

# Frontier Extended Stay Clinic Evaluation

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## Executive Summary

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A Frontier Extended Stay Clinic (FESC) is a geographically isolated medical clinic designed to provide primary, emergency, and extended-stay care 24 hours per day when hospital services are not readily available. In support of this clinic designation, the Federal Office of Rural Health Policy (ORHP) has provided funding for infrastructure development (e.g., staffing, facility, and equipment) to four remote clinics in Alaska and one isolated clinic in Washington. In addition, the Center for Medicare and Medicaid Innovation (CMMI) has implemented a three-year Medicare payment demonstration to pay differentially for extended clinic stays lasting greater than four hours.

In 2011, a team from the Rural Policy Research Institute Center for Rural Health Policy Analysis at the University of Iowa, College of Public Health, began a comprehensive performance evaluation of FESC sites, ORHP investments in FESCs, and (to a limited degree) the Medicare FESC payment demonstration. The evaluation team found the FESC Program to be a valuable service to remote and/or isolated communities of sufficient size to support a minimum of three health care providers. As several providers reported, “Without FESC, people would die.”

Through analysis of the FESC Outcome Log, the evaluation team conservatively estimates that payers saved nearly \$14 million in avoided transfer costs in the first five years of the FESC Program. Yet, the cost to provide after-hours and extended-stay services is estimated to be \$1 million per clinic per year. Medicare and Alaska Medicaid payments of approximately \$500 per four-hour block of time do not cover the additional costs that FESCs incur to provide after-hours care. Thus far, private insurers have not paid differentially for after-hours or extended-stay FESC services.

The evaluation team found that the FESC Program has improved quality of care in FESC communities through new diagnostic and therapeutic equipment purchases, targeted quality improvement efforts, new attention to quality improvement, and shared learning. FESC communities appreciate a sense of safety and security knowing that health care professionals are immediately available both locally and at all times. FESC has supported the cultural role of family togetherness during illness by reducing the number of patients transferred out of the community. In contrast to quality improvement and cost savings, the FESC Program benefit to health care provider recruitment and retention is mixed. Some providers appreciate the opportunity to exercise clinical skills necessary for emergency and extended-stay care. Other providers dislike the burden of being on-call 24/7.

Several policy opportunities exist to strengthen the FESC Program. On the basis of quality improvement and cost savings achieved in the demonstration, FESC should be made a permanent Medicare provider type. If the legislative process precludes rapid consideration of permanent FESC designation, the CMMI demonstration should be extended past its scheduled termination in 2013. The FESC inclusion criteria of 75 road miles from the nearest hospital or isolation by water should be revisited. Current criteria may overly restrict additional clinics and communities appropriate for the FESC model. If the FESC Program expands, outside sources may be needed to provide start-up funding to assist clinics during the transition to FESC status. Alternative payment models for FESC services, such as freestanding emergency department designation, should be investigated. To recognize the difference between an outpatient office visit and an emergency or extended-stay FESC visit, the minimum time a FESC can bill for extended-stay care should be reduced to two hours. If current reimbursement strategies do not prove to be sufficient to cover emergency and extended-stay costs, FESCs should consider multiple alternative revenue opportunities, including local community and foundation support. However, before requesting additional non-patient-care funding, individual FESC financial performance should be optimized through

proper budgeting, revenue cycle improvement, and expense management. State of Alaska officials should encourage private health insurers and self-insured employers to pay differentially for FESC services. To alleviate provider shortages, FESC providers should be allowed to practice at their optimal level of licensure, education, and experience. And to support providers in remote locations, tele-emergency programs that link urban emergency department resources to FESC sites should be implemented as soon as possible.

The FESC model and future permutations deserve ongoing study. New models of health care delivery and financing are needed, including models for communities requiring emergency and after-hours care, but not requiring the resources of a full-service hospital. During this time of health care transformation, the FESC Program can serve as a platform for new thinking and social experimentation in rural health care delivery that responds to patient and community need.

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## Key Findings

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- Frontier Extended Stay Clinics (FESCs) provide critical and potentially life-saving emergency and extended-care services to isolated rural communities.
- The FESC Program conservatively saved health insurers nearly \$14 million dollars in avoided transfer costs in the first five years of the Program (an average of approximately \$500,000 per clinic per year).
- Health care cost savings secondary to avoided transfer costs overwhelmingly accrued to private health insurers compared to Medicare and Medicaid.
- Private insurers do not pay FESCs differentially for after-hours and extended-stay services.
- Additional clinic costs to provide after-hours and extended-stay services are an estimated \$1 million per year.
- FESCs do not recoup the costs of providing after-hours and extended-stay services through current health insurer payments.
- Qualitatively, clinical quality and the patient/family experience improved due to the FESC Program.
- Additional compensation related to providing FESC services has a strongly positive impact on the economic vitality of the local area.
- FESC services availability did not uniformly help or hinder health care professional recruitment and retention.

## Key Recommendations

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- Recognize the FESC as a new and permanent Medicare provider type.
- Revisit the criteria for FESC designation (75 miles by road, or isolation by water, from the nearest hospital).
- Provide start-up funding for clinics transitioning to FESC status.
- Investigate freestanding emergency department (FED) designation as an alternative revenue option.
- Reduce the minimum time for FESC service billing from four hours to two hours.
- Aggregate additional FESC revenue sources for the sole purpose of funding 24/7 emergency and extended-stay care.
- Optimize individual FESC financial performance.
- Engage private health insurers and self-insured employers to pay for FESC services.
- To address provider shortages, allow FESC providers to practice at their optimal level of licensure, education, and experience.
- Develop tele-emergency services for FESCs.
- Continue to evaluate the FESC model of care and study its applicability to other rural health care settings.

## FESC Program and Evaluation Project Description

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Delivering health care in frontier America is challenging. Health care resources taken for granted in urban areas are often difficult to access or unavailable in frontier areas. The vagaries of weather and distance can make patient transportation uncertain. Of particular concern is transporting patients to a distant hospital when weather makes medical evacuation dangerous (or impossible) or when patient condition really requires only extended care or observation. In response to frontier America's challenge, the FESC demonstration was authorized by the Medicare Modernization Act of 2003. The three-year Centers for Medicare and Medicaid Services (CMS) demonstration authorizes Medicare to pay for extended stays (up to 48 hours) in clinics located in communities where the nearest hospital is at least 75 miles away or inaccessible by public road. FESCs care for patients requiring hospital services, but unable to travel due to weather conditions, and patients requiring limited-time monitoring and observation.

Starting in 2004, the Federal Office of Rural Health Policy (ORHP), an office within the Health Resources and Services Administration (HRSA), has provided approximately \$1.5 million per year to develop FESC infrastructure and meet CMS Conditions of Participation (CoP). The FESC Consortium was also established in 2004 and now includes five frontier clinics in Klawock, Glennallen, Unalaska, and Haines, Alaska, and Friday Harbor, Washington. In 2007, CMS published preliminary CoPs. In 2008, six clinics were accepted into the FESC Consortium. One clinic has dropped out.

Under the CMS FESC demonstration, typical Medicare Part B reimbursement is replaced with enhanced Medicare and Medicaid (Alaska only) reimbursement for extended-stay (over four hours) patients. The Medicare payment is \$541.24 per four-hour block of time for the Alaskan clinics and slightly less for the Washington clinic. Initially, tribal clinics were not required to bill patients the Medicare Part B 20% co-pay, but this condition was changed. The payment includes ("bundles") many ancillary services (e.g., lab and x-ray) and takes the place of normal clinic reimbursement for the visit. Medicare payments for FESC services (under the CMS demonstration) began April 2010 and will continue until April 2013. The Alaska Medicaid payment for extended stays is the all-inclusive clinic rate that can be billed multiple times within one day, in four-hour blocks of time. At the time of this report, private third-party insurers are not paying for FESC services.

Ms. Patricia Atkinson of the Southeast Alaska Regional Health Consortium (SEARHC) coordinates the FESC Program. SEARHC is a non-profit, Native-administered health consortium serving health care needs of Tlingit, Haida, Tsimshian, and other Native and rural residents of Southeast Alaska in 18 communities. SEARHC was established in 1975 under the provisions of the Indian Self-Determination Act. The intent of this legislation was to have Indian Health Service (IHS) programs and facilities turned over to tribal management. SEARHC's contract with the IHS began in 1976 when they took over management of the Community Health Aides Program. In 1982, SEARHC took over operation of the IHS Juneau clinic, and in 1986 they took over operation of Mt. Edgecumbe Hospital.<sup>1</sup>

In early 2011, SEARHC released a request for proposals to evaluate the FESC Program. Funding for the evaluation was to be provided by ORHP. In late summer 2011, funding for the evaluation was released, and SEARHC selected the Rural Policy Research Institute (RUPRI) Center for Rural Health Policy Analysis at the University of Iowa, College of Public Health, to perform the evaluation. The evaluation team included Clint MacKinney, MD, MS (principal investigator), Keith Mueller, PhD (investigator), Fred Ullrich, BA (analyst), and Eric Shell, MBA, CPA (finance consultant).



The RUPRI evaluation team and SEARHC chose to focus on eight topics: patient/community, FESC staffing, ORHP investments, FESC finances, clinical quality, savings generated (if any), alternatives to FESC services, and public policies impacting FESC services. The evaluation team developed a set of research questions that included:

- Does FESC serve the Institute for Healthcare Improvement’s “Triple Aim” of better health, better care, and lower costs?
- Does FESC improve quality of life for both patients and health care providers?
- Did FESC grant funding improve community services and facilities?
- When medical evacuation was avoided, did payers save money?
- Once established, how will the FESC Program become sustainable without grant funding?
- What are the characteristics of other remote communities that would benefit from FESC?

Dr. MacKinney presented the evaluation team’s research outline at a FESC evaluation kick-off webinar with ORHP, CMS, and CMS contractor staff. (CMS began its own analysis in 2012.)

The evaluation was conducted using both quantitative and qualitative approaches. Ms. Atkinson provided comprehensive information about the FESC Program, participating communities, and clinic performance data. FESC patient logs (called Outcome Logs) were collected and collated by the University of Alaska–Anchorage (UAA). UAA has provided extensive support and data analysis for the first five years of the FESC Program. The UAA Institute of Social and Economic Research prepared *Frontier Extended Stay Clinic Demonstration* (Volumes I and II),<sup>2</sup> which contain a wealth of descriptive information regarding FESC services utilization and FESC participant feedback. These data provide a rich picture of the FESC Program since initial ORHP investment.

In October 2011, each FESC provided background information, service volumes, and financial data to the evaluation team. Dr. MacKinney visited each FESC community in November and December 2011 and interviewed clinics leaders, providers, nurses, and business office staff. He presented an interim report to the FESC Steering Committee in Anchorage in January 2012.

This FESC Evaluation final report describes the FESC Program, ORHP investments, and a variety of FESC performance topics. The report further describes payer savings, other financial impacts, and alternatives to FESC status. The report concludes with future directions for the FESC program and policy recommendations.

## Clinics and Communities

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FESCs provide primary care, emergency care, and extended-stay services in remote and frontier areas in Alaska and Washington. In each of the FESC communities, emergency and extended-stay services are essential because of distance and other geographic barriers to referral hospitals.

The UAA report describes the FESC Program and its five sites below:<sup>3</sup>

### ***Alicia Roberts Medical Center (Klawock, Alaska)***

The Alicia Roberts Medical Center (ARMC) is located in the Native village of Klawock on Prince of Wales (POW) Island. POW is the fourth largest island in the United States. At 135 miles long and 45 miles wide, it encompasses an area of 2,577 square miles—just slightly larger than the state of Delaware. ARMC is the largest primary care provider on POW Island and the only medical center providing after-hours emergency care for island residents. The population served by the clinic is approximately 4,500, but that number doubles in the summer months. Patients requiring a higher level of care than what is available on the island are generally evacuated to Ketchikan General Hospital or SEARHC Mt. Edgecumbe Hospital in Sitka. The closest regional hospital is in Ketchikan, which is a 45-minute flight by small plane or a four-hour road/ferry trip. Patients may also be transported to the Alaska Native Medical Center (ANMC) in Anchorage or, occasionally, to hospitals in Seattle, Washington, (670 air miles southeast) for specialized services.



Klawock, Alaska

### ***Cross Road Medical Center (Glennallen, Alaska)***

The Cross Road Medical Center (CRMC) located in Glennallen, Alaska, provides medical services to approximately 3,500 people living in the Copper River Basin, of which Glennallen is the hub. Each summer the number of people increases dramatically with approximately 50,000 tourists traveling through Glennallen. CRMC is a faith-based, non-profit clinic. The organization began in 1956 as Faith Hospital, the medical ministry of Central Alaska Mission. In 1987, Faith Hospital decertified as a hospital and became CRMC. Even though it is no longer a hospital, CRMC has maintained many hospital-like services. In 2003, CRMC became a Community Health Center (CHC). CRMC provides primary care and urgent care services and maintains four hospital-type beds for patients. Glennallen is located at the convergence of the Glenn and Richardson Highways (two major road systems in the eastern sector of Alaska). The Glenn Highway connects Glennallen to Anchorage (189 miles away) and to Palmer (147 miles away), while the Richardson Highway connects Glennallen to Valdez (120 miles south) and to Fairbanks (248 miles north). Valdez, Anchorage, and Fairbanks offer the nearest hospitals to the region.



Glennallen, Alaska

***Haines Medical Center (Haines, Alaska)***

The Haines Medical Center is a CHC that serves 2,207 area residents with comprehensive health services. The community of Haines in southeast Alaska is sparsely populated and located 80 air miles northwest of the capital city of Juneau. Access to Juneau from Haines is available via the Alaska Marine Highway, a four-and-one-half-hour ferry trip (operating twice weekly October through April and once daily during the summer), or by a 40-minute flight in a single- or twin-engine, propeller-driven commuter plane. Flights can be infrequent due to poor weather and very short daylight hours in the winter. The flights can be accomplished only during daylight hours because steep mountains throughout the flight path require total visibility. This means that in winter, there is no air service before 9 a.m. or after 2:45 p.m. Because of the weather, terrain, and isolation, Haines Clinic frequently provides extended-stay services for their patients. The nearest hospital is located in Juneau, Alaska.



