Frontier Extended Stay Clinic Project: Report on 12 Months Data

Submitted to:
FESC Consortium

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Executive Summary

The Alaska Frontier Extended Stay Clinic (FESC) Consortium contracted with the Alaska Center for Rural Health - Alaska's AHEC, UAA (ACRH) for the evaluation of the Alaska Frontier Extended Stay Clinic Demonstration Project. ACRH, with technical assistance from the Cecil Sheps Center for Health Research, agreed to assess the impact of the FESC Project at the four participating clinics, from four perspectives: i) impact on staffing; ii) impact on clinical services; iii) impact on quality/disposition; and iv) impact on finance. The first area, staffing, was assessed via in-person qualitative interviews at each clinic near the commencement of data collection and again approximately one year later. The last three areas were (and continue to be) assessed using quantitative data for each FESC encounter collected by the clinics and transmitted to ACRH via an on-line data tracking system, the Clinical Outcome Log. Reports documenting the impact on staffing and finance are provided separately.

The participating clinics are Alicia Roberts Medical center (ARMC) in Klawock, Alaska; Cross Road Medical Center (CRMC) in Glennallen, Alaska; Iliuliuk Family Health Services (IFHS) in Unalaska, Alaska; and Inter-Island Medical Center (IIMC) in Friday Harbor, Washington.

This report presents an analysis and discussion of the quantitative data for impact on clinical services for all four participating clinics. For the purposes of this report, the data for a total of 790 FESC encounters were analyzed, representing the total FESC encounters between March 15, 2005 and March 14, 2006 for ARMC, CRMC, and IFHS; and between September 15, 2005 and September 14, 2006 for IIMC (which entered the project later than the others). The data set for each clinic thus includes an entire year of FESC encounters, which captures important seasonal variations, such as fishing season in Unalaska and tourist season in Friday Harbor and Glennallen. Each clinic reported a remarkably similar number of FESC encounters: ARMC, 202; CRMC, 201; IFHS, 198; and IIMC, 189. Consequently there was no need to weight the data when aggregating.

The key theme to emerge from the findings is the heterogeneity of the clinics, with no clinic among the four a "typical" FESC clinic. Thus, with respect to most key variables, aggregated data is of limited utility. However, there were some impacts on clinical services where the clinics shared common ground.

While 51% of the overall project's encounters were Mon Obs, this varied from 66% at both ARMC and CRMC, to 50% at IFHS, and only 22% at IIMC. Conversely, while, 40% of the overall project's encounters were Transfers, this ranged from only 26% and 27% at CRMC and ARMC, respectively, to 42% at IFHS, and 63% at IIMC.

Patient dispositions paralleled the FESC type distributions. While 41% of project FESC patients (primarily Mon Obs) were discharged home without need for either non-urgent follow-up referral or medevac, this varied from 53% at ARMC, to 49% at CRMC, 42% at IFHS, and only 17% at IIMC. The clinics thus demonstrated an ability to resolve a substantial percentage of encounters without the need for either a costly and inconvenient medevac or off-island/out-of-area follow-up referral.

While 46% of project patients were medevaced, this ranged from only 31% at CRMC and 32% at ARMC, to 49% at IFHS, and 74% at IIMC. Medevac destinations predictably varied with clinic location and geography, with IIMC medevacing to multiple nearby Puget Sound area destinations; IFHS and CRMC uniquely to Anchorage; and ARMC, with its Southeast Alaska location, to multiple sites that included Sitka and Ketchikan as well as Anchorage and Seattle. Anchorage received 40% (n=149) of all medevacs. Only 15% of project medevacs used paid escorts, varying from 0% and 3% for CRMC and ARMC, respectively, to 20% and 23% for IFHS and IIMC, respectively.

