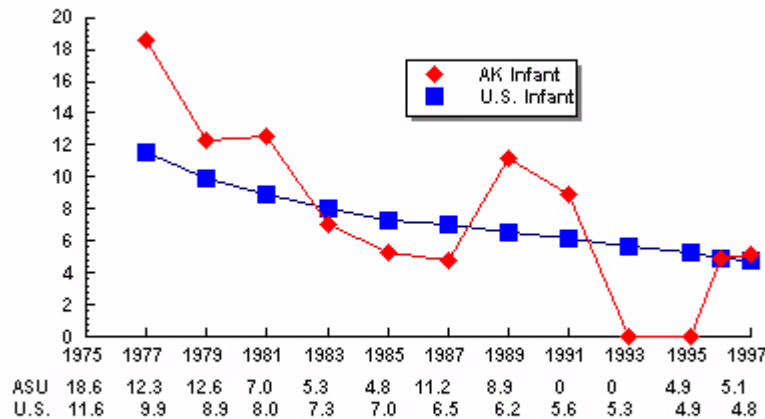
Graph 5.2  
**Infant Mortality Rates**  
**Comparison between Bristol Bay Service Area and U.S.**  
**1975 - 1997**



Alaska Native rates are based on three year averages, using the end year of the three year period. Infant mortality is the number of infant deaths per 1,000 live births. Source: Alaska Native rates are from the report Alaska Native Births and Infant Deaths 1980-1997, Alaska Native Tribal Health Consortium, Alaska Area Native Health Service, Division of Planning, Evaluation and Health Statistics. U.S. rates are from the National Center for Health Statistics (NCHS), and are single year rates.

**Neonatal Mortality** is the number of infant deaths, from birth to 28 days of age, per 1,000 live births.

Graph 5.3  
**Neonatal Mortality Rates**  
**Comparison between Bristol Bay Service Area and U.S.**  
**1975 - 1997**



Alaska Native rates are based on three year averages, using the end year of the three year period. Neonatal mortality is the number of infant deaths, from 28 days of age, per 1,000 live births. Source: Alaska Native Births and Infant Deaths 1980-1997, Alaska Native Tribal Health Consortium, Alaska Area Native Health Service, Division of Planning, Evaluation and Health Statistics. United States death rates are from the National Center for Health Statistics (NCHS), and are single year rates.

