

Norton Sound Health Corporation

Saint Lawrence Island Sub Regional Services Summary



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Executive Summary

The Norton Sound Health Corporation, NSHC, provides comprehensive health care services to the residents of Saint Lawrence Island through a multi-tier health care delivery system.

Tier One is provided at the village with local health aides who provide direct primary health care and offer first response for trauma and injury prevention. Supported directly from Medical and Clinical providers in Nome these critical staff are the backbone of the NSHC mission to provide quality health services and promote healthy choices within the community.

Tier Two builds on the Tier One model adding mid-level practitioners directly in the village to support the care provided by the health aides and expand the availability of services. The expanded services and larger staff of a Tier Two clinic typically results in decreased acuity of patients and increased focus on injury and disease prevention.

Tier Three services provide for routine inpatient events and comprehensive outpatient services. The Nome hospital is the only such facility in the entire Bering Strait Region. All village health care is referred to Nome when the needed service is not available in Tier One or Tier Two communities. The availability of service in each village is directly impacted by staffing, which fluctuates as midlevel providers come and go and local health aides become overwhelmed with the scope of responsibilities. Burn out, retention of staff, and recruitment are invisible barriers to providing health services in the village.

The Fourth Tier is represented by the Alaska Native Medical Center and other specialty facilities in Anchorage, more than 550 miles from Nome and one and a half hours away by air. This health care delivery model is presented in detail in the attached summary document titled "*How Do We Deliver?*"

In partnership with the communities of Gambell and Savoonga on Saint Lawrence Island (SLI) the Norton Sound Health Corporation is looking to dramatically expand and enhance the availability of healthcare for the 1,500 full time residents (2003 State of Alaska DCED population of 1,354) of some of the most remote land in Alaska. By transitioning the service delivery model to provide an Island-wide Tier Two model a substantial increase in the availability of care and the scope of services will be offered through a Sub Regional Services, SRS, program.

Saint Lawrence Island Sub Regional Services Project SLI-SRS

The SLI Project will create mid-level clinician positions based on the island. This model provides for comprehensive health services to the Island through two service points, Gambell and Savoonga. In each of these communities there will be expanded trauma spaces along with routine primary care to support a full time staff including health aides, clinic travel clerks, village based counselor, and mid-level practitioners. Additionally, there will be space that supports services that will be shared on the island from one service point to the other, such as dental health aides and floating midlevel providers and supporting spaces for itinerate clinicians from Nome.

The new facility will provide expanded opportunities that are currently unavailable. Village residents on the island will not have to travel hundreds of miles to receive services that people in Anchorage take for granted. Mid-level providers will oversee and consult onsite with health aides and provide direct care for more complex patients, creating a higher level of service. A program is currently underway to deploy digital X-Ray services and the supporting computer equipment in Nome. With this equipment village teleradiology will be integrated with the Hospital digital x-ray system. These new X-ray services will be available directly to the villages on the Island. The SLI-SRS will provide a dramatic improvement to the lives of the people on the Island.

NSHC is committed to providing health services in the village and to expanding and improving the level of primary care services available at the village level.

By expanding the availability of services there will be a direct increase in both the quantity and quality of care for the sub region. The expansion of services will result in a general decrease in the acuity of patients, and an increase in the level of care as the clinical focus shifts to injury and disease prevention.

Project Need

The lack of adequate trauma space to support emergencies from preventable injury while waiting for a plane in Nome to be dispatched and a clinical team is mobilized can dramatically increase the acuity of the encounter and has often lead to death that would be routinely prevented in a modern facility in an urban center.

The lack of availability of care is compounded by the routine closure of communities on the Island due to inclement weather. Even the extreme measures of the National Guard helicopters supporting emergency transport have been unsuccessful in making the trip.

Recruitment and retention of staff is a key to successfully enhancing services. There has been a long standing legacy of mid level and other contract professionals who only stay on the island long enough to become a faceless body, disconnected from the community, gone before ever becoming a member. This lack of continuity and consistency leaves the local community health aides without a solid brace for service delivery and training support. Without multiple health care providers supporting each other the extreme

isolation, both geographical and professional, fosters attrition. This project will greatly enhance the ability to recruit and retain staff locally and drawn from outside of the Island that will end this cycle.

Another major barrier is the economy. With unemployment rate at 98.7%, many cannot afford to travel to Nome to see doctors, other medical providers and especially for dental work. Airfare has risen dramatically making it impossible for many to afford it. The new facility will make proper health care available and accessible for all the community members and others. It will eliminate some of the need to go in to Nome to receive services for x-rays, dental work, mental health and other specialty services. Pharmacy is also a real need on the Island, as there are many patients with chronic medical problems requiring medication. Many times when the weather is unfavorable for planes to arrive, and patients may go without medications. People with mental health problems are affected the most.

The increase of population and “Westernized civilization” has brought to the Island a demand for modern services, including better health care services among other things. Access to proper health care has always been a problem in on Saint Lawrence Island due to remoteness and the weather being a factor in getting airplanes in, especially when there is an emergency. With very limited services available, the residents have to travel to Nome or Anchorage to receive medical services for simple x-ray or dental work. With the ever rising airfare cost and with high unemployment rate, many cannot afford to travel, especially if they do not have lodging.