The mean length of project FESC encounters was 6.91 hours, 8.69 hours for Mon Obs and a much briefer 4.27 hours for Transfers. But time descriptors for FESC encounters were extremely heterogeneous from clinic to clinic. CRMC was characterized by very long Mon Obs averaging 17.07 hours (including the longest project encounter on record of 99.50 hours), but relatively short Transfer encounters averaging only 4.00 hours. ARMC's encounters of all types were brief, with a mean of 4.19 hours for Mon Obs and 4.00 hours for Transfers. IFHS was unique in having longer mean Transfer hours than Mon Obs, 8.64 hours vs. 5.83 hours, due to prolonged medevac flight weather delays and the absence of a medevac plane on the ground during most of the data collection period. IIMC's encounters of all types were very brief, with a mean of 3.14 hours for Mon Obs and only 1.42 hours for Transfers.

But when looking at median Transfer lengths, which reduce the "statistical noise" of long outliers such as those caused by IFHS's prolonged weather delays, we see all clinics were able to diagnose, classify, stabilize, and medevac Transfer patients rather quickly, with median times ranging from 1.25 to 5.50 hours.

All of the clinics experienced many after hours FESC encounters, with the distribution of FESC types in all clinics not varying appreciably after hours vs. during hours. Forty-eight percent of the project's encounters commenced after hours, ranging from 40% at ARMC, to 42% at IFHS, 54% at IIMC, and 55% at CRMC. Thus, all clinics experienced a substantial FESC work and stress load falling to their after-hours staff.

The five most frequent diagnoses at discharge were injury (15%), cardiovascular (14%), gastrointestinal (12%), pneumonia/bronchitis (8%) and substance abuse (6%), accounting for 55% of all diagnoses. Mon Ob diagnoses varied somewhat from those of Transfers, with gastrointestinal diagnoses most common for Mon Obs and injury and cardiovascular diagnoses alone accounting for 40% of Transfers. Diagnoses varied

somewhat from clinic to clinic, with gastrointestinal figuring prominently at CRMC, injury and cardiovascular at IIMC, cardiovascular and substance abuse at IFHS, and injury and gastrointestinal at ARMC.

While the equipment and procedures utilized by the clinics were very similar, the clinics differed greatly in the labs, X-rays, and EKGs provided, responding to clinic variations in patient conditions, lab and X-ray resources, and provider practices.

Thirty-six percent of all FESC patients were eligible for Medicare and/or Medicaid; 25% specifically for Medicare. This varied hugely from clinic to clinic, with IIMC reporting 55% eligible (54% for Medicare); CRMC reporting 46% eligible (23% for Medicare); ARMC 36% eligible (18% for Medicare); and IFHS only 7% (5% for Medicare). However, the majority of eligible patients' encounters were less than four hours and hence not potentially reimbursable by CMS and/or the State of Alaska. Consequently, only 15% (n=122) of the project's encounters were potentially reimbursable, and only 9% (n=71) by CMS. This also varied hugely from clinic to clinic, ranging from 38% (n=75) at CRMC (19%, n=38, for Medicare) to 13% (n=27) at ARMC (7%, n=15, for Medicare), 5% (n=10) at IFHS (4%, n=8, for Medicare) and 5% at IIMC (5%, n=10, for Medicare).

Mean Medicare reimbursable encounter lengths were extremely variable and much longer than overall encounters, ranging from 23.47 hours at CRMC to only 4.55 hours at IIMC. Thus, only CRMC, with its many and longer reimbursable encounters, would have experienced a significant financial boost from CMS reimbursements for Medicare-eligible FESC patients during the data collection period.

The heterogeneous impacts on clinical services imply that each clinic is a distinct amalgam of geographic location; weather and climate; transportation resources and challenges; material, managerial, financial, and human resources; and community and culture which all converge to influence the patient behavior and expectations and the provider practices and decisions that produced these distinctive data sets.

Thus, a key conclusion that can be drawn is to apply extreme caution when using overall FESC project data for drafting either policy or best practices, since these data hide critical clinic distinctions and may not be generalizable. Policies and best practices must take into account yet-to-be confirmed antecedent causes unique to each clinic.

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I. Definitions/ Acronyms

After Hours:
Outside of the clinic's normal operating hours.

ARMC:
Alicia Roberts Medical Center — the Klawock, Alaska FESC site

CMS:
Center for Medicare and Medicaid Services of the U.S. Dept. of Health and Human Services. Federal agency overseeing the Medicare and Medicaid programs.

CRMC:
Cross Road Medical Center — the Glennallen, Alaska FESC site.