Haines, Alaska

***Iliuliuk Family and Health Services (Unalaska, Alaska)***

Iliuliuk Family and Health Services (IFHS) is a CHC located in the city of Unalaska, the 11th largest city in Alaska. IFHS is the only comprehensive medical provider in Unalaska. The clinic incorporated in 1972 and is a freestanding 501(c)(3) nonprofit CHC. Unalaska is a community in the Aleutian Islands approximately 800 air miles from Anchorage and 1,700 air miles northwest of Seattle. Anchorage offers the best transportation choices for medical transfers.



Unalaska, Alaska

There are about 3,580 residents in Unalaska. In addition to its residents, the area has a fluctuating number of about 3,000 transient workers and fishermen due in large part to employment by seafood companies. In addition, the commercial fishing fleets bring in about 9,000-10,000 people annually.

***Inter Island Medical Center (Friday Harbor, Washington)***

The Inter Island Medical Center (IIMC) operates as a Rural Health Clinic (RHC). IIMC is located in Friday Harbor on San Juan Island, the second largest and most populous of the San Juan Islands situated in northwestern Washington State. San Juan Island has a land area of 142.59 km<sup>2</sup> (55,053 square miles) and a population of 6,822. San Juan County includes 176 named islands, of which 60 are inhabited, and has a population of 14,077. During tourist season—June, July, and August—the population in the San Juan Islands can double in size.



Friday Harbor, Washington

The four largest islands, host to the vast majority of San Juan residents, are served by the Washington State Ferry system, and include Orcas Island, San Juan Island, Lopez Island, and Shaw Island. Friday Harbor is connected to the mainland through the state ferry system. The ferry runs several times daily between Anacortes, Washington, and Friday Harbor. The island is also served by Friday Harbor Airport, which hosts a single 3,400-foot by 75-foot runway.

IIMC is a designated Level 5 Trauma Center. IIMC provides comprehensive, family-practice-oriented medicine along with 24-hour urgent care. In addition to primary care and emergency care services

provided by the physician staff, visiting specialists from the mainland rent office space within the clinic and hold scheduled specialty clinics.

PeaceHealth (Bellevue, Washington) and the communities of San Juan County are funding construction of PeaceHealth Peace Island Medical Center, a new 10-bed Critical Access Hospital (CAH) near the airport in Friday Harbor. In early 2012, IIMC medical staff became employees of PeaceHealth. Upon completion (projected for December 2012), IIMC operations will shift to the new hospital and the rest of the staff will transition to PeaceHealth employment.

## Preparation for FESC

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### **Conditions of Participation**

A FESC is much different than a typical primary care clinic caring for patients from 8 a.m. to 5 p.m., Monday through Friday. FESCs must be designed, equipped, and staffed to provide care at all hours and for all emergency conditions. Heart attacks and severe trauma occur in frontier communities just as in urban areas. But when there is no local hospital-based emergency department, and distant hospital services might be inaccessible due to darkness, weather, impassable roads, or simply time in transit, the FESCs must be prepared to provide stabilizing, if not curative, care. In addition to care of patients with life-threatening emergencies, FESCs care for patients who simply require longer interventions (“extended stays”) than could typically be provided by a clinic. Examples include prolonged intravenous hydration, observation after neurological injury, and assessment of chest pain.

FESC CoPs for Medicare participation were written specifically for the FESC Program. The CoPs cover compliance with applicable laws and regulations, status and location, agreements, scope of services, physical plant and environment, organizational structure, staff and staff responsibilities, provision of services, and clinical records.<sup>4</sup> Many new clinic policies were written and implemented to comply with Medicare CoPs.

Medicare CoPs require that FESCs comply with the Ambulatory Health Care Occupancy regulations of the National Fire Protection Association 101 Life Safety Code, 2000 Edition.<sup>5</sup> The regulations applicable to clinic structures, FESCs, and hospitals were summarized and compared in the SEARHC document, *NFPA 101 – 2000 Edition: Comparison of Existing Business, Ambulatory, and Health Care Occupancies*.<sup>6</sup> Minimum FESC construction requires fire suppression, building egress, and fire retardant mandates. Several FESCs completed facility remodels to comply with CoPs.

Clearly, FESCs require more “infrastructure”—facilities, equipment, supplies, and staff—than a typical outpatient clinic. These additions are expensive, particularly for clinics already struggling to remain profitable in high-cost, low-volume (low patient density) areas. The requirements for establishing a FESC would have been beyond the financial resources of the clinics if not for ORHP start-up funding described below.

### **ORHP Investments**

In response to a critical frontier community need for emergency and after-hours health care, ORHP has funded FESC Program development and individual FESC infrastructure since 2004. ORHP has provided approximately \$10.3 million directly to clinics through fiscal year 2011. ORHP investments have purchased facility upgrades (to meet life safety codes), diagnostic and treatment equipment and supplies, and staffing to provide 24/7 care to the community. Importantly, many of the investments

supported overall clinic operations and services, not simply after-hours and extended-stay care. ORHP investments also funded critical development of policies/procedures and compliance with state certification requirements. Now that the FESC Program has “paved the way,” these necessary tasks will be more straightforward and less expensive to accomplish if the FESC model is expanded to other states.

In order to assess the value of ORHP investments, the evaluation team provided each FESC a list of ORHP-funded investments by year. Staff members from each FESC were then asked to assess each investment as “very important,” “moderately important,” or “might have been spent better elsewhere.”

The FESCs were also asked to differentiate the importance of the investment to after-hours/extended-stay services and overall clinic services. The investment assessments (or survey answers) were then parsed as:

- Staffing
  - Clinical
  - Administration
- Equipment
  - Diagnostic
  - Treatment
  - Support
- Facility
  - Life safety
  - Construction
  - Furnishings
- Travel to/from FESC Steering Committee meetings
- (Miscellaneous, evaluation, indirect investments were not assessed)

The survey process elucidated some important findings:

- Approximately \$6 million (~60% of the \$10.3 million total) of ORHP funding was invested in staffing, a significant portion of that investment in clinical personnel. Significantly, the FESCs generally considered staffing their most important investment. Staff supported by these investments included physicians, registered nurses, physician assistants, and nurse practitioners.
- Approximately \$1 million was invested in equipment necessary to respond to emergencies and extended care. In general, treatment equipment (e.g., a defibrillator) was considered slightly more important than diagnostic equipment (e.g., an x-ray machine).
- Approximately \$300,000 was invested in facility upgrades to comply with Life Safety codes and similar CoPs.
- The clinics did not significantly differentiate the importance of investments to FESC care (after-hours and extended care) and overall clinic operations. The evaluation team considered the two services separately, but the FESCs see after-hours and extended care as simply an extension of the services they provide during the day.

The evaluation team's opinion survey about ORHP investments had two important limitations:

- The survey assumed that each clinic began the FESC Program at the same level of readiness, which was not the case. Therefore, a piece of equipment unavailable before the FESC Program at one clinic might be considered more valuable than it would at another clinic where similar equipment was already available.
- FESCs are not cash-rich, investing significant profits, or paying exorbitant salaries to staff. If not for HRSA 330 grant funding for CHC services, local tax support, and/or IHS payments, it is very likely that FESCs would be bankrupt at the current level of operations. Thus, in these fiscally restrained situations, investments (resources) that were not available previously, and potentially not available in the future, are likely to always be "important," diluting the ability of the survey to differentiate the relative value of investments.

### **Staffing**

Staffing a FESC is strikingly different than staffing an 8-to-5, Monday-through-Friday, outpatient clinic. As one clinic director said, "We staff for call." That is, significant expense is incurred for staff to be available 24/7 to respond to emergencies and provide extended care outside of regular clinic hours. The situation is the same for low-volume hospitals, where necessary staff compensation is often referred to as "standby costs." In a payment system designed to pay for discrete services (fee-for-service), and in a business that requires high fixed costs (medical care), only those clinics or hospitals that can generate efficiency of scale (volumes represented by clinic visits or hospital stays) will be successful financially. FESCs do not have the luxury of efficiency of scale. A traditional outpatient clinic staffs to be open approximately 45 hours per week. A FESC must staff to be open 168 hours per week, that is, at all times. Although less staffing is required in the evenings and at night, the increased cost of staffing 24/7 is substantial. Thus, it is expected and appropriate that ORHP investments have supported staff to provide 24/7 service. But additional staff cost support will be needed after ORHP grant funding expires. If payers (including Medicare and Medicaid) consider 24/7 service important in isolated communities, new payment systems are necessary.

The FESC communities are small, varying in population from about 2,500 to 8,000, and generate 3,500–11,000 office visits per year. Typically, an appropriate population-to-physician ratio would be 1,500–2,000 persons to one physician. CHCs generally require physicians to provide 4,200 patient visits per year and NPs/PAs to provide 2,100 patient visits per year. Thus, it would seem that the FESC communities would require one to three providers to care for patients at the national population-to-physician ratio and office-visits-per-year standard. Yet one to three providers cannot cover 168 hours per week. A minimum of three or four, or more, is required to "staff for call." But at that complement of providers, there are often not enough patient visits to keep all providers "busy" or productive at the national standards of office visits per day.

FESC staffing is clearly a conundrum. FESCs can staff with the number of providers deemed necessary by patient population (approximately one provider per 1,500–2,000 population), operate efficiently as the market demands, but not be able to provide after-hours and extended-care services. Alternately, FESCs could staff with a minimum of three to four providers, operate inefficiently (often at a loss based on fee-for-service revenue), but provide after-hours and extended-care services. There are no ready solutions to the challenge of "staffing for call" yet operating as efficiently as a typical outpatient primary care clinic.

Some FESCs provide staff onsite after hours and others provide a buzzer (or similar device) at the clinic door to summon staff to the clinic when needed. In general, nursing staff reported that being onsite at night (as opposed to the on-call system) was preferable for two reasons: (1) onsite pay is more than on-call pay, and (2) nurses were often expected to work the day after a night on-call, even if the night was busy. In one FESC, nursing staff reported encouraging medical evacuation of patients as evening approached to avoid caring for patients overnight.

## Financing FESCs

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### **Frontier Extended Stay Clinic Financing**

FESCs generate revenue from a variety of sources. These include:

- Fee-for-service – In private clinics, this is a rate based on office visit or office-based procedure codes. In CHCs and RHCs, Medicare and Medicaid payments are per single visit and generally include other services. However, CHCs are not allowed cost-based reimbursement for extended-observation stays and total cost per visit is capped. Alaskan tribal clinics receive differently calculated cost-based payments resulting in much higher per visit payments than those received at non-tribal clinics.
- 330 grants – Many CHCs receive grant funding from HRSA, in addition to cost-based per visit payments, to provide outreach and expand access, especially to the uninsured and underinsured.
- FESC grants – FESC grant funds from ORHP were invested in staff, equipment, and facilities to provide and/or expand after-hours and extended-care services. This funding will end in the near future.
- Hospital district tax-based funds – Inter Island Health Center in Friday Harbor, Washington, receives tax-supported funds to provide after-hours services.
- Other – Other revenue includes investment income, donations, and other non-operational revenue.
- Medicare and Medicaid FESC payments – Per the FESC Medicare demonstration, FESCs receive special payments for extended services. For 2011, the Medicare payment was \$541.24 (\$479.74 in Washington) per FESC “unit of time.” The State of Alaska Medicaid Program pays the clinic per-visit rate of \$342.24 (\$490 for tribal clinics) for each FESC “unit of time.” Generally, private payers do not yet reimburse for FESC services. CMS describes the payment methodology this way: The clinic will receive an enhanced demonstration payment only if the patient’s stay equals or exceeds four hours. For stays greater than four hours, the clinic, in submitting the number of units on the claim, will round down to the lower number of units for an incremental amount less than two hours, and will round up to the greater number of units for an incremental amount of time greater than or equal to two hours and less than four hours. For example,
  - Stay of three hours – payment is the customary clinic rate;
  - Stay of five hours – payment at one unit of time;
  - Stay of seven hours – payment at two units of time;
  - Stay of nine hours – payment at two units of time;
  - Stay of 11 hours – payment at three units of time;
  - Stay of 13 hours – payment of three units of time.<sup>7</sup>

Despite various sources of revenue, some of which are cost-based (and capped at state or national rates), the FESCs do not realize a profit for offering after-hours and extended-care services.

### ***After-hours Cost Analysis***

As in other health care situations, staffing costs represent the significant majority of total costs. Eric Shell of Stroudwater Associates completed a thorough cost analysis of FESC staffing costs (and other financial metrics) using the Unalaska FESC as an example (Appendix 1). He found that the significant fixed costs required to provide after-hours and extended-stay services were not covered by infrequent FESC unit reimbursements. Mr. Shell compared clinic staffing costs with and without the staffing required to provide FESC services. The difference resulted in a fixed staffing cost of \$692,036 or \$549.24 *per hour* to deliver FESC services in 2007. Recall that Medicare currently reimburses FESC services at \$541.24, and Alaska Medicaid currently reimburses at \$342.24 (\$490 for tribal clinics) *per four-hour* unit of time. Mr. Shell further analyzed Unalaska FESC costs to determine what proportion of the total staffing costs could be variable costs if staff were paid only when actually delivering care after hours, that is, *not* paid to be on call. These hypothetical variable costs represented only 3.7% of the total staffing costs. “Staffing to cover call” (or standby costs) are considerable and cannot be recouped from current visit-based reimbursements.