The need for new facilities is vital due to limited lease revenue to operate the existing clinic that has many deficiencies. The water & sewer line has been a problem causing the clinic to close when there is a freeze up and flooding, and with limited funds, it could take several days if not weeks to fix the problem.

By enhancing the availability of services will there will be a direct increase in both the quantity and quality of care for the sub region. As more patients seek care earlier in the acuity of their condition there will be a decrease in the number of routine travel to Nome and emergency medivac transports.

Services will be provided in an environment that is more culturally familiar and safe, especially from the lure of alcohol in Nome. Patients will receive care in an atmosphere they are comfortable with more conveniently, and the increase in the clinical supervision and consultation that the CHAP's in the sub region receive will improve the quality of care.

NSHC will own and operate the new facility service delivery points in both Gambell and Savoonga and is responsible for service delivery, maintenance, and operation.

Project History

Site planning for expanded services - A traditional sub regional model for the Island that would locate all enhanced services in one of the communities has been fully evaluated. An island wide healthcare steering committee with representatives from the IRA, City, Native Corporation drawn from each community to participate in a comprehensive evaluation of the viability of sub regionalized service delivery. This group initially met in Nome for several days with the NSHC planning team and members of the Denali Commission health care steering committee to discuss in detail the existing barriers and challenges of providing health care services to the island. The benefits and drawbacks of health care along with points to consider for site selection were identified and carried back to each community for local presentation and community discussion.

Each community identified several potential sites for consideration. Site selection and review activities were conducted by the SLI health care steering committee along with Denali Commission partners. Each identified site, in both communities, was evaluated with the complete steering committee and public meetings were held in both communities. Principal sites were identified in both communities. Both sites were evaluated by the technical A/E team and met all expectations for constructability and rapid regulatory review.

An Island wide meeting held in Gambell, with more than 20 representatives flying in from Savoonga, discussed the site selection process in a public forum. The huge turnout and substantial interest highlighted the community concern and involvement in expanding the service availability to the region. After two days of presentation and much struggle the primary site in each village was confirmed and the top two sites were prioritized; site A – Gambell, and B – Savoonga.

The comprehensive planning process to extend health care services to the Island clearly identified that any project would need to address enhanced space for trauma and routine care in each village. The lack of connecting roads on the island and that moving clinicians based on the island between each village, rather than patients, would more effectively address the needs. The Denali Commission planning health care team presented this approach as viable and smaller enhanced facilities providing a coordinated health care service

Saint Lawrence Island Background

In 1903, President Theodore Roosevelt declared St. Lawrence Island as a Reindeer Reservation by proclamation. A herd of reindeer was established and became a successful business operation. Two settlements were identified as stations; one in Savoonga and the other in Ayvigteq. Because of increasing need to provide basic education to their children, the two merged to form Savoonga in 1914. This was an ideal location for a subsistence based economy where marine mammals were readily available and in close proximity to Savoonga residents. There were four families that settled

initially. The current population of Savoonga is 665 (2003) and the Native Village of Savoonga IRA enrollment is now 780 (2003). The traditional form of government that existed from generations past was re-organized in 1934 under the Indian Reorganization Act (IRA). A post office was established in 1934 and the City of Savoonga was incorporated in 1969. When the Alaska Native Claims Settlement Act (ANCSA) was enacted in 1971, Gambell and Savoonga decided not to participate and opted for title to the entire St. Lawrence Island. The Island is owned by Gambell and Savoonga as tenants in common.

Gambell, (named after Mr. and Mrs. V.C. Gambell, Presbyterian Missionaries). St. Lawrence Island has been inhabited for thousands of years with 35 settlements all over the island; these are referred to as clans locally. In the 18th and 19th centuries, over 4,000 people inhabited the island. With the arrival of European whaling ships, famine and disease rapidly wiped out the population leaving little over 200 alive in Gambell. In 1920, the census indicated a population of just 48. From 1930-2000, the population has grown rapidly from 250 to 649 recorded per the census. There has also been an influx of teachers and other tribal members that had previously moved to Anchorage, Nome, or lower 48 States. Many have returned, home permanently. According to the IRA Tribal Membership Role, the current population in Gambell is now 767, including some 30 or more teachers and other professional positions that do not settle on the island permanently. Also, there is a high seasonal increase in population during the short summer months due to Bird Watchers, Tourists, Construction workers and Chukotka Region (Russians) relatives that are constantly coming and going by tour ships, skin boats, and airplanes. This influx brings a much needed cash and outside interest into the community at the expense of added draw on community wide utility and city services. To aide in supporting city services there is now a sales tax of 3%, with consideration for increasing this base to 5% this summer.

Real Life on the Island

Gunshot wounds, whether accidentally or self-inflicted. Since Gambell is a heavy subsistence community, accidents occur such as gunshot and black powder bombs used for whaling during subsistence activities. There have been several incidents within the past 10 years where they couldn't be medivac due to the weather. The current facility lacks proper trauma equipment and room, but the health aides have to do with what ever is available in the existing clinic to provide proper procedures with directions from the medical doctors in Nome or Anchorage through the telephone.