FESC encounter:
Monitoring & Observation and Transfer extended stay encounters are referred to in this report as "FESC encounter."

IFHS:
Illiuliuk Family Health Services — the Unalaska, Alaska FESC site.

IIMC:
Inter Island Medical Center — the Friday Harbor, Washington FESC site.

Medevac:
The actual physical transport of a patient to a tertiary care facility by airplane, helicopter, boat, motor vehicle, or combination of these means.

Monitoring and Observation Extended Stay (Mon Ob):
Prudent clinical judgment determines if a patient with an illness or injury may be treated and discharged within 48 hours. In line with the intention of the project, the services required and provided for the encounter are beyond the purview of a clinic located in a community with a hospital. *For the purposes of this report, only Mon Ob encounters of two hours or longer are analyzed.*

Transfer Extended Stay (Transfer):
The patient is either awaiting transport that is not immediately available in the community or the patient cannot be transported to an acute care hospital or Critical Access Hospital (CAH) because of adverse weather conditions or other circumstances which limit or prevent such direct transportation. In such cases, the patient is required to be transferred as soon as possible, once weather or other reasons permit. *Wait time can be as little as 1 hour, or as long as 3 days.*

II. Clinic and Community Profiles

A. – Alicia Roberts Medical Center (ARMC)

Demographics

The Alicia Roberts Medical Center (ARMC) is located in the Native village of Klawock, on Prince of Wales (POW) Island. POW is the third largest island in the United States. At 135 miles long, 45 miles wide, it encompasses an area of 2,577 square miles -- just slightly larger than the State of Delaware.[1] Communities located on POW include Coffman Cove, Craig, Hollis, Hydaburg, Kasaan, Klawock, Naukati Bay, Point Baker, Port Protection, Thorne Bay, Waterfall, and Whale Pass.

POW is located approximately 200 air miles south of Juneau and 670 air miles northwest of Seattle. Twelve communities are located on the island, with a combined population of approximately 4,092 residents. The median age of residents in individual communities ranges from a low of 34 in Hollis to a high of 43 in Port Protection. Median household income in the individual communities ranges from a low of 10,938 in Port Protection to a high of $62,083 in Whale Pass.[2] Thirty-three percent (33%) of island residents identified themselves as Alaska Native/American Indian during the 2000 Census, while the remaining 67% identified themselves as Non-Native.

Weather, Geography, and Transportation:
The 990-mile long coastline of POW is etched with numerous bays and coves. Access to the island is by air or water only. The island is served by the Inter-Island Ferry Authority, which provides direct and indirect ferry service to Wrangell, Petersburg, and Ketchikan. The Klawock Airport provides commercial air service to the mainland. Over 1500 miles of roads, mostly gravel, connect many communities on the island. Areas of steep, forested mountains continue to isolate some of the individual communities on POW from each other. Broad stretches of unprotected ocean waters separate the Island from the larger regional medical facilities and hospitals located on the mainland in Juneau, Ketchikan, and Sitka.

Nestled in the Tongass National Forest in Southeast Alaska, POW receives abundant rainfall – between 60-220 inches of precipitation annually. The climate is generally cool and moist, resembling climate patterns of the Pacific Northwest. Winter temperatures on Prince of Wales typically range from the mid 30's to low 50's.[3] Daylight on the

[1] Wikipedia. Located at: http://en.wikipedia.org/wiki/Prince_of_Wales_Island%2C_Alaska. Accessed September 25, 2006.
[2] Ibid
[3] GORP. Located at: http://gorp.away.com/gorp/resource/us_national_forest/ak/prin_ton.htm. Accessed September 26, 2006.

longest day of the year lasts about 15 ½ hours, while the shortest day in winter brings only about 7 hours of daylight.[4]

Economy Summary

POW has a mixed cash and subsistence economic base. Fishing, logging, and sawmill operations are important components of the Prince of Wales economy. Commercial salmon fishing and oyster farming are present on the island, as are several hatcheries. The ferry and road system also represent an increasing economic force for island residents. Craig remains the economic center and largest community on Prince of Wales. Timber operations, fishing, fish processing, government and commercial services are important employment opportunities.[5] Timber is becoming increasingly important, providing jobs in both logging and ship-loading in the Klawock and Craig areas. Tourism ventures also provide some employment.