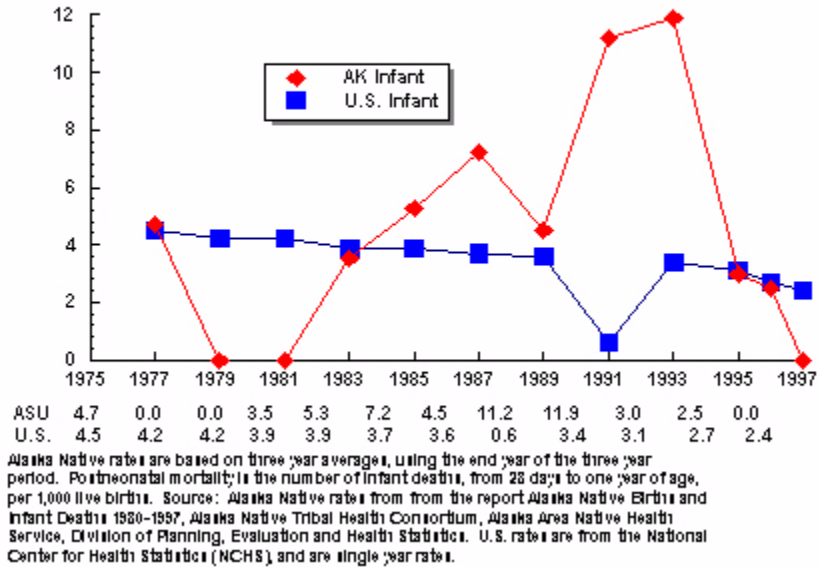




**Postneonatal Mortality** is the number of infant deaths, from 28 days to one year of age, per 1,000 live births.

Graph 5.4

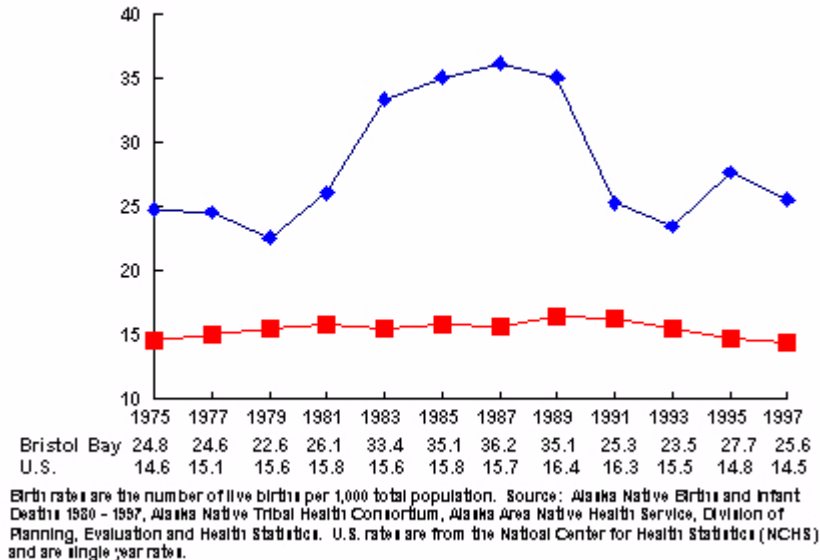
**Postneonatal Mortality Rates  
Comparison between Bristol Bay Service Area and U.S.  
1975 - 1997**



**Births.** The following graph compares the Bristol Bay Service Area and the U.S. births.

Graph 5.5

**Birth Rates  
Comparison between Bristol Bay Area Service Unit and U.S.  
1975 - 1997**





## OUTPATIENT WORKLOAD/DIAGNOSES

The outpatient workload for Bristol Bay Service Area is increasing.

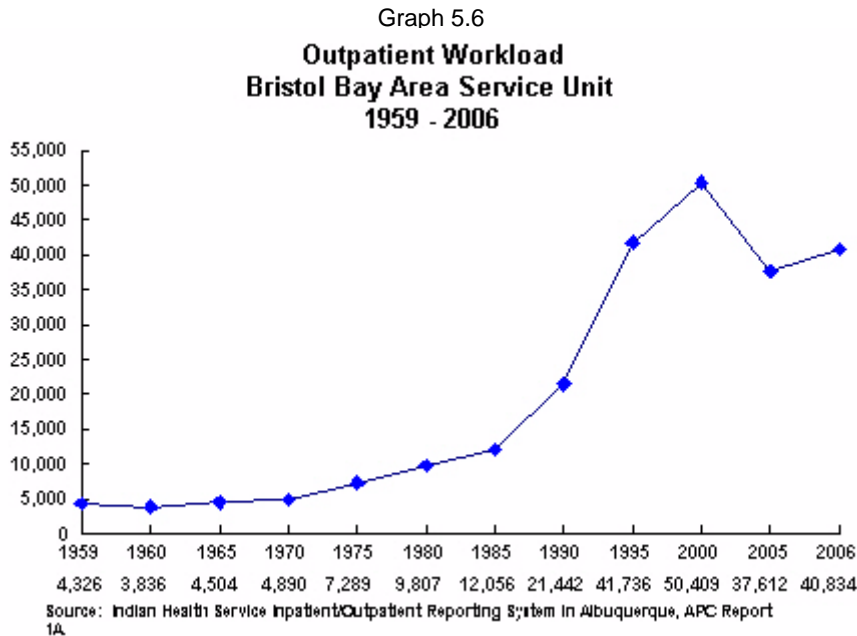


Table 5.3  
**Bristol Bay Service Area  
 Leading Causes of Outpatient Visits: FY 2001 - FY 2004**

All Age Groups	FY 2001	FY 2002	FY 2003	FY 2004
Neuroses & Non-Psychotic Disorders	1,100	917	n/a	2,594
Hypertension	2,357	2,137	n/a	2,276
Pregnancy, childbirth & puerperium	410	315	n/a	1,631
Upper Respiratory Problems	4,698	1,677	n/a	1,622
Hospital Medical/Surgical Follow-up	2,040	1,421	n/a	1,470
Assessment of Symptoms	1,514	994	n/a	1,397
Bone & Joint Disorders	1,444	1,115	n/a	1,358
Accidents & Injuries	2,806	1,410	n/a	1,234
Respiratory Allergies	1,088	1,023	n/a	1,212
Physical Examinations	1,379	928	n/a	1,112

Source: Indian Health Service Inpatient/Outpatient Reporting System, APC Report 1C.