In August of 1976 there was a Wein airplane crash that resulted in 10 deaths with 20 surviving and because of the weather, the planes could not get there for several hours and it was by midnight the planes finally got there to medivac the survivors to Nome and critical ones to Anchorage.

At least once a year, we have overdue hunters out in the sea for over 2 days when they get caught in the ice pack. The current facility is so deficient in equipment to treat

hypothermic patients and many time have to send them into Nome or Anchorage. One incident occurred in mid 80's where one boat was out in the sea for over 2 weeks, but the crew survived the harsh weather. They had to be sent into Nome because of lack of proper facility and equipment to treat them locally for hypothermia and dehydration.

There are times when supplies of blood are needed and without proper storage for blood, some of the patients have to be sent into Nome or Anchorage to receive transfusion. In early 80's, a patient with pregnancy complication, had to wait a week due to weather to be sent into Nome to receive blood, and so happened to have a rare blood. There were only 2 people in Nome with the same type of blood and this patient needed 4 units of blood by the time she got to Nome. She could not be sent into Anchorage due to a lot of blood loss. Emergency surgery was performed in Nome by a non-surgeon with a help of a retired doctor with poor eye sight. With the new facility, the medical health care providers will be able to store and use blood supplies immediately when needed. Cancer patients lack proper care in the village due to lack of proper equipment and facility and many of them prefer to be sent to the hospital in Nome in order to receive better care that are lacking in the existing clinic, or choose not to receive proper care when they don't want to leave their families behind.

Without x-ray equipment, recently a person that had bumped his head died suddenly while hunting. Because he could not afford to travel to Anchorage to get a CAT Scan, his injury was not diagnosed.

Audiology services will also be enhanced through telemedicine. Majority of the children that are brought to the attention of the health aides are ear infections. Sometimes the problem is so neglected that hearing loss occurs.

There are several individuals that had aneurysm. One of them died because it was not diagnosed in time. The other one had to be in the Seattle hospital for several weeks due to surgery and she went into coma for a week.

Other examples of people that have been affected by the remoteness of our communities are those who are diabetic, cancer patients, and mothers having to leave for long period of time away from home on limited budgets. As example, recently an elderly diabetic woman went into a diabetic attack. She has to wait for an airplane for medivac to Nome and finally to Anchorage before receiving proper emergency help for her illness, taking hours. Several of her family members fly along with her with some help from the community. Two days later she is dead from complications.

Cancer patients spend weeks away from home in order to receive routine treatment and chemotherapy and need constant medication to relieve pain and effects of their illness. Without properly trained individuals, a patient may miss his/her required doses or take an overdose of medication further complicating their situation. Cancer related deaths have increased mainly because the will to live and hope is no longer strong and because they know they would have to spend weeks away from their families, their children,

grandchildren, spouses, all of the people that they cherish, and would rather spend their remaining moments with more than the health care they need to stay alive.

Geographic Isolation

The communities are almost completely bilingual with Yupik being the first language and English as the second language. The elders and the very young with limited English speaking skills would need to have an adult escort when called for an appointment. Because of language retained, many of our traditional songs and dances from the last century are still being practiced, essential for the well-being of our communities. An extract from “Community Strategic Development Plan for Savoonga 2004-2009” page 39; Savoonga Development Goal 1 is to “preserve the traditional knowledge passed on from our elders and to learn different aspects of western society for a brighter tomorrow.” Development areas identified were; Education and Training, Health, Social, and Cultural objectives with associated prioritized projects.

The isolation of Savoonga and Gambell has helped to maintain a traditional St. Lawrence Island Yupik culture, the language retention of Yupigestun and the subsistence lifestyle based upon marine mammals including the sacred bowhead whale being the integral part of our cultural lifestyle along with walrus, seals of various species, waterfowl, seabirds, several anadromous fish species and reindeer has been preserved to date. This geographic isolation is, in this way, an environmental strength for a subsistence based economy. The subsistence users have unique knowledge of the environment and in constant vigilance of weather, sea-ice, water currents, sea-level and changes.

Within the last 15-20 years, the constant observation of weather and sea-ice by hunters has noticed a general warming trend. This warming trend has had devastating effects on all of our coastal communities practicing subsistence lifestyle. The traditional knowledge and polar scholars together assessed that there has been a 40% reduction of sea-ice in general; water level has risen because of the depletion graduating into massive coastal erosion. The other effect of this warming trend is more prevalent extreme weather conditions, atmospheric turmoil, more windier conditions contributing to reduced air service, coupled with wind driven high waves during the late fall, early winter contributes to airport closures especially at Gambell because the high waves go over the runway there on more frequent occasions.

Savoonga and Gambell’s isolation with no seaport, no road or railway systems and iced-in conditions during the winter months means that everything must be flown in, including medical evacuations. The evacuations by airplane will take hours and if there is inclement weather, a patient may have to wait days before being treated. Several heart attack victims, who could have been saved if there were adequate trauma care, have died because of our remoteness. Gunshot victims perished because of blood loss, patients with severe cuts suffer from extreme blood loss before they receive any help and survivors contend with life-long disabilities and disfigurements.