FESC costs are higher in 2012 than they were at the time of Mr. Shell’s analysis in 2007. Therefore, the Project Evaluation updates Mr. Shell’s analysis with current staffing costs for comparison. Mr. Shell’s analysis is also verified using a new financial assessment model. Rather than assessing costs in one FESC with and without after-hours services, the new financial model assesses the cost of staffing after-hours care *independent* of normal business hours staffing. Thus, after-hours staffing costs become the cost of providing after-hours FESC services. The Project Evaluation is based on the following assumptions.

#### **Staffing Cost Modeling Assumptions**

1. Traditional clinic costs (those incurred 0800–1700 and Monday–Friday) can be considered separately from after-hours care costs.
2. After-hours care requires a minimum of three providers to share 1700–0800 care. (This number is conservative and assumes low patient volumes. With higher volumes, four to five providers would be required.)
3. Staffing requires one provider, one RN, and one technician per 1700–0800 “shift.”
4. Provider complement includes one MD/DO and two PA/NPs each working an average 35 hours per week.
5. 2011 staffing costs per hour (derived from median hourly rates from two FESCs):
  - a. MD/DO – \$89.62
  - b. PA/NP – \$50.69
  - c. RN – \$35.46
  - d. Tech – \$25.00 (estimate)
  - e. Benefits – 25%
6. 2007 staffing costs from Mr. Shell’s report—yearly salary divided by 2080 hours.

Utilizing the assumptions above, the new model returns an estimated 2011 cost to provide after-hours care at a FESC of **\$849,492**. Using the new model, but with 2007 data, after-hours costs incurred by the FESC would be \$644,014 (Table 1). This analysis affirms Mr. Shell’s 2007 analysis. He found FESC costs to be \$692,038, a difference of only 7% from the new calculation.



**Table 1. Estimated Cost to Provide After-Hours Care at a FESC, 2011 and 2007<sup>1</sup>**

2011 FESC Staffing Costs						
Staff	Cost/hr	Hrs/day	Hrs/year	Cost/yr	Benefits	Total
MD/DO	\$ 89.62	5	1,825	\$ 163,557	\$ 40,889	\$204,446
PA/NP	\$ 50.69	10	3,650	\$ 185,019	\$ 46,255	\$231,273
RN	\$ 35.46	15	5,475	\$ 194,144	\$ 48,536	\$242,679
Tech	\$ 25.00	15	5,475	\$ 136,875	\$ 34,219	\$171,094
						<b>\$849,492</b>

2007 FESC Staffing Costs						
Staff	Cost/hr	Hrs/day	Hrs/year	Cost/yr	Benefits	Total
MD/DO	\$ 72.12	5	1,825	\$ 131,611	\$ 32,903	\$164,513
PA/NP	\$ 31.25	10	3,650	\$ 114,063	\$ 28,516	\$142,578
RN	\$ 30.00	15	5,475	\$ 164,250	\$ 41,063	\$205,313
Tech	\$ 19.23	15	5,475	\$ 105,288	\$ 26,322	\$131,611
						<b>\$644,014</b>

<sup>1</sup>Based on hourly compensation at two FESCs in 2011 and one FESC in 2007.

Although equipment, facility, and supply costs required for emergency and extended care provided after-hours are not inconsequential, depreciated costs are significantly less than staffing costs. But if the 2011 analysis were to add \$150,000 for additional equipment depreciation, facility utilities and maintenance, and supplies, the total cost to provide after-hours FESC services would be \$1 million per clinic per year, or \$5 million per year for all five FESCs.

Therefore, to cover FESC costs at the current Medicare FESC payment rate of \$541.24, each clinic would need to provide care for 1,847 FESC four-hour units of time per year or five FESC four-hour units of time per after-hours shift.

If revenue for FESC four-hour units of time visits were *not* considered, the number of clinic visits necessary to cover after-hours care costs is shown in Table 2. The number of visits varies from 24,498 Medicaid visits in Friday Harbor to 2,041 Medicare or Medicaid visits in Haines and Klawock. (Due to variable private payer visit payment rates, private payer visit rates were not calculated.)

Generating an additional 2,000 nighttime Medicaid visits at the tribal clinics, let alone 25,000 additional nighttime Medicaid visits at Friday Harbor, just to break even on the cost of providing nighttime staff, is not probable. Even with FESC payments, generating nearly 2,000 Medicare FESC billable units, such a census is similarly unlikely. Thus, to continue FESC services in perpetuity, different revenue opportunities need to be considered.

**Table 2. After-Hours Clinic Visits Required for FESC Break-even (\$1 million/year)**

FESC Community	Medicare		Medicaid	
	Payment per Visit	Breakeven Visit #	Payment per Visit	Breakeven Visit #
Friday Harbor <sup>1</sup>	\$96.51	10,362	\$40.82	24,498
Glennallen <sup>2</sup>	\$87.39	11,443	\$342.24	2,922
Haines <sup>3</sup>	\$447.00	2,237	\$490.00	2,041
Klawock <sup>3</sup>	\$447.00	2,237	\$490.00	2,041
Unalaska <sup>2</sup>	\$109.24	9,154	\$315.93	3,165

<sup>1</sup>99214 office visit payment. <sup>2</sup>Health Center payment. <sup>3</sup>Tribal clinic payment.

## FESC Services Utilization

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Utilization of FESC services varies. Table 3 describes the total number of FESC encounters per 1,000 population. The FESC population estimate is based on clinic directors' service area population estimates. FESC encounters include all encounters listed on the FESC Outcome Log. The Outcome Log includes all FESC encounters in which a transfer occurred or in which a stay extended to 2 hour or longer, regardless whether or not the encounter qualified for FESC payment. With the exception of Klawock, increases in Outcome Log encounters correspond to increases in distance to typical medical evacuation destinations. Klawock likely has higher FESC utilization based on its historical tribal focus, less transient population, and onsite 24/7 staffing (nursing or paramedic staff are not on-call from home). Based on staff interviews, the Klawock FESC also tends to provide less telephone triage and sees patients at the clinic more readily than other FESCs.

**Table 3. FESC Encounters Resulting in Transfers or Stays  $\geq$  2 Hours**

FESC Community	FESC Pop. Est.	FESC Encounters	Years of Data	Encounters per Year	Encounters per 1,000
Friday Harbor	8,000	1,084	5	216.80	27.10
Glennallen	2,700	740	5	148.00	54.81
Haines	2,500	588	4	147.00	58.80
Klawock	3,000	1,282	5	256.40	85.47
Unalaska	4,000	1,454	5	290.80	72.70

This analysis suggests that if the FESC Program were to expand, one could expect greater utilization of FESC services when staff members are on onsite rather than on-call (Klawock), when the clinic is more remote from other health care services (Unalaska), and when there is a local history of frequent clinic visits (Klawock).

## FESC Business Model and Practices

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In low patient-volume situations, such as in FESC communities, "staffing for call" and standby costs regularly creates challenging financial circumstances in the current fee-for-service payment system. Efficiencies of scale often cannot operate. Therefore, some type of additional revenue is often necessary to maintain access to health care in low-volume communities. But to justify necessary grant funding, it is incumbent on the health care provider (in this case, the FESCs) to optimize operational revenue and practice efficiently. For example, it is very important that the FESCs document, code, and bill services correctly and consistently. The evaluation team found variation and at least some lack of clarity regarding proper Medicare billing practices for FESC services (greater than four-hour length of stays) and for non-FESC clinic services. At the time of this report, CMS has implemented regular conference calls with the FESCs to discuss Medicare billing issues. In addition, the FESC Program has wisely invested in consultant expertise to assist the FESCs to improve coding and billing. Similarly, assistance with budget preparation, managing to a budget, financial performance indicator development, and process improvements based on that performance is essential to ensure that the FESCs have exhausted all reasonable attempts to optimize revenue and efficiency before requesting grant funding.

## Payer Savings Due to FESC

### Methods

To determine cost savings due to FESC after-hours and extended-stay services, the evaluation team made several assumptions:

- “Cost to whom?” is an important consideration during any cost analysis. Cost varies significantly depending on where one stands. The evaluation team calculates cost saved attributed to *payers* – Medicare, Medicaid, private party payers, and patients without health care insurance. Costs to these entities are eventually born by taxpayers, those who pay health insurance premiums, and individuals.
- Cost savings are most significant due to avoided costs of transferring the patient from the FESC to a distant hospital. Thus, the following analysis identifies those patients for whom *transfer was avoided* due to the presence of FESC services.
- Since FESC Medicare payment rates were originally based on hospital observation payment rates, the evaluation team assumes minimal cost savings from avoided hospitalizations; that is, the cost of care for monitoring/observation in the FESC is likely to be similar to the cost of care for observation in a hospital.

The evaluation team received data on 5,153 encounters recorded in the FESC Patient Log. The data were received in early November 2011 and contained encounter data from the five participating FESCs between August 2005 and September 2010. The 5,153 encounters included extended stays of two hours or more and all medical evacuations from the clinic, regardless of the length of time spent in the clinic.

The raw data identified 2,617 Monitor/Observation (Mon/Obs) patients (Table 4). The log data indicated that a number of the Mon/Obs cases (447 cases, 17.1%) had a total length of stay in the clinic of less than four hours and were seen entirely during “normal” business hours (i.e., they were admitted and discharged between the hours of 0800 and 1700 Monday-Friday exclusive of seven traditional holidays). These cases were excluded from further consideration and this left 2,170 patients as designated “FESC encounters” (Appendix 2).

**Table 4. FESC Clinic Encounter Types, August 2005 to September 2010**

Encounter Type	Glennallen		Klawock		Unalaska		Friday Harbor		Haines		Overall	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Monitor/Obs	462	62.2%	833	64.9%	936	64.4%	202	18.6%	184	31.2%	2617	50.8%
Transfer	273	36.7%	44	34.6%	509	35.0%	872	80.4%	374	63.5%	2472	48.0%
Other	8	1.1%	6	0.5%	9	0.6%	10	1.0%	31	5.3%	64	1.2%

The true role that the FESC played in avoiding medical evacuation in these cases is not entirely clear. Prior to early/mid 2008 (referred to as “V1 data” in Table 5), clinics were not asked if FESC availability averted the need for medical evacuation for Mon/Obs patients. As a result, clinic assessment of FESC impact on transfers is available on only 59.1% of Mon/Obs FESC encounters. The “V2” version of the database asked individual clinics to assess the impact of FESC availability on patient care. Overall, availability of FESC allowed 82.1% of V2 Mon/Obs FESC encounter patients to avoid medical evacuation. Applying this crude rate of actual saved medical evacuations from the V2 cases to the V1 population allowed an estimate of the total number of avoided medical evacuations. It is estimated that FESC availability resulted in **1,783 avoided medical evacuations**.

**Table 5. Impact of FESC: Avoided Emergency Medical Evacuations**

	Glennallen		Klawock		Unalaska		Friday Harbor		Haines		Overall	
<b>Impact of FESC on FESC encounter patients (V2)</b>												
Avoided transfer	165	81.7%	398	88.8%	384	75.7%	43	82.7%	63	86.3%	1053	82.1%
Delayed transfer	0		11	2.5%	4	0.8%	7	13.5	0		22	1.7%
Avoided home risk	24	11.9%	21	4.7%	61	12.0%	1	1.9%	6	8.2%	113	8.8%
Non-emerg. transfer	13	6.4%	1	0.2%	55	10.8%	1	1.9%	2	2.7%	72	5.6%
Other	0		17	3.8%	3	0.6%	0		2	2.7%	22	1.7%
<b>Estimated avoided transfer of Mon/Obs patients (V1)</b>	171	81.7%	227	88.8%	221	75.7%	51	82.7%	60	86.3%	730	82.1%
<b>Total avoided transfers FESC encounter patients (V1 &amp; V2)</b>	336	81.7%	625	88.8%	605	75.7%	94	82.7%	123	86.3%	1783	82.1%

Note: V1 refers to the version of the FESC Outcome Log before the log inquired if availability of FESC services resulted in an avoided transfer. V2 refers to a later version of the log that specifically inquires if FESC services resulted in an avoided transfer.

To calculate costs saved through avoided medical evacuations, the evaluation team then assessed what the transfer destinations, payers, and costs *would have been* if the patient had been evacuated.

The data identified 2,472 patients as “Transfers” that were dispatched to a variety of hospitals. The appended table shows both the crude rate of transfer destinations and the mileage (Euclidean distance, in miles) from the originating FESC to the transfer destination (Appendix 3).

The crude rate of medical evacuation was calculated from all medical evacuation cases based on clinic of origin, destination, and principal payer. This calculation was applied to the same set of factors for cases that were explicitly identified (in the “V2” data) as being avoided medical evacuations, and (proportionally) to the cases from “V1” data. The two sets of estimated rates were summed to determine estimated avoided medical evacuations, by originating clinic, destination, and payer (Appendix 4).

Landing fees and mileage charges for emergency medical evacuation were obtained for Medicare and Medicaid. Payment information was not consistently available for private third-party payers, self-pay, or “other” payers. In those cases, it was felt that Medicare allowable charges would provide a very conservative estimate of medical evacuation payments.

Emergency medical evacuations from Friday Harbor typically involve either fixed-wing or rotary-wing (i.e., helicopter) aircraft that have very different charge structures. (Medical evacuations from the other FESCs were almost exclusively by fixed-wing aircraft.) History indicated that approximately 75% of all evacuations from Friday Harbor between 2008 and 2011 were by helicopter. That ratio was used to estimate the medical evacuation costs from Friday Harbor.

**Findings**

Based on specified and estimated saved medical evacuations of Mon/Obs FESC patients, presence of a FESC in the five participating communities **saved a total of \$13,880,385** in emergency evacuation charges over approximately five years (Table 6).