Subsistence is an integral part of the POW economy. Surveys by the State of Alaska show that the per person poundage of subsistence meats harvested annually on the island ranged from 185 pounds per person in Whale Pass to 452 pounds per person in Kasaan. Fifty-five percent (55%) of harvested subsistence foods are fish, including salmon, herring, and halibut. Shellfish, land mammals, plants, and marine mammals are essential parts of the local subsistence lifestyle.[6]

Prince of Wales Island is located in an economically depressed area of the state. In Klawock, the median household income is $38,839 and 14% of residents live below the poverty level. Unemployment for the Prince of Wales-Outer Ketchikan Borough hovers at around 12.6% -- significantly higher than the Alaska average of 7.5%.[7]

Health Services Overview

The Alicia Roberts Medical Center (ARMC) in Klawock is the largest primary care provider on POW, and the only medical center providing after-hours emergency care for POW's residents. The clinic is managed by the SouthEast Alaska Regional Health Consortium (SEARHC), 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.

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[4] Prince of Wales Chamber of Commerce. Located at: http://www.princeofwalescoc.org/climate.html. Accessed September 26, 2006.
[5] Department of Community and Economic Development, State of Alaska. Located at: http://www.dced.state.ak.us/dca/AEIS/POW/General/POW_General_Narrative.htm. Accessed: September 26, 2006.
[6] Department of Community and Economic Development ,State of Alaska. Located at: http://www.dced.state.ak.us/dca/AEIS/AEISMainFrame.cfm?CensusArea=POW&Industry=Subsistence&IndexItem=SubsistenceOverview. Accessed September 26, 2006.
[7] Department of Community and Economic Development. State of Alaska. Located at: http://www.dced.state.ak.us/dca/AEIS/POW/General/POW_General_Narrative.htm. Accessed October 10, 2006

ARMC began as a Level I clinic staffed with 3 community health aide/practitioners (CHA/Ps) with services limited to SEARHC's Alaska Native beneficiaries. As mid-level and physician providers began practicing in the clinic, clinical care services expanded, but were still limited to Alaska Native beneficiaries. In 2000, ARMC suddenly became the only provider of emergency and after-hour care on the island, resulting in a large infusion of non-Native patients into the practice. To help expand services to both the Native and non-Native populations, the clinic applied for and was granted status as a federal Community Health Center (CHC). Currently, ARMC offers a wide array of primary care services, including a moderate complexity laboratory, comprehensive pharmacy, dental services, behavioral health services, and numerous wellness programs.

Patients requiring a higher level of care than what is available on the island are generally transferred to Ketchikan General Hospital or SEARHC Mt. Edgecumbe Hospital in Sitka. Patients may also be transported to the Alaska Native Medical Center (ANMC) in Anchorage, or occasionally to hospitals in Seattle for the specialized services available there.

Travel from Prince of Wales Island to these centers of higher level medical care is challenging. Access to the island is by air or water. The level of care needed by the patient, the urgency of the situation, the weather at both Klawock and at the receiving hospital, the time of day, and the availability of different modes of transportation all effect the decision about how, where, and when to transport the patient.

Depending on the situation, transportation may be by one of four medevac services, commercial Alaska Airline flight, regular scheduled ferry service to Ketchikan, or combinations thereof. Such travel can constitute serious challenges and expenses for patients and their escorts. Transportation delays for seriously ill or injured patients can be life-threatening

B. – Cross Road Medical Centers (CRMC)

Demographics

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, while the Richardson connects Glennallen to Valdez, 120 miles south, and Fairbanks, approximately 300 miles to the north. Valdez, Anchorage, and Fairbanks offer the nearest hospitals to the region.

According to the latest census figures, there are approximately 3,000 people living in the Upper Copper River Basin. The number of people increases dramatically each summer as approximately 50,000 tourists travel through Glennallen, the hub of the

Basin. Most residents of Glennallen are white, Alaska Native, or a combination of the two. According to the 2000 Census, 85% of residents identified themselves as white, 5% as Alaska Native, and 12% as either all or partially Alaska Native.