A classic example of the effects of isolation is mothers that have to fly into Nome or Anchorage to have their babies. Most of them have to leave 4 weeks in advance before their due date either to Nome or Anchorage depending on how much care they need. It further complicates the issue because now her whole extended family is being affected, in terms of having to care for her other children, having to feed and all other associated costs, in addition to helping the mother on transportation, housing and her other needs on limited budget.

St. Lawrence Island residents with health care needs, medical, dental or otherwise must find cash resources in order to fly in to Nome or Anchorage. If they do not find the resources, most likely they will cancel their appointments because they cannot afford to fly in. An average fare between St. Lawrence Island and Nome is well over \$300 dollars round trip and a fare to Anchorage and return is in excess of \$1000. With high unemployment, very few can afford to fly in to receive adequate health care. The elderly and the very young need adult escorts to accompany them when they are called in for an appointment and very often will double the cash need to fly in.

Summary

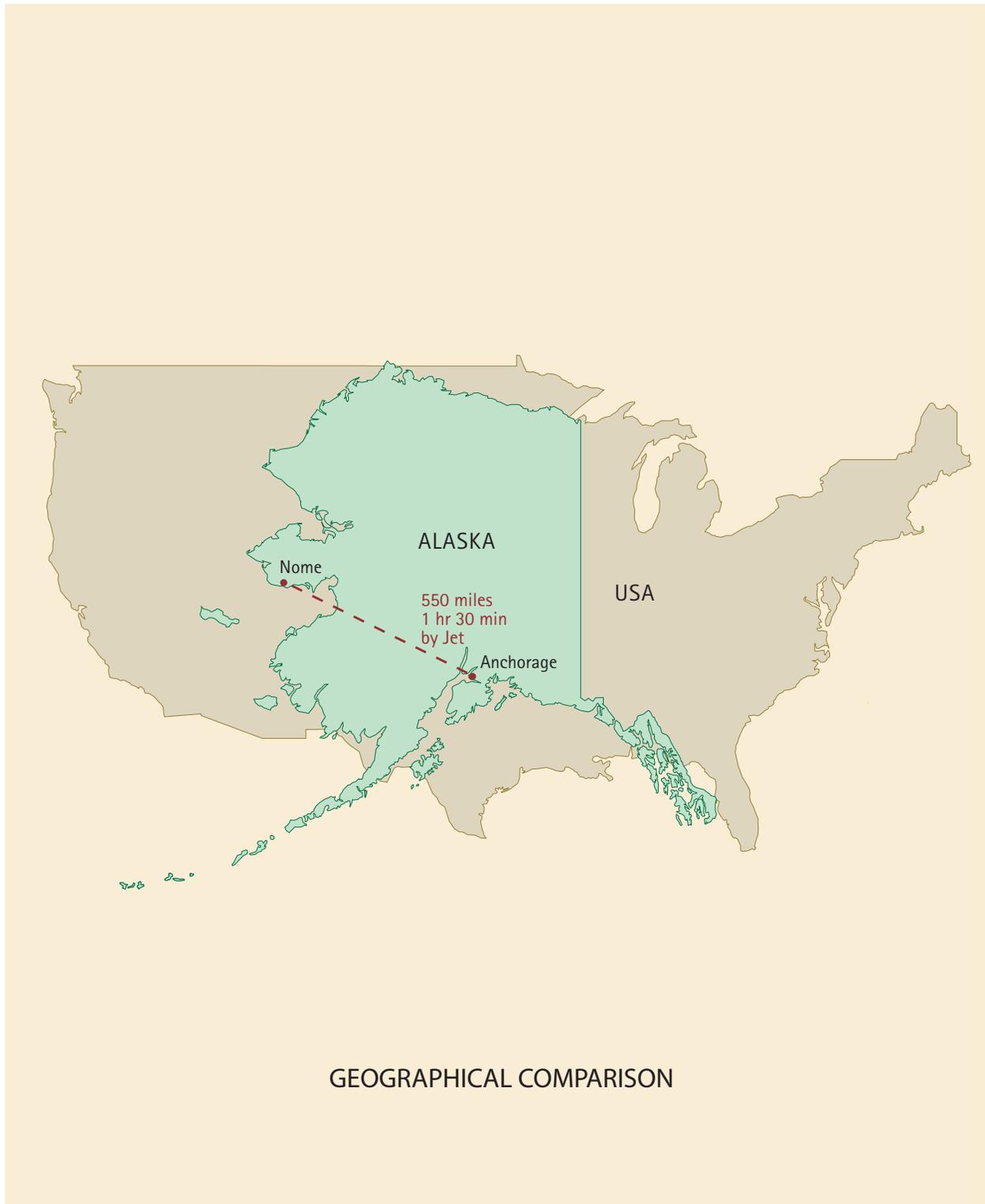
This project will provide an immediate and sustained impact on the lives of the people of Saint Lawrence Island. Norton Sound is committed to the sustainability of services and facilities. For our communities, it is essential that health care becomes less stressful and by way of these proposed models, health care providers will become more responsive and available to the needs. It is important to retain traditional knowledge to preserve the well-being of our communities if they are to survive as healthy, happy and resourceful people.

Why Are We Unique?