**Table 6. Estimated Avoided Medical Evacuation Charges, By Originating Clinic and Payer\***

FESC Community	Medicare	Medicaid	Private	Self-Pay	IHS/Tribal	Other	Total
Glennallen	\$219,644	\$368,144	\$469,936	\$178,780	\$316,696	\$219,644	\$1,772,844
Klawock	\$866,264	\$647,914	\$527,136	\$444,766	\$809,718	\$114,912	\$3,410,710
Unalaska	\$675,220	\$194,999	\$3,265,640	\$2,271,124	\$392,468	\$899,788	\$7,699,239
Friday Harbor	\$165,318	\$6,901	\$157,778	\$25,999	0	0	\$355,885
Haines	\$226,528	\$78,127	\$116,898	\$97,652	\$101,252	\$21,340	\$641,707
<b>Total</b>	<b>\$2,152,974</b>	<b>\$1,296,085</b>	<b>\$4,537,388</b>	<b>\$3,018,120</b>	<b>\$1,620,134</b>	<b>\$1,255,684</b>	<b>\$13,880,385</b>

\*Estimated total avoided medical evacuations were based on actual rates of medical evacuation from clinics to destinations for each payer type (V2 data) and applied to V1 cases from August 2005 through September 2010. Dollar amounts are based on total ([estimated transfers] x [landing fee]) + ([estimated transfers] x [air miles] x [mileage rate]).

The Friday Harbor FESC experience is very different from that of the other clinics. Whereas nearly two-thirds of FESC encounters in Glennallen, Klawock, and Unalaska were Mon/Obs, less than one-fifth of the Friday Harbor cases (and less than one-third of the Haines cases) were Mon/Obs. Furthermore, over three-fourths of the Friday Harbor Mon/Obs cases were for less than four hours, and more than half were seen entirely during “normal” business hours. It is suspected that Friday Harbor’s low FESC encounter utilization is due to the community’s relatively non-remote location, Also, the Friday Harbor FESC has only recently begun providing extended stays (familiarity with the program increases utilization), and many of the extended stays occurred during business hours.

Haines is also somewhat dissimilar from the other participating FESCs. Only 70% of the Haines Mon/Obs patients were discharged home (a much lower rate than Glennallen, Klawock, and Unalaska) and were much more likely (over 17%) to be evacuated. Haines staff reported proactively evacuating patients as night approached since aircraft cannot land at night at Haines. Furthermore, Haines does not yet have a dedicated bed and room for extended-stay patients. The staff believes that when this dedicated area is completed, the number of extended stays will increase. Despite the differences between the five FESCs, the impact from FESC availability is consistent: at four of the five clinics, medical evacuation was avoided in 82% of the Mon/Obs cases because of FESC.

The analysis is purposely conservative. Thus, cost savings to payers are likely to be significantly higher than calculated due to the following facts:

- FESCs may evacuate some Mon/Obs patients with stays less than four hours. Since the proportion of patients with stays less than four hours who would have been medically evacuated could not be determined, these FESC patients were excluded.
- The calculation assumes private-pay reimbursement rates equal to Medicare rates. However, private reimbursement rates are likely to be much higher than Medicare rates. But medical evacuation reimbursements from private insurers to medical evacuation companies are proprietary. Thus, obtaining the reimbursement rates that medical evacuation companies received from private payers was challenging. When data were available, the evaluation team found that private payers paid on average 1.67 times the Medicare rates to medical evacuation companies. Since private-payer data availability was inconsistent at best, and to maintain a conservative approach to savings, the evaluation team chose to use Medicare rates. However, private-payer savings from the FESC Program are likely to be significantly higher than shown.

- The analysis assumes that FESC observation costs are equal to hospital observation costs, and thus no savings would occur if the patient were evacuated. However, due to additional services available in a hospital (likely to increase utilization) and transportation delays for the patient returning home (likely to prolong hospital observation), hospital observation costs are likely to be higher than costs incurred in a FESC.
- Patient/family financial and emotional impact of medical evacuation is not quantified; e.g., avoided family transportation costs and patient return home transportation costs are significant but not considered in this analysis.

In contrast to the evaluation team’s purposely conservative assumptions, the analysis acknowledges that not all medical evacuations that FESC staff label as “avoided” would have resulted in transfers.

As would be expected, there is a strong correlation between “remoteness” and total savings. Friday Harbor is not comparatively remote and the total savings from avoided medical evacuation costs is quite low. Unalaska is quite distant from Anchorage and total savings from avoided medical evacuations is high. Haines, Glennallen, and Klawock aren’t quite so remote, so per-evacuation savings are lower. Onsite interviews further suggest that after-hours and extended-care utilization will increase with 24/7 onsite staff (as in Klawock) and dedicated space for extended-stay patients (as is under construction in Haines).

Thus, with some additional development and maturation of the FESC Program, utilization should increase. It is in the payers’ interest to promote the FESC concept. Even with incomplete development, the FESC Program saved payers nearly \$14 million in its first five years of existence. In contrast, thus far Medicare payments for FESC services have been minimal and private payers have not paid for FESC services.

## Other FESC Program Impacts

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### **Quality/Safety**

Four of the five FESCs operate as CHCs with funding and oversight by the Bureau of Primary Health Care, a division of HRSA. “Health centers are community-based and patient-directed organizations that serve populations with limited access to health care. These include low-income populations, the uninsured, those with limited English proficiency, migrant and seasonal farmworkers, individuals, and families experiencing homelessness, and those living in public housing.”<sup>8</sup>

“In order to support the provision of high quality patient care, HRSA-funded health centers are expected to have ongoing quality improvement/assessment programs that include clinical services and quality management. To this end, the Health Center Program incorporates systems of quality assessment, quality improvement, and quality management that focus provider responsibilities on improving care processes and outcomes...”<sup>9</sup>

CHC quality performance measures for 2012 include:

- Outreach/quality of care (eight measures)
- Health outcomes/disparities (three measures)

- Clinic financial performance (five measures)

The FESC Program expanded HRSA’s quality program by assessing three conditions unique to clinics providing emergency and after-hours care:

- Medical evacuation for those patients admitted for monitoring and observation (12 measures)
- Community acquired pneumonia (17 measures)
- Acute myocardial infarction (17 measures)

Ideally, the evaluation team would have evaluated quality performance before and after FESC implementation. However, emergency and after-hours care did not start at FESC Program implementation—FESCs had been providing unfinanced emergency care in the past. Thus, it was not possible to assess quantifiable change in quality performance secondary to FESC Program implementation. Furthermore, the three quality performance measures unique to FESCs were only recently implemented, so trended data are not available.

Even though quantifiable quality improvement data are not available, the FESC Program has made a significantly positive impact on quality. The FESC Program has brought not only new resources (e.g., data collection instruction and reporting mechanisms) to FESC quality improvement, but also new *attention* to quality improvement. Attention is a critical prerequisite for quality improvement.

As in integrated delivery systems and health care provider networks, the FESC Program can serve as a platform to disseminate best practices, reduce care variation, and improve clinical quality. The FESC Program can also design a quality improvement program (including data collection tools, performance reports, and improvement strategies) that is unique to the FESC circumstance.

Lastly, it is important to note that medical evacuations are inherently dangerous. Most medical evacuations from FESC communities are by fixed-wing aircraft. Data on fixed-wing medical evacuation safety were not available. However, a national safety study of emergency medical service helicopter operations completed in 1988 by the National Transportation Safety Board shows that medical evacuation helicopters crash at a rate of about 12.3 for every 100,000 hours flown, compared to a rate of 6.7 per 100,000 hours for other chartered helicopter taxis. Thus, reducing medical evacuations through FESC reduces the real risk of aircraft crashes and consequent death of patients and medical evacuation crews.

### ***Patient Satisfaction***

Although some FESCs provided patient satisfaction survey data, the data were not trended over time, nor were the data consistent between clinics. Furthermore, and as above, the evaluation team did not have a comparison group.

In Glennallen, the evaluation team interviewed the FESC’s Board in a member’s home. In Klawock, the evaluation team interviewed two recent patients in their homes. Although impact on patients was not quantifiable, the importance of the FESCs to these citizens was clear. “That clinic saved my life.”

### ***Community***

The evaluation team utilized the IMPLAN<sup>®</sup> data system to estimate the economic impact of FESC employee compensation (wages and benefits).<sup>10</sup> For each \$100,000 in additional compensation paid by

the “offices of physicians, dentists, and other health care providers” in the four Alaska FESC communities, each area realizes economic gains depicted below. Economic gain represents the sum of additional economic transactions in the area due to each \$100,000 in additional FESC compensation. The economic gain *includes* the additional compensation (Table 7). Please see Appendix 5 for further details of the IMPLAN analysis.

**Table 7. Total Economic Impact for each \$100,000 of FESC Compensation**

ZIP Code Areas	Total Effect Output
Unalaska	\$240,296
Haines	\$360,779
Glennallen	\$407,690
Klawock/Craig	\$227,819

Thus, additional compensation related to providing FESC services has a strongly positive impact on the economic vitality of the local area.

## FESC Replication

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The FESC model is unique: a *clinic* that provides hospital-type emergency, after-hours, and extended stay services to the local community and its citizens. Many communities, where travel to hospital services is distant, difficult, or simply inconvenient, could potentially benefit from FESC. In 2008, the FESC Program identified 244 RHCs and CHCs farther than 45 road miles to a hospital or separated from the nearest hospital by water (Appendix 6).

Due to ORHP demonstration project investments, the FESC Program can be replicated elsewhere in Alaska, and additional states, quickly. Beginning prior to FESC demonstration implementation and continuing for the past eight years, FESC model practices and processes have been developed, implemented, tested, evaluated, and recorded. CoP and Medicare certification processes have been established. State licensing processes and regulatory language have been developed. A FESC Medicare and Medicaid payment methodology (coding, billing, payment) has been developed and continues to be refined. And importantly, the five FESC sites have shared administrative and clinical policies and protocols. Lessons have been learned and are catalogued in the Recommendations section of this report.

## Alternatives to FESC

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As noted in the Financing FESCs section, providing after-hours and extended-stay services is expensive—approximately \$1 million in additional cost above what would be required to provide traditional outpatient primary care clinic services. In high-population-density environments with consequent high-volume patient demand, current fee-for-service reimbursements might make an after-hours primary care clinic cost-effective. Even so, 24/7 urgent care clinics are rare. A better comparison would be CAHs providing 24/7 emergency services. By their rural location, they too often operate in low-population-density environments and some cannot generate sufficient revenue under fee-for-service (or prospective payment) to remain viable. In response, Medicare pays CAHs cost-based reimbursement; that is, CAHs neither make a profit nor realize a loss on allowed Medicare services. Yet FESCs are not hospitals and cannot bill for hospital-based services.



### ***Pre-FESC Status Quo***

A likely alternative to FESC is that the clinics revert to an operational strategy that existed prior to FESC funding from ORHP and CMS. The CMS demonstration (and payments) will continue for approximately one more year, until early 2013. And as noted above, the Medicare payments for after-hours care do not cover costs incurred by the FESCs. Importantly, lacking opportunity to benefit from efficiencies of scale (secondary to low population density), frontier clinics are financially extremely fragile. Reduced revenues from reduced reimbursements, reduced grant support, or loss of a provider(s), could easily bankrupt a frontier clinic. FESC infrastructure investments from ORHP will end soon. This funding represents over \$1.5 million per year divided among the five clinics. Much of that funding has supported staff to provide 24/7 services. It is unclear at this time what expense reduction or revenue enhancement strategies the FESCs will employ to offset this revenue loss.

### ***Expense Reduction***

If providing after-hours care becomes prohibitively costly, another alternative would be for the clinic to simply close at 5 p.m. and open again at 8 a.m. the next morning, Monday through Friday. During interviews with key staff at the FESCs, *not* providing after-hours care was almost inconceivable. When asked about closing after-hours care, several FESC health care providers replied, "People would die." Yet, clinics do go bankrupt and one could argue that limited care is better than no care at all.

Since staffing costs are by far the greatest expense in all clinics, rather than closing after-hours care, FESCs could instead drastically reduce salaries. Staff and provider salaries at FESCs are not excessive, and likely low compared to urban Alaska standards. Unfortunately, frontier clinics already have difficulty recruiting and retaining staff. Thus, this alternative seems unlikely to be a successful long-term strategy.

### ***Various Revenue Enhancements***

In 2011, Ms. Handforth-Kome, prior director of the FESC in Unalaska, prepared a document outlining FESC revenue enhancement options. She found that Trauma Center designation, while appropriate, would not enhance revenue. Urgent Care codes, which appropriately describe some FESC services, are not reimbursed by Medicare and Medicaid.<sup>11</sup> The FESCs may also consider extended service codes, but careful analysis is needed before replacing current cost-based per visit payments with CPT code-based fee-for-service payments. The document further recommends that FESCs (1) develop new CMS place-of-service codes, to recognize that FESCs often operate as emergency departments, not clinics, and (2) work with payers to allow the use of traditional hospital-based emergency evaluation and management codes, e.g., Ambulatory Payment Categories (APCs), and trauma activation codes.

### ***Freestanding Emergency Department***

Conceivably, the non-tribal FESCs could operate as CHCs from 8 a.m. to 5 p.m. and operate as a Freestanding Emergency Department (FED) after hours. FEDs have existed for over 40 years and were developed in response to the need for emergency care in rural and other underserved areas of the eastern U.S. A study by the American Hospital Association estimated that 191 FEDs existed at the end of 2008. Although most FEDs are considered a remote department of a hospital, some are distinct entities. FEDs differ from urgent care centers in that they generally offer services 24/7 and provide more sophisticated services such as defibrillation, intubation, and conscious sedation.<sup>12</sup>

FEDs were not recognized by CMS until 2004. And although FEDs are not necessarily hospital-affiliated, CMS language refers to FEDs as a hospital department. "A variety of arrangements have been proposed under the rubric of a 'freestanding' ED. In most cases, the ED would be owned and operated by a Medicare-participating hospital as a provider-based ED. In rare cases, the provider seeks to participate in

Medicare as a stand-alone hospital, with its own provider agreement, and specializing in the provision of emergency services. In terms of operations, some FEDs would be open 24 hours/day, 7 days/week, while others would operate only part-time.”<sup>13</sup> FEDs are also required to meet Emergency Medical Treatment and Active Labor Act (EMTALA) obligations. Furthermore, establishing a FED requires state certification, and Alaska currently does not recognize FEDs in regulation.