Within Glennallen itself, the population is fairly young and educated. Approximately 500 residents live within Glennallen itself. The median age of residents is 32.4 years, and 90% of residents over the age of 25 have at least a high school diploma. Forty percent (40%) have a bachelor's degree or higher. The community is fairly evenly split between males and females, with 52% male and 48% female.[8]

Weather, Geography, and Transportation

The Copper River Basin is bounded by the Talkeetna Mountains on the west, the Alaska Range on the north, the Wrangell-St Elias Range on the east, and the Chugach Range on the south. Winters in Glennallen and the Copper River Basin are generally long, cold, and dark with annual snowfall averaging 39 inches and a total precipitation of 9 inches per year. The mean temperature in Glennallen in January is -10°F (-23°C); in July, it is 56°F (13°C). Temperatures can dip as low as -40°F or -50°F during the coldest days of winter. Daylight lasts a scant five hours during the darkest winter days.

The Glenn/Tok Cutoff and Richardson Highways provide year-round road access to other major road cities in the state. Brenwick's Airport provides public air access, and scheduled services are available. The 2,070' turf airstrip is owned and operated by Copper Basin District, Inc. The Gulkana Airport is located 4.3 miles northeast of Glennallen and offers a paved runway with medium intensity runway lighting.

Economy Summary

Glennallen is the supply hub of the Copper River region. Local businesses service travelers along the highway system by providing gasoline, food, lodging, and other services. Governmental offices located within Glennallen include the National Park Service's Wrangell-St. Elias Visitor Center, offices for the Bureau of Land Management, Alaska State Troopers, State highway maintenance, and the Department of Fish and Game. The community also hosts regional services such as a health clinic.[9]

Commercial fishing is a major economic contributor to the Copper River region. Commercial fisherman harvest approximately 1.4 million salmon per year, providing an influx of approximately $20 million annually to the regional economy. Tribal governments are also a growing segment of the local economy, with seven federally recognized tribal governments located in the upper basin. Under Native self-

[8] City Data. Located at: http://www.city-data.com/city/Glennallen-Alaska.html. Accessed: September 22, 2006.
[9] State of Alaska Community Database. Located at: http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm. Accessed: September 22, 2006.

determination compacts and contracts, tribal governments provide a variety of health and social services that were formerly provided by state or federal agencies, including education, health care, community safe water, and research which provide numerous local jobs. [10]

Subsistence is also a major economic factor in the region. The harvesting of wild game, fish, birds, berries, eggs, herbs, and plants is integral to the economy. Copper River salmon are the most important component in the subsistence economy. Residents in Chitina harvest about 340 pounds of salmon annually, and residents in Chistochina harvest about 260 pounds.[11]

The Copper River Basin is an economically depressed area with an unemployment rate of 23.5% (compared to the Alaska rate of 7.4% and U.S. rate of 5.8%) and an uninsured rate of 18.5% (compared to 17.3% statewide and 14.6% nationwide). Census data indicate 9.8% percent of residents live below 100% of Federal Poverty Guidelines (compared to the Alaska rate of 6.7%), and approximately 29% are below 200% (compared to 21.97% for Alaska and 10.1% for the U.S.).

Health Services Overview

Cross Road Medical Center (CRMC) provides medical services to residents throughout the Upper Copper River Basin. CRMC is a faith-based non-profit sub-regional clinic serving the Copper River Basin. 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 Federally Qualified Health Center (FQHC).

CRMC provides access to primary care services, diagnostic (lab and X-ray) services, counseling services, urgent care services, a pharmacy, and observation services. The facility maintains four hospital-type beds for patients requiring longer observation visits and patients who are unable to travel to higher level medical facilities due to weather or other complications. Two of these beds are for general use; one is maintained specifically for cardiac patients and one for obstetrics patients.