The Bering Strait Region is a 44,000 square mile area that extends to the Russian border in the Bering Sea. The region has a total population of just fewer than 10,000; nearly 8,000 of this population are Native Alaskans. Some 3,500 of the region's residents live in Nome, while the remaining residents live in 15 villages scattered along the coastline of the Bering Sea and on two islands. Norton Sound Regional Hospital is the only comprehensive health care facility serving this vast area. The differences between delivering health care in Alaska's isolated communities and similar efforts in the contiguous United States are quite significant. The following commentary outlines some of these differences and explains their effect on overall delivery of medical services to the communities of the Bering Strait Region, including:

- Weather extremes
- Isolation
- Communication systems
- Geographical distances between communities
- Lack of roads to link communities
- Rudimentary infrastructure
- Language



The map of Alaska is superimposed over a map of the United States and shows the flight path from Nome to Anchorage, the nearest full service medical center. The differences between delivering health care in Alaska's isolated communities and similar efforts in the contiguous United States are well recognized.

It is not unusual to have weather delays of two to three days in the Bering Strait Region's coastal villages.



UNIQUENESS

Geographical Isolation

Nome is located at the westernmost extreme of Alaska. The village of Wales sits at the westernmost tip of the continental United States. The village of Diomedes on Little Diomedes Island sits in the Bering Strait, just opposite Big Diomedes, an island owned by Russia. The villages of Gambell and Savoonga sit on St. Lawrence Island in the Bering Sea, over an hour by air from the mainland. Nome is approximately 550 air miles from Anchorage, the location of the nearest full service hospital. All residents of the region face high transportation costs for medical care. This isolation is highlighted by the adjacent graphic which shows that the distance from Nome to Anchorage is nearly equal to the distance from Denver, Colorado, to Dallas, Texas.

Only the western states of Montana, Wyoming, and New Mexico come close to approximating the isolation experienced in western Alaska. Even in these states, however, there is a road system in any one of four directions, which will lead to a medical center. Access to health care is a different concept in Alaska and involves four-wheelers, boats, snow machines, helicopter, small aircraft and commuter type planes.

Lack of Roads to Link Communities

Alaska has no roads leading to western Alaska. Each community has developed a rudimentary road system linking the central townsite with the surrounding housing clusters, the landfill, the airstrip, and local gravel deposits. Individual communities in close proximity to each other may be linked by a gravel road while more distant villages are not. Nome itself has a summer road system linking it with Teller and the small village of Council, and there is a road along the coast about 70 miles in each direction. These roads are only accessible in the summer months. More and more vehicles are showing up in Native communities and it is expected that the development and use of roads will increase through time. Yet costs associated with major new road construction linking the villages and Nome are unrealistically high.



Weather delays and limited flight schedules greatly increase the time commitment required to travel out of the villages for service. In addition with the time and cost of traveling from Nome to Anchorage makes it apparent that a full service hospital in Nome is a preferred option.

Roads will never become a solution to village isolation. This is especially true for the island villages of Gambell, Savoonga, and Diomed, and the most remote of the mainland villages, including Wales and Shishmaref.

Weather Extremes in the Bering Strait Region

Nome and the villages served by Norton Sound Health Corporation are predominantly coastal communities. Most sit along a coastal plain with little vegetation to block strong winter winds. Storm winds can effectively close a community to air transportation for up to a week or more due to drifting and whiteout conditions. Most residents of the region expect weather delays when planning travel to seek medical attention not available in the villages. Winter conditions can include weeks of subzero weather. The weather conditions create an environment where it is difficult to effectively deliver health care.

- Itinerant health care workers must plan village visits around the weather.
- Emergency search and rescue operations are hampered by weather.
- Medical evacuation is often delayed by weather.
- Patient transportation for non-emergent care is often delayed.
- Building design does not always account for the effects of cold and wind.

Patient Transportation in the Bering Strait Region

The costs, travel time, weather delays, and scheduling restrictions that are expected components of health care delivery in the region significantly increase the cost of operations. Approximately 10% of Norton Sound Health Corporation's annual budget is devoted to patient transportation. Emergency evacuation of patients greatly increases transportation costs. These costs are minimized by providing care closer to patient's homes.

The cost of travel from villages to Nome is considerably less than the cost of transporting to Anchorage, a flight that takes 90 minutes on a jet. The cost of actual vehicular transportation is only a small part of the cost of patient relocation for medical care. Personal costs must be considered:

- No roadways link the 15 villages with Nome.
- All transport to the Nome hospital is by air.
- Seldom more than 2 scheduled flights per day to Nome.
- NSHC annual transportation budget is nearly \$4.5m.
- Round trip flights between the villages and Nome cost \$100 to \$400.
- Patients must stay a minimum of one night in Nome.
- Routine patient referral to Anchorage costs up to \$2,000 for travel and lodging.
- Weather delays can greatly affect the cost of providing services.