When comparing only professional services payments defined by the Healthcare Common Procedure Coding System (HCPCS), certification as a FED would increase reimbursement modestly for emergency care in the three non-tribal FESCs. Per-visit Medicare reimbursement in the tribal clinics (\$447) is already greater than all emergency department HCPCS code visit payments. A comparison is shown in Table 8. A positive difference indicates that FED status would be financially favorable to the FESC. A negative difference indicates that FED status would be financially unfavorable to the FESC.

**Table 8. Comparison of Emergency Visit and Office Visit<sup>1</sup> Medicare Payments<sup>2</sup> in Washington and Alaska—No APCs**

	<b>Friday Harbor</b>			<b>Glennallen</b>			<b>Unalaska</b>		
	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>
Level 1	\$ 46.60	\$ 22.21	\$ (24.39)	\$ 87.39	\$ 30.60	\$ (56.79)	\$ 109.24	\$ 30.60	\$ (78.64)
Level 2	\$ 79.35	\$ 43.62	\$ (35.73)	\$ 87.39	\$ 59.93	\$ (27.46)	\$ 109.24	\$ 59.93	\$ (49.31)
Level 3	\$ 114.86	\$ 65.45	\$ (49.41)	\$ 87.39	\$ 90.30	\$ 2.91	\$ 109.24	\$ 90.30	\$ (18.94)
Level 4	\$ 175.25	\$ 124.44	\$ (50.81)	\$ 87.39	\$ 171.61	\$ 84.22	\$ 109.24	\$ 171.61	\$ 62.37
Level 5	\$ 217.59	\$ 182.52	\$ (35.07)	\$ 87.39	\$ 252.66	\$ 165.27	\$ 109.24	\$ 252.66	\$ 143.42
Critical <sup>3</sup>	\$ 291.50	\$ 236.18	\$ (55.32)	\$ 87.39	\$ 320.47	\$ 233.08	\$ 109.24	\$ 320.47	\$ 211.23
	<b>Haines</b>			<b>Klawock</b>					
	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>			
Level 1	\$ 447.00	\$ 30.60	\$ (416.40)	\$ 447.00	\$ 30.60	\$ (416.40)			
Level 2	\$ 447.00	\$ 59.93	\$ (387.07)	\$ 447.00	\$ 59.93	\$ (387.07)			
Level 3	\$ 447.00	\$ 90.30	\$ (356.70)	\$ 447.00	\$ 90.30	\$ (356.70)			
Level 4	\$ 447.00	\$ 171.61	\$ (275.39)	\$ 447.00	\$ 171.61	\$ (275.39)			
Level 5	\$ 447.00	\$ 252.66	\$ (194.34)	\$ 447.00	\$ 252.66	\$ (194.34)			
Critical <sup>3</sup>	\$ 447.00	\$ 320.47	\$ (126.53)	\$ 447.00	\$ 320.47	\$ (126.53)			

<sup>1</sup>New patient office visit. <sup>2</sup>From CMS Medicare fee calculator 2012. <sup>3</sup>Critical care, first hour.

Relying exclusively on professional ED payments (defined by the HCPCS), certification as a FED would benefit only Glennallen and Unalaska (at higher complexity visits) since they do not receive additional support as tribal clinics. Note that these payments refer to non-facility (office) and facility (emergency) limiting charges; that is, the provider accepts Medicare assignment. Payments from other payers will differ.

However, if APC payments are included, the revenue increases are dramatic. APC payments are made to hospitals to cover non-professional costs associated with ambulatory care services. In Table 9, APCs (the APC number is in parentheses) are appended to the most commonly associated HCPCS level. Then national median APC payment rates<sup>14</sup> are added to the HCPCS payment.

**Table 9. Comparison of Emergency Visit and Office Visit<sup>1</sup> Medicare Payments<sup>2</sup> in Washington and Alaska—With APCs**

	<u>Friday Harbor</u>			<u>Glennallen</u>			<u>Unalaska</u>		
	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>
Level 1 (609)	\$ 46.60	\$ 72.49	\$ 25.89	\$ 87.39	\$ 80.88	\$ (6.51)	\$ 109.24	\$ 80.88	\$ (28.36)
Level 2 (613)	\$ 79.35	\$ 130.13	\$ 50.78	\$ 87.39	\$ 146.44	\$ 59.05	\$ 109.24	\$ 146.44	\$ 37.20
Level 3 (614)	\$ 114.86	\$ 201.61	\$ 86.75	\$ 87.39	\$ 226.46	\$ 139.07	\$ 109.24	\$ 226.46	\$ 117.22
Level 4 (615)	\$ 175.25	\$ 343.43	\$ 168.18	\$ 87.39	\$ 390.60	\$ 303.21	\$ 109.24	\$ 390.60	\$ 281.36
Level 5 (616)	\$ 217.59	\$ 508.66	\$ 291.07	\$ 87.39	\$ 578.80	\$ 491.41	\$ 109.24	\$ 578.80	\$ 469.56
Critical (617) <sup>3</sup>	\$ 291.50	\$ 701.46	\$ 409.96	\$ 87.39	\$ 785.75	\$ 698.36	\$ 109.24	\$ 785.75	\$ 676.51

  

	<u>Haines</u>			<u>Klawock</u>		
	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>	<u>Office</u>	<u>Emergency</u>	<u>Difference</u>
Level 1 (609)	\$ 447.00	\$ 80.88	\$ (366.12)	\$ 447.00	\$ 80.88	\$ (366.12)
Level 2 (613)	\$ 447.00	\$ 146.44	\$ (300.56)	\$ 447.00	\$ 146.44	\$ (300.56)
Level 3 (614)	\$ 447.00	\$ 226.46	\$ (220.54)	\$ 447.00	\$ 226.46	\$ (220.54)
Level 4 (615)	\$ 447.00	\$ 390.60	\$ (56.40)	\$ 447.00	\$ 390.60	\$ (56.40)
Level 5 (616)	\$ 447.00	\$ 578.80	\$ 131.80	\$ 447.00	\$ 578.80	\$ 131.80
Critical (617) <sup>3</sup>	\$ 447.00	\$ 785.75	\$ 338.75	\$ 447.00	\$ 785.75	\$ 338.75

<sup>1</sup>New patient office visit. <sup>2</sup>From CMS Medicare fee calculator 2012. <sup>3</sup>Critical care, first hour.

Thus, a FED becomes a financially advantageous opportunity to enhance FESC revenue if both HCPCS and APC payments are included.

**Critical Access Hospital**

Replacing a FESC with a CAH has been considered. In fact, Friday Harbor is building a 10-bed CAH now in partnership with PeaceHealth. PeaceHealth is providing \$30 million and the community is providing \$10 million for CAH construction. The Inter Island Medical Center staff will become PeaceHealth employees. Onsite interviews suggested that the upfront investment required to build a new CAH (\$30-\$40 million) is untenable in each of the FESC communities, even though CAHs exist in other areas with similarly low population densities. CAHs receive cost-based reimbursement from Medicare and a limited number of other payers. The population of Alaska is relatively young. Unalaska has the highest population of the Alaska FESC sites, yet only 3.5% of the Aleutians West census area population is older than 65 years. The percent of the population 65 and older in Haines, Prince of Wales Island (Klawock), and the Glennallen area (Matanuska-Susitna borough as a proxy because Glennallen is unincorporated) is 13.8%, 10.1%, and 7.9% respectively.<sup>15</sup> In comparison, the percent of population 65 and older in U.S. micropolitan areas is 14.6% and 16.3% in noncore (rural) areas. Therefore, CAH cost-based reimbursement for Medicare would be of less value to FESC sites than to other rural areas in the U.S.<sup>16</sup>

## **FESC Program and Research Challenges**

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### ***Quality Improvement***

The evaluation team had hoped to assess quality improvement with a two-step quantitative research design; i.e., first compare quality improvement performance before and after FESC implementation, then compare FESC quality improvement performance to non-participating clinic performance. Because participating clinics had been caring for patients after-hours prior to the FESC Program, and because ORHP investments were made over a period of seven years, it was impossible to identify a point in time in which the participating clinics actually became FESCs.

Quality improvement data are reported in the Uniform Data System (UDS) by CHCs. However, the UDS does not collect data that is most pertinent to emergency and after-hours care, e.g., care of patient transfers, trauma, chest pain, acute asthma attack, and pneumonia.

Comparison communities were difficult to identify (see below). The evaluation team did not have access to those clinics' quality data (if available at all).

### ***Payer Claims Data***

In order to determine cost-of-care increase or decrease due to FESC, the evaluation team was keenly interested to study actual payments made by payers, primarily Medicare, Medicaid, and major private payers. Claims-level data were not available, but may be available to Mathematica, the CMS contractor who will be assessing the CMS FESC demonstration. As a payer for services provided to tribal members, SEARHC was helpful in providing some medical evacuation costs. The evaluation team also used published Medicare and Medicaid payment rates to determine cost of medical evacuations.

### ***Comparison Communities***

Alaskan experts were queried about communities that might be comparable in size and geographic isolation to the FESC communities. Although several were considered, all were smaller than the FESC communities. More importantly, the evaluation team was unable to obtain medical evacuation volumes from other Alaskan communities to determine if the presence of a FESC reduced medical evacuation rates.

### ***330 and Other Grant Funding***

All Alaska FESCs receive significant grant funding that is not considered patient revenue. Friday Harbor receives hospital district tax support. Glennallen and Unalaska receive funding from the HRSA 330 program. And Haines and Klawock receive both 330 program funding and enhanced payments as tribal clinics. The cost analysis presented in this report documents that FESCs cannot afford to provide after-hours and extended-stay care with current fee-for-service payments as the sole source of revenue. It is unclear if 330 funding will be sufficient to fund continued 24/7 FESC care. Additional funding will likely be required.

### ***Inter-Clinic Competition***

Alaskans are served by two distinct provider types defined by the patients they serve, tribal and non-tribal. A third provider group that serves exclusively Veterans Affairs patients is expanding in Alaska. Frontier Alaska is defined by low population density. With the realities of standby costs and absent efficiencies of scale described previously, Alaska (and many rural areas) cannot afford health care provider groups that "compete" and that do not share resources (staff, equipment, facilities, programs, etc.). Progress in cooperation is being made. For example, the FESC in Klawock has historically been

tribal in origin and now serves non-tribal patients. The FESC in Haines was historically non-tribal, but is now owned and managed by SEARHC, a tribal organization. The Denali Commission was instrumental over the past 15 years in fostering collaboration among previously competing clinics. Large, regional, tribal health systems have absorbed many standalone clinics to preserve health care services in small communities. Yet competition remains. And consequently, frontier Alaska is not as efficiently served as is possible.

***“I Can’t Imagine Not Providing Care After Hours.”***

With the exception of Friday Harbor, all of the FESCs provided after-hours care prior to the FESC Program. Investments in FESC since 2005 have unquestionably made after-hours care safer and of higher quality. Extended stays have increased and significant savings have been realized by payers in avoided medical evacuations. Patients and families have been saved immeasurable time, cost, and emotional anguish with care close to home. Yet when providers comment, “I can’t imagine not providing care after hours,” some payers might wonder why they should pay additionally for it. The rationale is the fragility of the frontier health care system. Despite grant/tax funding, ORHP investments, and FESC payments, the FESCs’ financial standings remain precarious. Thus, the follow-up question to providers is, “What would you do if the FESC went bankrupt and couldn’t pay salaries, order supplies, or maintain its facilities and equipment?” As expected, the provider answer is, “I’d have to leave.”

## **Future Directions and Recommendations**

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The RUPRI Health Panel has argued that a high-performance rural health care system should be affordable, accessible, community focused, high quality, and patient centered.<sup>17</sup> Frontier health systems should be no different. The FESC Program meets the RUPRI criteria and advances participating frontier communities toward the goals of a high-performance rural health care system:

- *Affordable*: FESCs save payers money in avoided transfer costs.
- *Accessible*: Unlike typical outpatient clinics, FESCs are accessible 24/7.
- *Community focused*: Caring for patients close to home improves the patient/family experience.
- *High quality*: Through investments in equipment, facilities, and staffing, the FESC Program has increased patient safety and clinical quality in isolated communities.
- *Patient centered*: As CHCs, Alaska FESCs improve outreach and access for the underinsured and uninsured while responding to cultural needs in the community.

Due to the FESC role supporting a high-performance rural health care system, and a recognized need for emergency and extended-stay care in frontier communities, the FESC Program should be continued in its current communities. Furthermore, the FESC model may have merit in other communities in which the community chooses a FESC level of service, FESC care is not duplicative, and health care resources are utilized wisely. Yet long-term FESC viability is at risk in the current payment system that rewards high volume and efficiencies of scale. Not all payers are yet willing to help pay the full fixed costs associated with 24/7 emergency and extended-stay care in a low patient-volume environment. To address the FESC financing issue, stakeholders and policy makers should consider a sequence of analysis and decisions:

1. What is the appropriate level of services for a particular community?
2. What complement of personnel and facilities is essential to deliver those services?

3. What is the total cost to provide an essential complement of personnel and facilities?
4. What is the revenue attributable to an expected volume of services multiplied by the expected payment per service?
5. How should the difference between total cost and expected revenue be subsidized?