C. – Iliuliuk Family Health Services (IFHS)

Demographics

Iliuliuk Family and Health Services (IFHS) is a Community Health Center (CHC) located in the City of Unalaska, the 11th largest city in Alaska. Unalaska is situated in the

[10] Copper River Knowledge System. Located at: www.commerce.state.ak.us/dca/AEIS/AEIS_Home.htm. Accessed: September 22, 2006.
[11] Ibid

Aleutian Islands approximately 800 air miles from Anchorage and 1700 air miles northwest of Seattle. As of the last Census in 2000, there were 4,283 people, 834 households, and 476 families residing in Unalaska.

In addition to its residents, the area boasts a large, fluctuating number of transient workers and fishermen. Seafood companies in Unalaska bring in over 3,000 workers to the area for up to eight months of each year. In addition, the commercial fishing fleets draw an estimated influx of 9,000-10,000 people annually. The fishing and crabbing season from August – May brings the greatest number of seasonal fishery workers.

The 2000 Census painted the picture of the average Unalaska resident as a young male. The average age was 36 years and, for every 100 females, there were 194.8 males. The median household income was $69,539.

The 2000 Census revealed Unalaska to be a culturally diverse community with a wide variety of ethnic backgrounds. Forty-four percent (44%) of residents were White, 3.7% Black or African American, 7.7% Native American, 30.6% Asian, 0.6% Pacific Islander, 9.3% from other races, and 3.9% from two or more races; 12.9% of the population were Hispanic or Latino of any race.

Weather, Geography, and Transportation

The Aleutian Islands, where Unalaska is located, are part of the famed "Ring of Fire," a zone of frequent earthquakes and volcanic eruptions around the Pacific basin. One of those volcanoes, Makushin Volcano, is located on Unalaska, where it rises to 6,680 feet above sea level.

Average temperatures in Unalaska are fairly mild, with winter temperatures averaging between 25-35°F and summer temperatures averaging between 43-53°F. Annual precipitation is approximately 58 inches. The area is particularly impacted and defined by its winds that gust to an average speed of 17 mph, battering the area year-round.[12] Located in the heart of the North Pacific and Bering Sea fisheries, the area is colorfully referred to by National Geographic as "The Cradle of Storms."

Unalaska's airport is visual-flight-only, which means no flights may land after civil twilight. The shortest days in winter last approximately 7 hours. Daily scheduled flights serve the community at the State-owned 3,900' long by 100' wide paved runway. The State Ferry operates bi-monthly from Kodiak between April and October. Unalaska boasts ten docks, with three operated by the State. A refurbished World War II submarine dock offers ship repair services. The International Port of Dutch Harbor

[12] State of Alaska, Department of Economic and Community Development (DECD). Community Database. Located at: http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm. Accessed September 30, 2006.

serves fishing vessels and shipping, with 5,200 feet of moorage and 1,232 feet of floating dock. The small boat harbor offers slips for 238 boats.

Economy Summary

Unalaska is in an economically strategic position for fishing, crabbing, and shipping. Approximately 90% of jobs in the community are estimated to be either directly or indirectly tied to the fishing industry.[13]

The Unalaska/Dutch Harbor port is the largest and busiest fishery port in the nation in terms of the volume of seafood produced. In 2003, the port produced over 900 million pounds of seafood, [14] including: king, Dungeness, and tanner crab; red and pink salmon; herring; halibut; and pollock. The port services over 600 vessels including trawlers, long-liners, crab boats, cargo ships, floating factory processors, and cruise ships.

Slightly more than 12% of Unalaska residents live below the poverty line. The unemployment rate for Unalaska is 13.5%.[15]

Health Services Summary

IFHS is the only comprehensive medical provider in Unalaska. The clinic incorporated in 1972 and is a freestanding 501(c)(3) non-profit community health center. Located in a 20,000 square foot building, the clinic offers medical, dental, and behavioral health services as well as drug and alcohol programs and wellness programs.

As the only comprehensive medical provider on-island, IFHS providers offer a wide variety of medical services, including:

- Pediatric services
- Prenatal services
- Adult care
- Well-child check-ups
- Treatment and monitoring of acute and chronic illness
- Trauma and critical care

[13] Alaskan Places. Located at http://www.alaskan.com/places/unalaska.html. Accessed September 30, 2006.
[14] Wikipedia. Located at: http://en.wikipedia.org/wiki/Unalaska%2C_Alaska. Accessed September 30, 2006.
[15] Behavioral Health Community Planning Project. Located at: http://bhplanning.infoinsights.com/unalaska.html. Accessed October 10, 2006.