Emergency Patient Transport

The EMS department manages all emergency transportation for the hospital and region. All flight traffic between Nome, the villages, and Alaska Native Medical Center (ANMC) in Anchorage is contracted out or supported by the National Guard. Local contract air carriers provide on-call patient emergency transportation to Nome. Physicians managing medical evacuations must consider many factors in their decision where to route patients:

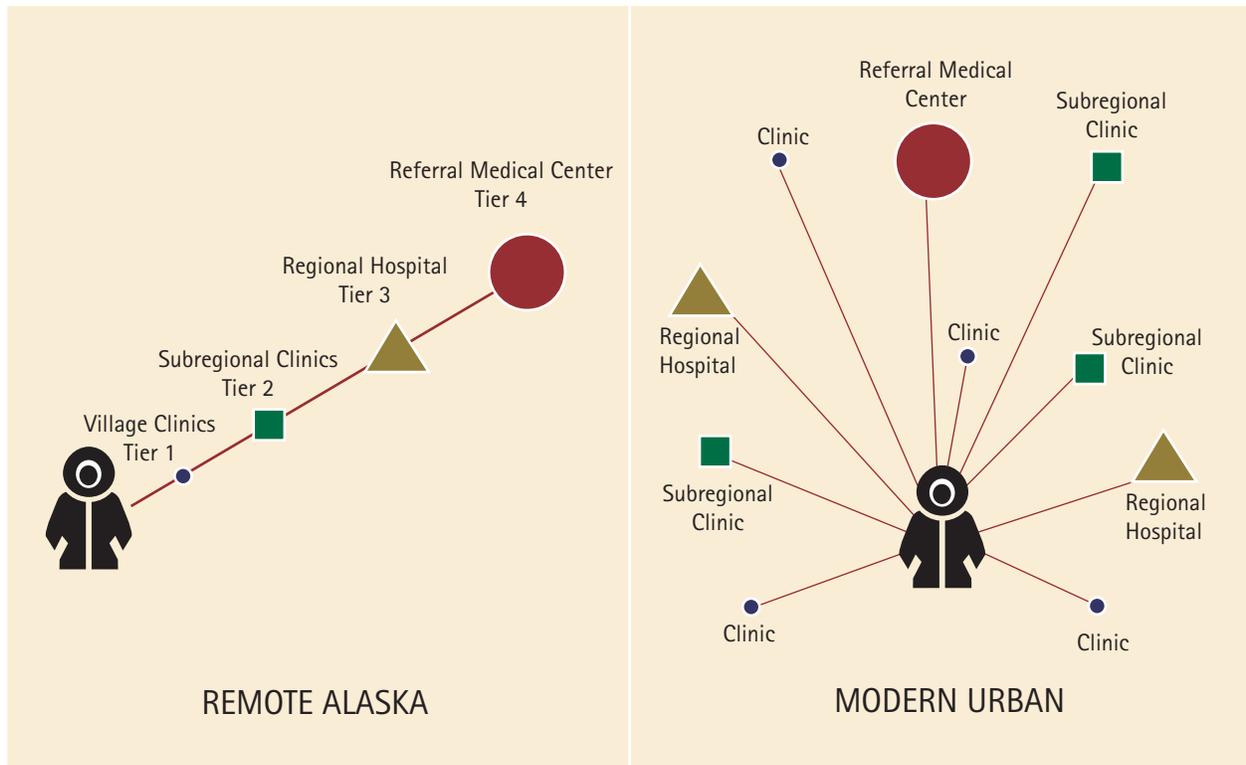
- Is patient likely to require subsequent travel to Anchorage due to acuity?
- Does the Norton Sound Regional Hospital have staff available on-call to assist in the specific case?
- Are the facilities in Nome adequate for treating the injury?
- What are the weather conditions in Nome?
- Should a patient be flown to Nome and transferred to a flight to ANMC?
- Can the patient sustain a long flight?

How Do We Deliver?



In concert with the IHS, and more recently, the Alaska Native Tribal Health Consortium (ANTHC), the communities of the Bering Strait Region of Alaska have evolved a four-tier system of integrated health care service delivery. The system provides increasingly sophisticated services at Village Clinics (Tier One), Sub-Regional Clinics (Tier Two), and Norton Sound Regional Hospital (Tier Three), and is supported by the Alaska Native Medical Center in Anchorage (Tier Four).

It is important to note that Norton Sound Regional Hospital provides the only hospital health care service within the region. The Alaska Native Medical Center in Anchorage, Alaska, is approximately 550 air miles and 90 minutes away by commercial airline.



"Remote Alaska" represents the Bering Strait Region. The patient will check in at the most convenient site, the village clinic, and seek progressively higher care, depending on his diagnosis, at the tier two clinic, or at the Nome hospital. "Modern Urban" represents the array of options that most individuals in the "lower 48" states, or in Anchorage for that matter, have within a drive of 50 to 100 miles.

To cope with their health care needs, the communities in western Alaska, in concert with the IHS and, more recently, the Alaska Native Tribal Health Consortium (ANTHC), have evolved a Four Tier system of integrated service delivery. The system provides increasingly sophisticated services from village clinics to sub-regional clinics, and from regional hospitals to the area referral center, ANMC in Anchorage. This system is the environment in which Nome's new hospital will operate. It is important to explain how this system works and how it differs from systems serving areas of similar population in the "lower 48."

In the Bering Strait Region a medical services user has limited options for care. The village clinic is the only source of medical assistance available without chartering an airplane or flying scheduled service to Nome or a nearby enhanced services clinic.