Cost and revenue calculations are only one facet of the Institute for Healthcare Improvement's Triple Aim that seeks to improve patient care, improve population health, and lower costs. Therefore, considering a broader approach to frontier and rural community health care system improvement, the evaluation team makes the following recommendations, categorized by policy action type:

### **Legislative**

*Recognize the FESC as a new and permanent Medicare provider type.*

The FESC demonstration has shown that it is possible to increase frontier clinic emergency preparedness, expand observation and monitoring capacities, and lower health care costs for CMS. To maintain, if not expand, this opportunity, CMS should permanently incorporate the FESC provider type into policy by recognizing FESC as a provider classification eligible to receive payments for providing emergency and extended-stay services. If designation as a permanent provider type is delayed beyond the CMS FESC demonstration project ending in April 2013, the demonstration should be extended to allow time for the legislative process of designation to proceed.

### **Regulatory**

*Revisit the criteria for FESC designation (75 miles by road, or isolation by water, from the nearest hospital).*

The FESC inclusion criteria of 75 road miles from the nearest hospital or isolation by water should be revisited. Current criteria may be overly restrictive for clinics and communities appropriate for the FESC model. Alternative measures could include geographic isolation, road mileage, transportation barriers, patient demography, care costs, or other factors limiting accessibility to emergency care. Thoughtful health care policy requires consideration of fundamental questions much broader than FESC. How is health care "need" defined? What constitutes an "essential service"? What delays in care are acceptable? How should the continuum of care be considered in a local community? Importantly, as policy makers frame public policy to address these fundamental questions, alternatives for local health care delivered efficiently should not be restricted by regulatory inflexibility. The FESC model can inform this deliberation.

*Investigate FED designation as an alternative revenue option.*

A FED is an emergency department not physically co-located with a hospital. They exist as either remote departments of a hospital, private for-profit entities, or non-profit organizations. Currently, FEDs are not recognized in Alaskan regulations. Therefore, investigation of FED designation requires several tasks: (1) explore the State certification processes and estimate the likelihood of certification; (2) clarify if the clinic must be a department of a hospital to qualify as a FED; (3) obtain opinions from CMS, the Medicare Administrative Contractor (MAC), and Alaska Medicaid regarding billing and reimbursement; (4) inquire if Alaska private payers will reimburse FEDs for HCPCS and APC charges; (5) understand the impact of FED certification and billing on current CHC and/or tribal clinic status and current cost-based payments; and (6) ensure that all EMTALA obligations can be fulfilled.

*To address provider shortages, allow providers to practice at their optimal level of licensure, education, and experience.*

Patient safety is a paramount concern. Yet when recruitment and retention of health care professionals is challenging, providers should not be restricted from practicing as their licensure, education, and experience allows. Alaska FESCs unable to recruit an RN, NP, PA, or MD/DO, or LPN may apply for a waiver allowing Emergency Medical Technicians or Mobile Intensive Care Paramedics with an expanded scope of practice to monitor FESC patients when appropriate. This policy should be continued.

*Provide start-up funding for clinics transitioning to FESC status.*

Without supplemental grant funding provided by ORHP between 2004 and 2012, FESCs may not have been able to afford to comply with the CMS CoPs. If the FESC Program were to expand to additional low-volume clinics, similar funding to transition to 24/7 emergency and extended-stay care may be necessary. Alternatively, payers could increase FESC payments to incent clinics to expand services and meet CMS CoPs for FESC designation.

### **Financing**

*Reduce the minimum time for FESC service billing from four hours to two hours.*

Currently, FESCs can begin billing for Mon/Obs services four hours after a patient is admitted. Care for a typical clinic patient would not extend beyond two hours. Furthermore, a patient that in other circumstances would require hospitalization demands additional clinic resources not captured by outpatient clinic charges. Therefore, FESC billing should recognize emergency services provided in the first two hours of care and extended-stay services beyond the first two hours of care.

*Engage private health insurers and self-insured employers to pay for FESC services.*

Currently, only Medicare (demonstration program) and Alaskan Medicaid pay for FESC services. Yet the savings due to avoided transfers overwhelmingly benefits private health insurers and self-insured employers. State of Alaska should approach private insurers to request that they too help pay for emergency and extended-stay services for beneficiaries.

*Await Mathematica review of Medicare reimbursement adequacy for FESC services.*

Using Medicare claims data and onsite interviews, Mathematica will assess the CMS demonstration, including adequacy of FESC reimbursement. A final report is due in early 2014, with two interim reports prior. The report will advise Congress and the Secretary of Health and Human Services regarding the sustainability and permanence of the FESC Program. But the CMS FESC demonstration ends April 2013. Therefore, legislative action to make the FESC Program permanent, or extend the CMS demonstration, is required before the Mathematica report is released.

### **Delivery**

*Develop tele-emergency services for FESCs.*

Telehealth is defined as the delivery of health care services at a distance, using information and communication technology. Tele-emergency (one modality of telehealth) is emerging as an extremely valuable strategy to bolster emergency care in isolated facilities that care for high-risk, low-frequency emergency events. Ideally, local health care providers activate the tele-emergency system to receive immediate consultation with a distant (generally urban) emergency department "hub." Consultations include emergency department physician, nurse, and support staff. Not only does the hub staff provide clinical consultation, but hub staff can provide emergency encounter documentation and medical evacuation planning that allows local staff to concentrate exclusively on

patient care. In addition to its obvious clinical benefits, tele-emergency promotes provider recruitment and retention, improves patient safety and clinical quality, and boosts local health care provider reputation.

*Optimize individual FESC financial performance.*

Under current payment strategies, FESCs are at financial risk due to low patient volumes and high fixed costs associated with 24/7 emergency and extended-stay services. Nonetheless, financial circumstances beyond clinic management control do not obviate the need for excellent internal business practices. In fact, FESC circumstances demand even more managerial attention to sound business practices that include budget preparation and management, revenue cycle improvement, and expense management strategies.

*Explore additional FESC revenue sources for the sole purpose of funding 24/7 emergency and extended-stay care.*

Until the payment system covers all costs for providing emergency and after-hours FESC services, additional revenue streams will be required. FESCs should optimize patient care revenue and appropriately manage expenses (as recommended above). In addition, FESCs should calculate the gap between patient care revenue and the cost of providing 24/7 emergency and extended-stay services. Then FESCs should “fill the gap” with other revenue sources. These may include:

- Government start-up funding (e.g., ORHP investments in FESC)
- Government grant funding (e.g., HRSA 330 grant funding for CHCs)
- Private endowment (i.e., interest from a private fund to support FESC services)
- Local/regional tax support (e.g., a hospital or an EMS taxing district)
- Charitable gifts (e.g., fund drives, donations, bequeaths)
- For-profit services income (e.g., housing rentals, facility leasing)

**Research**

*Continue to evaluate the FESC model of care and study its applicability to other rural health care settings.*

The FESC model and future permutations deserve ongoing study. Too often local health care system design is driven by financing and revenue opportunities rather than by community need. “Form follows finance.” New models of health care delivery and financing are needed, including models for communities requiring emergency and after-hours care, but not requiring the resources of a full-service hospital. During this time of health care transformation, the FESC Program can serve as a platform for new thinking and social experimentation in rural health care delivery. Rural and frontier health care delivery systems should respond to patient and community need, not simply conform to inflexible financing models.



## Appendix 1. 2007 Staffing Cost Estimates to Provide After-Hours Care (Eric Shell)

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### ILIULIUK FAMILY & HEALTH SERVICES FESC FIXED COSTS - 2007

#### 1 Additional Staff Required to meet FESC Service requirements

Current Clinic Staffing (FESC Level):	<u>FTE</u>	<u>Salary</u>	<u>Total Cost</u>
Midlevels	2.75	\$ 65,000	\$ 178,750
Physicians	2.5	\$ 150,000	\$ 375,000
RNs	4	\$ 62,400	\$ 249,600
LPNs/Mas/EMTs	3	\$ 40,000	\$ 120,000
			\$ 923,350
 Clinic without FESC Services:	 <u>FTE</u>	 <u>Salary</u>	 <u>Total Cost</u>
Midlevels	1.75	\$ 65,000	\$ 113,750
Physicians	1.5	\$ 150,000	\$ 225,000
RNs	0	\$ 62,400	\$ -
LPNs/Mas/EMTs	5	\$ 33,280	\$ 166,400
			\$ 505,150
FESC Difference:			\$ 418,200
FESC Difference Benefits (at 25%)			\$ 104,550
Total FESC Salary and Benefits			\$ 522,750

#### 2 Incremental Salary for Midlevels for Providing FESC Services

Midlevel Salary without FESC Services	\$ 65,000
Midlevel Salary with FESC Services	\$ 110,000
Incremental FESC Midlevel Salary	\$ 45,000
Number of FESC Midlevels	\$ 2.75
Incremental FESC Total Midlevel Salary	\$ 123,750
FESC Difference Benefits (at 25%)	\$ 30,938
Total FESC Midlevel Salary and Benefits	\$ 154,688

#### 3 Nurse and Tech On-call Payments

	<u>Stipend</u>	<u>Days</u>	<u>Total Stipends</u>
Nurse	\$ 20.00	365	\$ 7,300
Tech	\$ 20.00	365	\$ 7,300
Total Annual On-call Payments			\$ 14,600
Total FESC Incremental Fixed Costs Sum(1-3)			\$ 692,038
Projected Annual FESC Hours (excludes visits less than 4 hours)			1,260.00
Fixed Cost Per FESC Hour			\$ 549.24

## Appendix 2. Clinic Encounters Logged

	Glennallen		Klawock		Unalaska		Friday Harbor		Haines		Overall	
<b>Encounters</b>	743	14.4%	1283	24.9%	1454	28.2%	1084	21.0%	589	11.4%	5153	100%
<b>Date Range</b>												
Earliest	8/5/2005		8/19/2005		8/11/2005		9/16/2005		9/15/2006		8/5/2005	
Latest	7/26/2010		9/14/2010		7/21/2010		7/19/2010		9/3/2010		9/14/2010	
<b>Encounter type</b>												
Monitor/Obs	462	62.2%	833	64.9%	936	64.4%	202	18.6%	184	31.2%	2617	50.8%
Transfer	273	36.7%	44	34.6%	509	35.0%	872	80.4%	374	63.5%	2472	48.0%
Began as transfer	0		2	0.2%	3	0.2%	4	0.4%	11	1.9%	20	0.4%
Other	8	1.1%	4	0.3%	6	0.4%	6	0.6%	20	3.4%	44	0.8%
<b>Mon/Obs patients clinic length of stay</b>												
Less than 4 hrs	204	44.2%	385	46.3%	416	44.5%	154	76.2%	99	53.8%	1258	48.1%
4 hours or more	258	55.8%	447	53.7%	519	55.5%	48	23.8%	85	46.2%	1357	51.9%
Unknown	0		1		1		0		0		2	
<b>Mon/Obs patients seen outside business hours</b>												
"Normal" business hrs	84	18.2%	245	29.4%	276	29.5%	122	60.4%	72	39.1%	799	30.5%
After/before business hrs	285	61.7%	439	52.7%	477	51.0%	39	19.3%	77	41.8%	1317	50.3%
Weekends	86	18.6%	130	15.6%	165	17.6%	40	19.8%	33	17.9%	454	17.4%
Holidays	7	1.5%	19	2.3%	18	1.9%	1	0.5%	2	1.1%	47	1.8%
<b>Mon/Obs FESC encounters</b>	411	89.0%	703	84.4%	799	85.4%	114	56.4%	143	77.7%	2170	
<b>Disposition of Mon/Obs FESC encounter patients</b>												
Discharged home	325	79.1%	606	86.2%	662	82.9%	88	77.2%	101	70.6%	1782	82.1%
Referred, non-emerg.	70	17.0%	42	6.0%	77	9.6%	3	2.6%	6	4.2%	198	9.1%
Transferred	12	2.9%	53	7.5%	49	6.1%	19	16.7%	25	17.5%	158	7.3%
Other	4	1.0%	2	0.3%	11	1.4%	4	3.5%	11	7.7%	32	1.5%
<b>Mon/Obs FESC encounter patients</b>												
'V1' data	209	50.9%	255	36.3%	292	36.6%	62	54.4%	70	48.9%	888	40.9%
'V2' data	202	49.1%	448	63.7%	507	63.4%	52	45.6%	73	51.1%	1282	59.1%

### Appendix 3. Transfer Destinations and Distances

	Glennallen		Klawock		Unalaska		Friday Harbor		Haines		Overall	
<b>Destination of "Transfer" patients</b>												
Alaska Regional – ANC	12	4.4%	4	0.9%	42	8.3%	0		5	1.3%	63	2.6%
ANMC – Anchorage	80	33.0%	16	3.6%	16	3.1%	0		8	2.1%	130	5.3%
Bartlett – Juneau	0		1	0.2%	0		0		186	49.7%	187	7.6%
Children’s – Seattle	0		0		0		19	2.2%	0		19	0.8%
Harborview – Seattle	0		13	2.9%	3	0.6%	30	3.4%	1	0.3%	47	1.9%
Island – Anacortes	0		0		0		294	33.7%	0		294	11.9%
Ketchikan General	0		174	39.2%	29	5.7%	0		0		203	8.2%
Mt. Edgecumbe – Sitka	0		188	42.3%	24	4.7%	0		68	18.2%	280	11.3%
Providence – Anchorage	144	52.8%	6	1.4%	209	41.1%	0		39	10.4%	398	16.1%
Providence – Everett	0		0		0		9	1.0%	0		9	0.4%
Skagit – Mt. Vernon	0		0		0		74	8.5%	0		74	3.0%
St. Joseph’s – Bellingham	0		2	0.5%	0		376	43.1%	0		378	15.3%
Swedish – Seattle	0		1	0.2%	0		13	1.5%	0		14	0.6%
UWMC – Seattle	0		3	0.7%	0		12	1.4%	0		15	0.6%
Virginia Mason – Seattle	0		0		0		21	2.4%	5	1.3%	26	1.1%
Other	20	7.3%	12	2.7%	149	29.3%	9	1.0%	18	4.8%	208	8.4%
Not specified	7	2.6%	24	5.4%	37	7.3%	15	1.7%	44	11.8%	127	5.1%
<b>Distance for transfers</b>												
Alaska Regional – ANC	154 miles		720 miles		804 miles				511 miles			
ANMC – Anchorage	154 miles		720 miles		804 miles				511 miles			
Bartlett – Juneau			201 miles						70 miles			
Children’s – Seattle							71 miles					
Harborview – Seattle			718 miles		1961 miles		73 miles		967 miles			
Island – Anacortes							21 miles					
Ketchikan General			57 miles		1395 miles							
Mt. Edgecumbe – Sitka			135 miles		1242 miles				151 miles			
Providence – Anchorage	154 miles		720 miles		804 miles				511 miles			
Providence – Everett							55 miles					
Skagit – Mt. Vernon							35 miles					
St. Joseph’s – Bellingham			651 miles				30 miles					
Swedish – Seattle			718 miles				74 miles					
UWMC – Seattle			716 miles				71 miles					
Virginia Mason – Seattle							73 miles		967 miles			
Other												
Not specified												