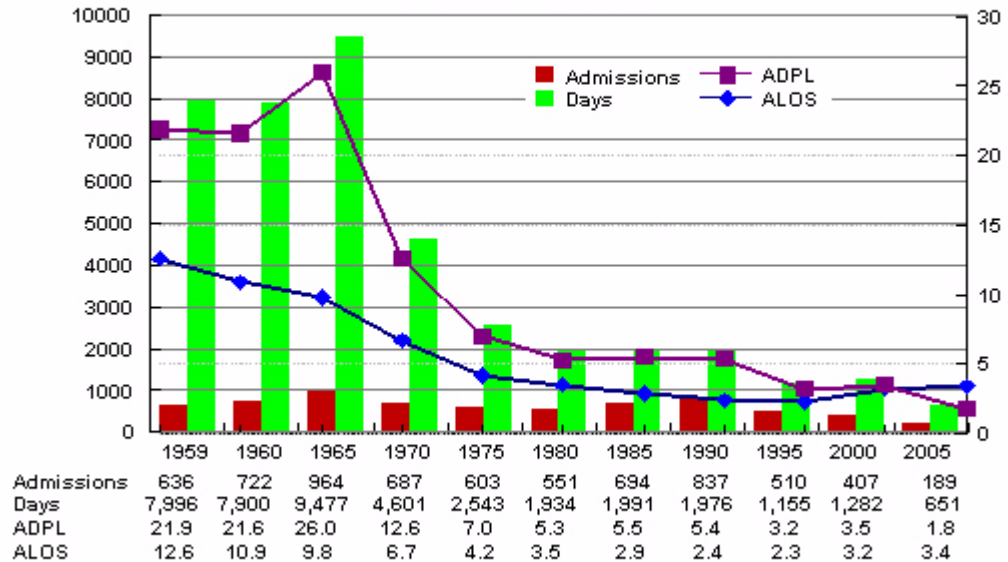


## INPATIENT WORKLOAD

The inpatient workload (excluding newborns) from 1959 to 1998 are displayed in the following graph. The thick line represents the average daily patient load and the thin line is the average length of stay.

Graph 5.7

**Kanakanak Hospital (Bristol Bay)  
Inpatient Workload Excluding Newborns  
FY 1959 - FY 2005**

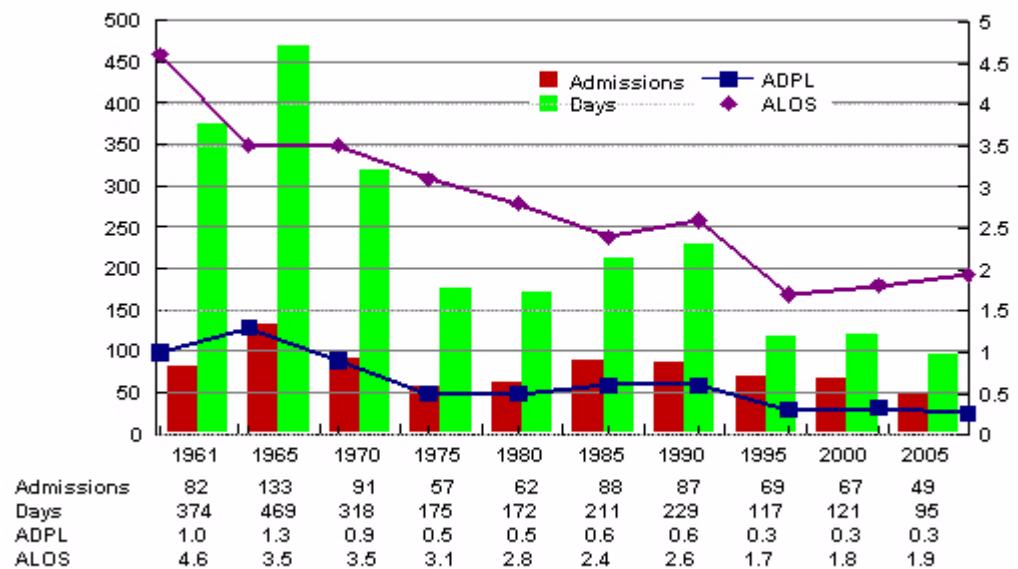


ADPL = Average Daily Patient Load; ALOS = Average Length of Stay.  
Source: HSA-202 Monthly Report of Inpatient Services

Kanakanak Hospital's newborn inpatient workload for the years 1961 through 1998 are displayed in the following graph.

Graph 5.8

**Kanakanak Hospital (Bristol Bay)  
Newborn Inpatient Workload  
FY 1961 - FY 2005**



ADPL = Average Daily Patient Load; ALOS = Average Length of Stay.  
Source: HSA-202 Monthly Report of Inpatient Services



## DISCHARGE DIAGNOSES

Table 5.4  
**Bristol Bay Service Area**  
**Leading Causes of Discharges: FY 2001 - FY 2004**

	<b>FY 2001</b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>
Deliveries (Childbirth)	48	52	37	56
Pneumonia	24	21	38	20
Bronchitis, Emphysema	20	16	14	19
Infected Skin & Abrasions	22	25	9	12
Accidents & Injuries	25	21	14	12
Heart Disease	16	4	12	11
Nutritional & Metabolic Disorders	0	8	9	8
Asthma	7	8	3	6
Viral Diseases	5	3	2	5
Complications of Pregnancy	9	8	3	5

Source: Indian Health Service Inpatient/Outpatient Reporting System in Albuquerque, APC Report 2C.