This is different from the situation in the contiguous states and, for that matter, in Anchorage, where a patient has a wide range of options for treatment. It is this lack of choice that makes the remote Alaska situation so different from the model used as a basis for the HSP planning model. The HSP anticipates an increased need for services in remote regions, usually over 100 miles from alternative care. It also anticipates that a patient will have options for different services provided in different regions, which may be accessible by car within a three to four hour drive. In the contiguous United States this is the norm, with an integrated road system leading from any community.

To compensate for this, the new hospital in Nome must be able to accommodate a wide range of services not anticipated in the HSP model facility.



Tier One

Village clinics, staffed by community health aides, are essential first care facilities offering trauma response, medical screening and a space for itinerant speciality clinics and dentistry.

The Village Clinics – A Health Aide Based Model

The Village Clinic is a facility that offers a base level of care to the villages and provides a place for itinerant health care workers to provide expanded services. The clinics are operated by village-based health care workers called Community Health Aides (CHAs) and Clinic Travel Clerks (CTCs) who provide most of the services rendered. The CHAs are usually residents of the region who live in, and frequently are from, the villages in which they serve. Each clinic employs two to three CHAs and a CTC full time, with usually one rotating position to fill in for vacation, holiday, and sick leave. The CHAs are assisted by itinerant physician assistants (PAs) who live in adjacent communities (see "Tier Two"). The clinics also sponsor visits from itinerant health care workers from the Nome hospital who provide specialty clinics in respiratory ailments, ENT, physical therapy, dental care, chronic care, eye care, and behavioral health issues.

To improve the level of care in the villages NSHC has funded development of a prototype village health clinic design for use in constructing replacement clinics for the current worn and dated clinics. This effort is well under way. Two villages have new clinics constructed using this prototype that opened in 2003. Three additional villages will have new prototype clinics constructed by the end of 2004. Two other communities are in the preliminary planning stages for replacement clinics. It is the goal of NSHC to have new replacement clinics in most of the villages within the next three to five years. NSHC believes that early detection and treatment is critical to the overall long-term health of its beneficiaries, and as care becomes more available clinicians can begin to put prevention into practice.

Tier Two



Tier Two Clinics – Mid-levels and Teleradiology Based Model

Tier Two clinics have evolved in NSHC's health care delivery plan to respond to the corporation's mission to provide quality health services throughout the region. As services have become more available throughout the region and the level of health care service is increased in a village, the need for facilities in Nome has also risen. Only the acuity of the visits goes down. This is due to both prevention and early diagnosis. Expensive diagnostic equipment and high level medical practitioners cannot be provided in all villages so, as a practical matter, certain of the larger, centralized communities have been selected to receive more medical support and equipment. NSHC's Tier Two communities are Unalakleet, Elim, Teller, Shishmaref, Gambell, and Savoonga.

The model for a Tier Two clinic is not based on facility size, but on health care delivery. The clinics can vary from a 3,000 s.f. village clinic to the 17,000 s.f. primary care facility in Unalakleet. Tier Two clinics are staffed by a mid-level practitioner in addition to the health aide staff. In Unalakleet, which serves four surrounding communities, the newly expanded health care services can accommodate up to two mid-levels and a physician. Additionally, the Tier Two clinics are being equipped with telemedicine equipment with digital radiology. The sub-regional clinic in Unalakleet already has most of the equipment and technology to interface with the Nome hospital and it will be the test site for the setup and operation of this new digital interface.

The Tier Two clinic now being planned in Gambell will be approximately 5,500 s.f. This clinic will provide some enhanced services to Savoonga until that village can get funding for a similar clinic to serve its people.

Six villages now have mid-level practitioners and are equipped to provide digital x-ray and telemedicine.



Dedication of the new SRC in Unalakleet, 2004.



Tier Three

The Regional Hospital manages the hiring, training, and service delivery to all 15 villages from its base in Nome.

The Regional Hospital

Norton Sound Regional Hospital in Nome is the Tier Three facility for the Bering Strait Region. The regional hospital fills the void between the Tier Two clinics and ANMC, the referral hospital in Anchorage. The regional hospital provides a full-service outpatient clinic and inpatient acute care. The medical staff in Nome directs the work of the village and sub-regional clinics. In situations where patients need care beyond the professional capabilities of practitioners in village clinics or for which the facilities are inadequate, village staff consults daily with the hospital staff, who determine the appropriate facility for the transport of patients.



Norton Sound Regional Hospital

The Nome hospital is the nearest source of advanced care, emergency services, minor procedures, inpatient services, on-staff physicians, and labor and delivery. Faced with a serious medical condition, the NSHC hospital in Nome is where patients in Norton Sound villages choose to be treated. Patients are often referred out of the region if the hospital does not have capacity or the level of physician care needed for the individual case.

New development in digital technology has provided the means for NSHC to place teleradiology equipment in six villages to supplement the existing telemedicine stations in each village. NSHC provides the remote technical and professional assistance to village medical staff. NSHC physicians will soon be able to exchange digital medical imagery with ANMC.