## Appendix 4. Estimated Avoided Transfers, by Originating Clinic, Destination, and Payer

	Medicare	Medicaid	Private	Self-Pay	IHS/Tribal	Other	Total
<b>Glennallen</b>							
Alaska Reg – Anchorage	2.90	2.05	2.97	1.78	0	5.19	14.89
ANMC – Anchorage	12.59	28.73	8.92	8.90	59.19	11.67	130.00
Providence – Anchorage	27.11	24.62	80.28	24.03	3.12	25.94	185.10
<b>Total</b>							329.99
<b>Klawock</b>							
Alaska Reg – Anchorage	2.43	0		1.79	1.83		6.05
ANMC – Anchorage	9.72	3.57	1.65		7.32	1.43	23.69
Bartlett – Juneau	1.22	0					1.22
Harborview – Seattle	2.43	0	9.88	8.94			21.25
Ketchikan General	52.26	60.64	72.45	50.04	12.81	18.58	266.78
Mt. Edgecumbe – Sitka	92.36	39.24	16.47	8.94	133.60	2.86	293.47
Providence – Anchorage	1.22	1.78		5.36		1.43	9.79
St. Joseph’s – Bellingham	1.22	0					1.22
Swedish – Seattle	1.22	0					1.22
UWMC – Seattle	1.22	0	1.65	1.79			4.66
<b>Total</b>							629.35
<b>Unalaska</b>							
Alaska Reg – Anchorage	8.81		28.59	27.62		14.61	79.63
ANMC – Anchorage	5.04		14.30	9.21			28.55
Harborview – Seattle			1.79			4.17	5.96
Ketchikan General	3.78	1.47	19.66	27.62	2.02	2.09	56.64
Mt. Edgecumbe – Sitka	2.52	1.47	10.72	9.21	18.19	4.17	46.28
Providence – Anchorage	34.00	8.82	189.40	103.60	6.06	45.91	387.79
<b>Total</b>							604.85
<b>Friday Harbor</b>							
Children’s – Seattle		0.77	1.48	0.20			2.45
Harborview – Seattle	0.58	0.39	1.88	0.29		0.38	3.52
Island – Anacortes	13.19	3.09	13.95	2.05		0.75	33.03
Providence – Everett	0.19	0.13	0.67	0.10			1.09
Skagit – Mt. Vernon	2.41	0.51	4.43	1.08		0.09	8.52
St. Joseph’s – Bellingham	19.35	1.16	15.16	3.32		1.51	40.50
Swedish – Seattle	0.67		0.67	0.10			1.44
UWMC – Seattle	0.39	0.26	0.80				1.45
Virginia Mason – Seattle	1.25		0.94			0.09	2.28
<b>Total</b>							94.28
<b>Haines</b>							
Alaska Reg – Anchorage	1.33		0.76				2.09
ANMC – Anchorage	0.33	0.39		1.05	1.65		3.42
Bartlett – Juneau	22.93	9.82	13.67	11.80	3.30	4.90	66.42
Harborview – Seattle		0.39					0.39
Mt. Edgecumbe – Sitka	8.64	2.36	0.76	4.19	14.04	0.24	30.23
Providence – Anchorage	6.98	0.79	4.56	1.57		0.49	14.39
Virginia Mason – Seattle	0.66			0.26		0.24	1.16
<b>Total</b>							118.10

## Appendix 5. IMPLAN Scenario Activity

Industry: Offices of physicians, dentists, and other health practitioners  
 Change: Additional \$100,000 in employee compensation  
 Note: The Total Effect Output includes the \$100,000 additional compensation

### Total Impact Summary – Unalaska ZIP Code

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	1.6	\$108,158	\$115,319	\$199,261
Indirect Effect	0.1	\$4,929	\$10,838	\$17,344
Induced Effect	0.2	\$7,246	\$15,651	\$23,691
<b>Total Effect</b>	<b>1.8</b>	<b>\$120,333</b>	<b>\$141,809</b>	<b>\$240,296</b>

### Total Impact Summary – Haines ZIP Code

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	1.8	\$158,540	\$169,357	\$273,751
Indirect Effect	0.3	\$8,652	\$15,168	\$28,004
Induced Effect	0.6	\$16,708	\$37,214	\$59,024
<b>Total Effect</b>	<b>2.6</b>	<b>\$183,900</b>	<b>\$221,740</b>	<b>\$360,779</b>

### Total Impact Summary – Glennallen ZIP Code

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	2.7	\$184,360	\$197,051	\$340,793
Indirect Effect	0.2	\$8,113	\$12,233	\$21,687
Induced Effect	0.3	\$12,770	\$29,494	\$45,210
<b>Total Effect</b>	<b>3.2</b>	<b>\$205,242</b>	<b>\$238,778</b>	<b>\$407,690</b>

### Total Impact Summary – Klawock/Craig ZIP Code

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	1.3	\$104,032	\$110,894	\$183,803
Indirect Effect	0.1	\$4,012	\$6,362	\$13,431
Induced Effect	0.2	\$9,452	\$18,978	\$30,585
<b>Total Effect</b>	<b>1.6</b>	<b>\$117,496</b>	<b>\$136,234</b>	<b>\$227,819</b>

### Total Impact Summary: Total Effect

Area	Total Effect Output
Unalaska ZIP	\$240,296
Haines ZIP	\$360,779
Glennallen ZIP	\$407,690
Klawock/Craig ZIP	\$227,819

## Notes to Appendix 5

**Labor income:** All forms of employment income, including employee compensation (wages and benefits) and proprietor income.

**Value added:** The difference between an industry's or an establishment's total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies (formerly indirect business taxes and non-tax payments), and gross operating surplus (formerly "other value added"). Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry, or sector; gross value added is the source from which the primary incomes of the SNA are generated and is therefore carried forward into the primary distribution of income account.

**Output:** The value of industry production. In IMPLAN, these are annual production estimates for the year of the data set and are in producer prices. For manufacturers, this would be sales plus/minus change in inventory. For service sectors, production = sales. For retail and wholesale trade, output = gross margin and not gross sales.

**Direct effects:** The set of expenditures applied to the predictive model (i.e., I/O multipliers) for impact analysis. It is a series (or single) of production changes or expenditures made by producers/consumers as a result of an activity or policy. These initial changes are determined by an analyst to be a result of this activity or policy. Applying these initial changes to the multipliers in an IMPLAN model will then display how the region will respond economically to these initial changes.

**Indirect effects:** The impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy, either through imports or by payments to value added. The impacts are calculated by applying direct effects to the type I multipliers.

**Induced effects:** The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN's default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not a leakage to the regional economy. This money is recirculated through the household spending patterns, causing further local economic activity.

## Appendix 6. CHCs, Tribal Clinics, and RHCs – Island or >45 Road Miles from a Hospital

Facility	Community	State	Miles
ADAK CLINIC	ADAK	Alaska	836
ANESIA KUDRIN MEMORIAL CLINIC	AKUTAN	Alaska	442
ANGOON HEALTH CENTER	ANGOON	Alaska	42
FALSE PASS CLINIC	FALSE PASS	Alaska	365
BESSIE KANINGOK HEALTH CLINIC	GAMBELL	Alaska	196
HOONAH HEALTH CLINIC	HOONAH	Alaska	50
KIVALINA CLINIC	KIVALINA	Alaska	48
ALICIA ROBERTS MEDICAL CENTER	KLAWOCK	Alaska	57
MEKORYUK CLINIC	MEKORYUK	Alaska	144
SEARHC PELICAN HEALTH CENTER	PELICAN	Alaska	63
TLCHC-POINT BAKER	POINT BAKER	Alaska	41
SAND POINT MEDICAL CLINIC	SAND POINT	Alaska	266
AND POINT DENTAL CLINIC	SAND POINT	Alaska	273
SAVOONGA CLINIC	SAVOONGA	Alaska	169
KATHERINE MIKSUAQ MEMORIAL HC	SHISHMAREF	Alaska	96
ST. GEORGE TRADITIONAL CLINIC	ST. GEORGE	Alaska	404
THORNE BAY HEALTH CENTER	THORNE BAY	Alaska	40
ILIULIUK FAMILY & HLTH SERVICES	UNALASKA	Alaska	471
ALAKANUK CLINIC	ALAKANUK	Alaska	134
ALATNA HEALTH CLINIC	ALLAKAKET	Alaska	185
ANIAK SUB-REGIONAL CLINIC	ANIAK	Alaska	177
ANVIK CLINIC	ANVIK	Alaska	180
ARCTIC VILLAGE HEALTH CLINIC	ARCTIC VILLAGE	Alaska	235
BEAVER HEALTH CLINIC	BEAVER	Alaska	107
FRANK TOBUK SR. HEALTH CENTER	BETTLES	Alaska	197
BREVIG MISSION CLINIC	BREVIG MISSION	Alaska	79
BUCKLAND CLINIC	BUCKLAND	Alaska	75
CHALKYITSIK VILLAGE CLINIC	CHALKYITSIK	Alaska	169
CHEFORNAK CLINIC	CHEFORNAK	Alaska	93
CHEVAK CLINIC	CHEVAK	Alaska	101
CHUATHBALUK CLINIC	CHUATHBALUK	Alaska	177
ANNA LIVINGSTON MEMORIAL CLINIC	COLD BAY	Alaska	233
ILANKA COMMUNITY HEALTH CENTER	CORDOVA	Alaska	59
CORDOVA COMMUNITY MEDICAL CTR	CORDOVA	Alaska	59
ILANKA CLINIC	CORDOVA	Alaska	59
DEERING CLINIC	DEERING	Alaska	72
ELIM CLINIC	ELIM	Alaska	78
YUKON FLATS HEALTH CENTER	FORT YUKON	Alaska	139
BIRCH CREEK VILLAGE CLINIC	FORT YUKON	Alaska	124
COUNCIL OF ATHABASCAN TRIBAL GOV'T	FORT YUKON	Alaska	124
EDGAR NOLLNER HEALTH CENTER	GALENA	Alaska	216
GALENA DENTAL CLINIC	GALENA	Alaska	216
IRENE AUKONGA DAGMUAQ HC	GOLOVIN	Alaska	47
GOODNEWS BAY VILLAGE CLINIC	GOODNEWS BAY	Alaska	109
GRAYLING CLINIC	GRAYLING	Alaska	174
HAINES HEALTH CENTER	HAINES	Alaska	72
HOLY CROSS CLINIC	HOLY CROSS	Alaska	109
HOOPER BAY CLINIC	HOOPER BAY	Alaska	133
HUGHES VILLAGE CLINIC	HUGHES	Alaska	196

Facility	Community	State	Miles
HUSLIA CLINIC	HUSLIA	Alaska	193
HUSLIA COUNSELING CLINIC	HUSLIA	Alaska	193
HYDABURG HEALTH CENTER	HYDABURG	Alaska	46
NILAVENA SUBREGIONAL CLINIC	ILIAMNA	Alaska	106
KAKE HEALTH CENTER	KAKE	Alaska	52
U KALSKAG CLINIC	KALSKAG	Alaska	72
KALTAG CLINIC	KALTAG	Alaska	200
KALTAG COUNSELING OFFICE	KALTAG	Alaska	200
KIANA CLINIC	KIANA	Alaska	76
KING COVE CLINIC	KING COVE	Alaska	310
SEARHC KLUKWAN HEALTH CENTER	KLUKWAN	Alaska	71
SHUNGNAC CLINIC	KOBUK	Alaska	146
KOBUK CLINIC	KOBUK	Alaska	186
KOTLIK CLINIC	KOTLIK	Alaska	106
AMBLER CLINIC	KOTZEBUE	Alaska	43
KOYUK CLINIC	KOYUK	Alaska	129
KOYUKUK CLINIC	KOYUKUK	Alaska	196
KOYUKUK COUNSELING OFFICE	KOYUKUK	Alaska	196
LIME VILLIAGE CLINIC	LIME VILLIAGE	Alaska	201
LOWER KALSKAG CLINIC	LOWER	Alaska	70
MARSHAL CLINIC	MARSHAL	Alaska	66
MCGRATH HEALTH CENTER	MCGRATH	Alaska	201
MOUNTAIN VILLAGE CLINIC	MOUNTAIN VILLAGE	Alaska	131
BRISTOL BAY BOROUGH	NAKNEK	Alaska	64
CAMAI COMMUNITY HEALTH CTR	NAKNEK	Alaska	64
NIGHTMUTE CLINIC	NIGHTMUTE	Alaska	44
NIKOLAI HEALTH CLINIC	NIKOLAI	Alaska	189
NOATAK CLINIC	NOATAK	Alaska	33
NOORVIK CLINIC	NOORVIK	Alaska	73
NULATO VILLAGE CLINIC	NULATO	Alaska	184
PILOT STATION CLINIC	PILOT STATION	Alaska	77
PITKA STATION CLINIC	PITKAS POINT	Alaska	115
PLATINUM VILLAGE CLINIC	PLATINUM	Alaska	103
POINT HOPE CLINIC	POINT HOPE	Alaska	132
RAMPART VILLAGE CLINIC	RAMPART	Alaska	74
ALTONA BROWN CLINIC	RUBY	Alaska	228
ST MARY'S SUB-REGIONAL CLINIC	SAINT MARYS	Alaska	115
SCAMMON BAY CLINIC	SCAMMON BAY	Alaska	129
SELAWIK CLINIC	SELAWIK	Alaska	93
SHAGELUK CLINIC	SHAGELUK	Alaska	144
SHAKTOOLIK CLINIC	SHAKTOOLIK	Alaska	150
DBA DAHL MEMORIAL CLINIC	SKAGWAY	Alaska	84
SLEETMUTE CLINIC	SLEETMUTE	Alaska	167
BRISTOL BAY AREA HEALTH AIDE	SOUTH NAKNEK	Alaska	56
ST. MICHAEL CLINIC	ST. MICHAEL	Alaska	140
SAINT PAUL HEALTH CLINIC	ST. PAUL ISLAND	Alaska	391
STEBBINS CLINIC	STEBBINS	Alaska	119
STONY RIVER CLINIC	STONY RIVER	Alaska	177
TAKOTNA CLINIC	TAKOTNA	Alaska	234
TENAKEE SPRINGS HEALTH CENTER	TENAKEE SPRINGS	Alaska	47
TOGIK SUB-REGIONAL DENT CLINIC	TOGIK	Alaska	68
TOOKSOOK BAY SUB-REGIONAL CLINIC	TOKSOOK BAY	Alaska	113



Facility	Community	State	Miles
ANIKKAN INUIT ILLUAGUTAAT CLINIC	UNALAKLEET	Alaska	159
MYRA ROBERTS CLINIC	VENETIE	Alaska	156
TOBY ANUNGZUK SR. MEMORIAL HC	WALES	Alaska	95
NATCHIRSVIK HEALTH CLINIC	WHITE MOUNTAIN	Alaska	91
WHITTIER CLINIC	WHITTIER	Alaska	47
YAKUTAT COMMUNITY HEALTH CENTER	YAKUTAT	Alaska	152
NELSON LAGOON CLINIC	NELSON LAGOON	Alaska	299
NORTH COUNTRY CLINIC	GAKONA	Alaska	235
ALLAKAKET HEALTH CLINIC	ALLAKET	Alaska	222
CROOKED CREEK CLINIC	CROOKED CREEK	Alaska	174
SHELDON POINT NUNAM IQUA CLINIC	SHELTON POINT	Alaska	161
STEVENS VILLAGE CLINIC	STEVENS VILLAGE	Alaska	157
CIRCLE VILLAGE CLINIC	CIRCLE	Alaska	153
EMMONAK SUB-REGIONAL CLINIC	BETHEL	Alaska	138
CROSS ROAD MEDICAL CENTER	GLENNALLEN	Alaska	112
TRI-VALLEY COMMUNITY CENTER	HEALY	Alaska	110
SUNSHINE COMMUNITY HEALTH CENTER	TALKEETNA	Alaska	73
SCHC WILLOW CLINIC	WILLOW	Alaska	70
TELLER CLINIC	TELLER	Alaska	66
TLCHC-WHALE PASS	KETCHIKAN	Alaska	63
SEARHC KASAAN HEALTH CENTER	KETCHIKAN	Alaska	63
TLCHC-NAUKATI	KETCHIKAN	Alaska	63
NORTON SOUND HEALTH CORPORATION	NOME	Alaska	57
KATHERINE OLANNA MEMORIAL CLINIC	NOME	Alaska	57
TRAPPER CREEK CLINIC	TRAPPER CREEK	Alaska	46
DESERT SENITA LUKEVILLE HLTH CTR	LUKEVILLE	Arizona	74
NORTH COUNTRY CHC-SELIGMAN SITE	SELIGMAN	Arizona	71
ALTAR VALLEY HLTH & WELLNESS CTR	SASABE	Arizona	59
DESERT SENITA COMMUNITY HEALTH CTR	AJO	Arizona	58
DESERT SENITA DENTAL CENTER	AJO	Arizona	57
NORTHWEST AZ REGIONAL HEALTH CTR	LITTLEFIELD	Arizona	57
TRI-VALLEY MEDICAL CENTER	SALOME	Arizona	56
GILA BEND PRIMARY CARE CENTER	GILA BEND	Arizona	52
NORTH COUNTRY - FLAGSTAFF SITE	ASH FORK	Arizona	50
PLEASANT VALLEY COMM MEDICAL CENTER	YOUNG	Arizona	49
DEATH VALLEY HEALTH CENTER	SHOSHONE	California	95
ORLEANS MEDICAL CLINIC	ORLEANS	California	65
KARUK TRIBE OF CALIFORNIA	HAPPY CAMP	California	60
HAPPY CAMP HLTH SVS KARUK CLINIC	HAPPY CAMP	California	60
LONG VALLEY HLTH CTR - MEDICAL	LAYTONVILLE	California	59
WOOLCOTT MATERNAL & CHIL HLTH CT	BORREGO SPRINGS	California	59
LONG VALLEY HEALTH CENTER	LAYTONVILLE	California	56
COUNTY HEALTH CLINIC - CUYAMA	NEW CUYAMA	California	56
SOUTHERN TRINITY HEALTH SERVICES	MAD RIVER	California	55
REDWOOD COAST MED SVC RESRC CTR	GUALALA	California	54
MENDOCINO COAST PEDIATRIC GROUP	FORT BRAGG	California	54
MENDOCINO MEDICAL ASSOCIATES	FORT BRAGG	California	54
BORREGO MEDICAL CENTER	BORREGO SPRINGS	California	54
WOMEN'S HEALTH CENTER	FORT BRAGG	California	54
MENDOCINO COAST CLINICS, INC.	FORT BRAGG	California	54
RCMS - DENTAL OFFICE	GUALALA	California	53
REDWOOD COAST MEDICAL SERVICES	GUALALA	California	53

Facility	Community	State	Miles
POINT ARENA	POINT ARENA	California	49
REDWOOD COAST DENTAL CLINIC	POINT ARENA	California	49
FRAZIER PARK BEHAVIORAL HLTH SVC	FRAZIER PARK	California	49
HIGH DESERT FAMILY MEDICINE	JACUMBA	California	48
TELLURIDE MEDICAL CENTER	TELLURIDE	Colorado	57
LAKE CITY AREA MEDICAL CENTER	LAKE CITY	Colorado	55
NORTH PARK MEDICAL CLINIC, INC	WALDEN	Colorado	51
UNCOMPAHGRE COMBINED CLINICS	NORWOOD	Colorado	48
CROSS CITY REHABILITATION	CROSS CITY	Florida	46
FAMILY MEDICAL PRACTICE, INC	CROSS CITY	Florida	46
HANA COMMUNITY HEALTH CENTER	HANA	Hawaii	47
SALMON RIVER CLINIC	STANLEY	Idaho	61
CHALLIS AREA HEALTH CENTER	CHALLIS	Idaho	58
SALMON RIVER MEDICAL CLINIC	RIGGINS	Idaho	50
MATINICUS VIA TELEMEDICINE	MATINICUS	Maine	22
ISLANDS COMMUNITY MEDICAL SERVICES	VINALHAVEN	Maine	15
VINALHAVEN SCHOOL	VINALHAVEN	Maine	15
VINALHAVEN ELDERCARE SERVICES	VINALHAVEN	Maine	15
WELLMOBILE CLINIC @ HOOPERS ISL.	FISHING CREEK	Maryland	51
PROVINCETOWN PUBLIC SCHOOL # 2	PROVINCETOWN	Massachusetts	47
CAPE END MANOR NURSING HOME	PROVINCETOWN	Massachusetts	47
PROVINCETOWN HEALTH CENTER	PROVINCETOWN	Massachusetts	47
MAUSHOPE TENANTS ASSOCIATION	PROVINCETOWN	Massachusetts	47
BEAVER ISLAND RURAL HEALTH CENTER	BEAVER ISLAND	Michigan	
AVA MEDICAL CENTER	AVA	Missouri	45
WEST YELLOWSTONE CLINIC	WEST YELLOWSTONE	Montana	71
POWDER RIVER MEDICAL CLINIC	BROADUS	Montana	70
ASHLAND COMMUNITY HEALTH CENTER	ASHLAND	Montana	66
EUREKA OUTREACH CLINIC	EUREKA	Montana	52
LINCOLN CTY CHC - EUREKA	EUREKA	Montana	51
BULL RIVER MEDICAL CLINIC	NOXON	Montana	48
BASIN MEDICAL CENTER	STANFORD	Montana	45
COW COUNTRY HEALTH CENTER	HYANNIS	Nebraska	66
BEATTY MEDICAL CLINIC	BEATTY	Nevada	109
WENDOVER COMMUNITY HEALTH CENTER	WEST WENDOVER	Nevada	104
AMARGOSA VALLEY MEDICAL CLINIC	AMARGOSA VALLEY	Nevada	85
GERLACH MEDICAL CLINIC	GERLACH	Nevada	77
EUREKA MEDICAL CLINIC	EUREKA	Nevada	75
AUSTIN MEDICAL CLINIC	AUSTIN	Nevada	71
PAHRUMP MEDICAL CLINIC	PAHRUMP	Nevada	50
JACKPOT COMMUNITY HEALTH CENTER	JACKPOT	Nevada	47
ROY CLINIC	ROY	New Mexico	77
CORONA HEALTH CLINIC	CORONA	New Mexico	74
HMS-ANIMAS VALLEY CLINIC	ANIMAS	New Mexico	66
LA CLINICA DEL PUEBLO DE RIO ARRIBA	TIERRA AMARILLA	New Mexico	65
CHAMA CLINIC	CHAMA	New Mexico	62
PMS - CATRON COUNTYMED CENTER	RESERVE	New Mexico	57
PMS - COUNSELOR CLINIC	COUNSELOR	New Mexico	50
PMS - CUBA HEALTH CENTER	CUBA	New Mexico	50
PMS - OJO ENCINO	CUBA	New Mexico	50
PMS - TORREON CLINIC	TORREON	New Mexico	50
PMS - QUEMADO CLINIC	QUEMADO	New Mexico	49

Facility	Community	State	Miles
ESPERANZA FAMILY MEDICAL CENTER	ESTANCIA	New Mexico	49
HOPE MEDICAL CENTER	ESTANCIA	New Mexico	48
PMS-CHECKERBOARD AREA HLTH SRVC	CUBA	New Mexico	48
SAN MIGUEL CLINIC	SAN MIGUEL	New Mexico	48
HIDALGO MEDICAL SERVICES	LORDSBURG	New Mexico	46
HMS-LORDSBURG HSHC	LORDSBURG	New Mexico	45
INDIAN LAKE HEALTH CENTER	INDIAN LAKE	New York	54
OCRACOCKE HEALTH CENTER, INC	OCRACOCKE	North Carolina	58
NORTH LAKE CLINIC	CHRISTMAS VALLEY	Oregon	77
UMPQUA CHC @ TOKETEE	IDLEYLD PARK	Oregon	64
JORDAN VALLEY HEALTH CLINIC	JORDAN VALLEY	Oregon	60
ASHER CLINIC	FOSSIL	Oregon	57
SERVICES	FOSSIL	Oregon	50
MITCHELL SATELLITE CLINIC	MITCHELL	Oregon	48
JOHN J HERSCHER, DO	OAKRIDGE	Oregon	45
EASTSIDE NEIGH CTR - TAKINI	HOWES	South Dakota	67
JONES COUNTY CLINIC	MURDO	South Dakota	51
PRESIDIO COUNTY MEDICAL CLINIC	PRESIDIO	Texas	85
AMC PRESIDIO CLINIC	PRESIDIO	Texas	85
CACTUS HEALTH SERVICES, INC.	SANDERSON	Texas	65
CACST - HEBRONVILLE	HEBBRONVILLE	Texas	56
COMMUNITY HEALTH CLINIC	HEBBRONVILLE	Texas	55
ROLLING HILLS HEALTH CENTER	LEAKEY	Texas	53
CACST WIC SERVICES	ZAPATA	Texas	52
ZAPATA FAMILY HEALTH CLINIC	ZAPATA	Texas	50
CLARENDON FAMILY MEDICAL CENTE	CLARENDON	Texas	46
WAYNE COMMUNITY HEALTH CENTER	HANKSVILLE	Utah	108
MONUMENT VALLEY HEALTH CENTER	MONUMENT VALLEY	Utah	89
WAYNE CHC DENTAL SITE	BICKNELL	Utah	54
WAYNE COMMUNITY HEALTH CENTER, I	BICKNELL	Utah	54
GREEN RIVER MEDICAL CENTER	GREEN RIVER	Utah	51
UTAH NAVAJO HEALTH SYSTEMS, INC.	MONTEZUMA CREEK	Utah	50
BLUFF CLINIC	BLUFF	Utah	48
WAYNE CHC ASPEN ACHIEVEMENT	LOA	Utah	46
WAYNE CHC, INC. ASPEN RANCH	LOA	Utah	46
TANGIER COMMUNITY HEALTH CENTER	TANGIER	Virginia	14
NORTH SHORE MED CLNC WASH ISLAND	WASHINGTON ISLAND	Wisconsin	27
DUBOIS MEDICAL CLINIC	DUBOIS	Wyoming	75
MEDICINE BOW HEALTH CLINIC	MEDICINE BOW	Wyoming	57

## Endnotes

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