Tier Four



The Area Medical Center – A Referral Facility

The Alaska Native Tribal Health Consortium (ANTHC) operates the Alaska Native Medical Center (ANMC) under a compacting agreement with the IHS. This is a full service hospital capable of providing treatment for most health needs, including internal medicine, oncology, dental surgery, and other major medical conditions. The ANMC Hospital is a recently constructed modern facility that all Alaska Natives are proud of. The level of attention to cultural values in the planning and design of this facility provides a goal for the people of the Bering Strait Region in planning their new hospital.

ANMC Provides:

- State-of-the-art diagnostic equipment
- Options for extended care
- A range of choices for health care response
- Referral source for NSHC physicians
- Teams of itinerant providers for speciality clinics of the regional hospital



Alaska Native Medical Center (ANMC)



Distribution of communities in the Bering Strait Region categorized by the type of health facilities and services provided.



Gambell Clinic

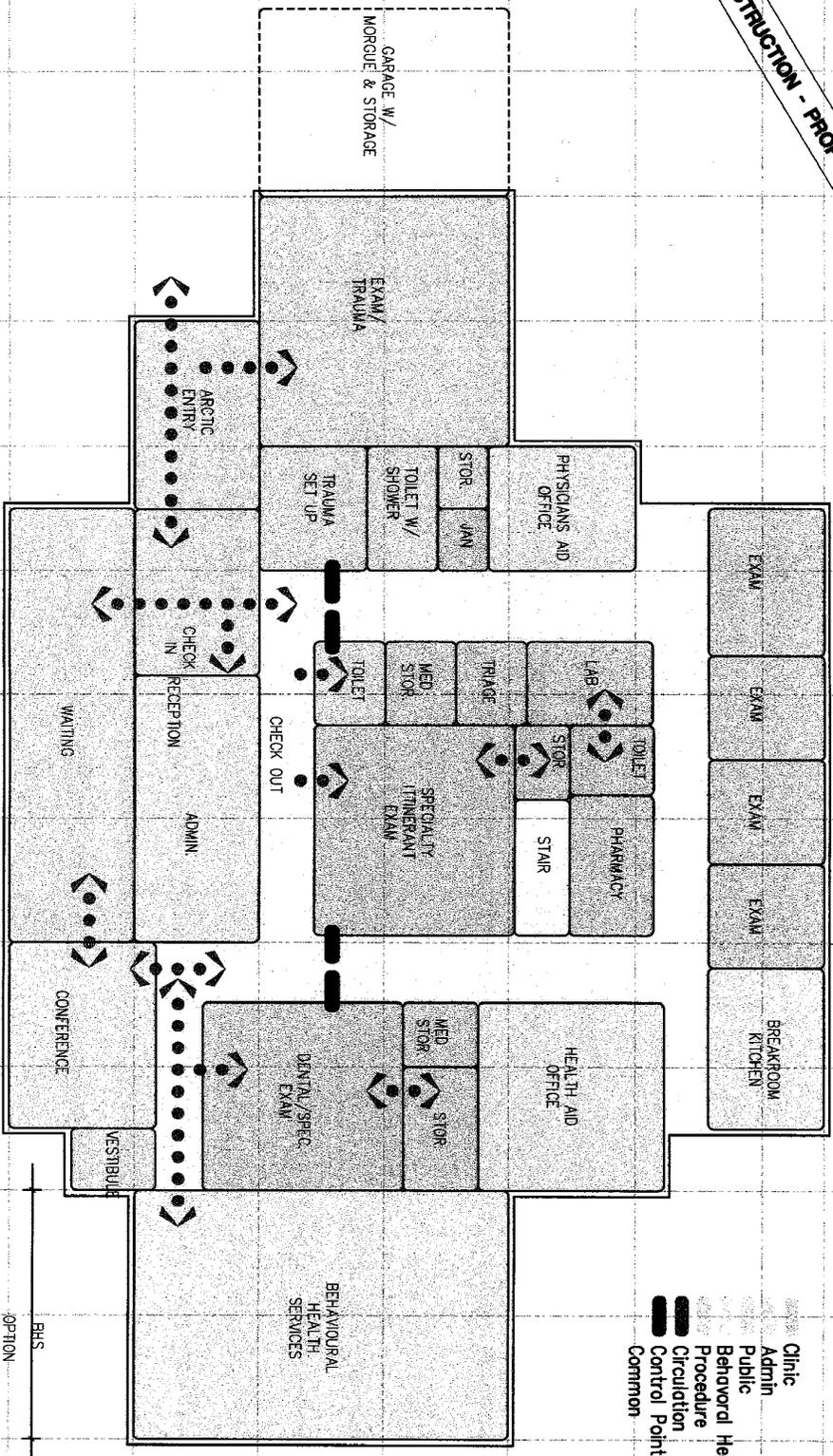




Savoonga Clinic



CONSTRUCTION - PROPOSED 2004



AREA = 6,350 S.F.

FLOOR PLAN
3/32" = 1'-0"

- █ Clinic
- █ Admin
- █ Public
- █ Behavioral Health Services
- █ Procedure
- █ Circulation
- █ Control Point
- █ Common

BHS
OPTION

COMPLETE. Business Plan
Health Service Delivery Plan
Site Plan





The mission of Norton Sound Health Corporation is to "provide quality health services and promote healthy choices within our community."