D. – Inter-Island Medical Center (IIMC)

Demographics

The Inter Island Medical Center (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 km² (55.053 sq mi) and a population of 6,822 as of the 2000 census.

The county boasts a population of 14,077 according to the 2000 Census, a nearly 50% growth rate since the previous Census in 1990. During tourist season June, July and August, the population in the San Juan Islands can double in size.

San Juan County includes 176 named islands and reefs (up to 743 in low tides), of which 60 are inhabited. The four largest islands, and the host of the vast majority of San Juan residents, are served by the Washington Ferry system and include Orcas Island, San Juan Island, Lopez Island, and Shaw Island. Orcas and Lopez Islands each have a community clinic staffed by a primary care physician. Only San Juan Island has a hospital taxing district to subsidize its medical center and 24/7 physician coverage.

San Juan County residents tend to be older than the U.S. average. The median age in the county is 47– nearly 12 years older than the average resident of the US or the rest of Washington State. Nearly half of all the residents of San Juan County are over 50 years of age. For every 100 females there are 95 males. For every 100 females age 18 and over, there are 93 males. The median income for a household in the county was $43,491. Median household income for residents of San Juan Island is $50,078.

The racial makeup of the county during the 2000 Census was 94.99% White, 0.26% Black or African American, 0.83% Native American, 0.89% Asian, 0.09% Pacific Islander, 0.91% from other races, and 2.04% from two or more races. Two percent (2.4%) of the population was Hispanic or Latino of any race.

Weather, Geography, and Transportation

San Juan Island has a fairly moderate climate. The area is protected by a “rain shadow,” resulting in drier, sunnier weather than most other areas in the Pacific Northwest. The islands receive approximately 17-19 inches of precipitation annually, compared to the 38 inches annually received in Seattle. Temperatures vary from 70°F-80°F in the summer, to winter lows of approximately 30-40°F. Fog is often present, especially in the mornings.

The majority of the San Juan Islands are flat, low level islands, with the exception of Mt. Constitution on Orcas Island. The San Juan Archipelago is well-known for its pristine ecosystem and the coastal areas host diverse marine ecosystems. All of the San Juan

Islands combined give San Juan County 375 miles of saltwater shoreline -- more shoreline than any other single county in the United States.

Friday Harbor is connected to the mainland through the Washington State Ferry System. The ferry runs daily between Anacortes, WA and Friday Harbor several times daily. In addition, the Washington State Ferry serves three other islands in the County, including Lopez Island, Shaw Island, and Orcas Island. The island also is served by Friday Harbor Airport, which hosts a single 3400' by 75' runway.

Economic Summary

The San Juan Islands have a rich diversity of industries as part of their history. The Western economy started on the island in 1850 when the Hudson Bay Company instituted the first non-Indian settlement on the island, creating fish camps and timber operations. Towards the turn of the 20th century, the island saw the development of limestone quarries, sawmills, salmon canneries, commercial fishing, and farms. A cannery operated on the island until the 1990's. Fishing and farming still occur on the island, but in much smaller amounts.

The current San Juan economy is anchored on the tourism industry. A 2005 study showed that tourism activities generated 1,840 full and part-time local jobs in the San Juan Islands. Visitors to San Juan County supported the local economy by spending the record amount of $113.5 million in 2004 -- a $7.3 million increase in visitor spending from 2003. Tourism industry earnings generated by travel spending resulted in $38.7 million.[16]

Health Services Summary

IIMC is a designated Level 5 Trauma Center and a federally-designated Rural Health Clinic (RHC). IIMC provides comprehensive, family practice oriented medicine along with 24-hour urgent care. In addition to primary 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. The visiting specialists provide Obstetrics and Gynecology, Otolaryngology, Audiology and Podiatry services.

Since 2000, the San Juan Island Medical Center Guild and Inter Island Healthcare Foundation have donated nearly $300,000.00 in medical and computer equipment to the clinic. The IIMC has an electronic medical record system that allows the most important patient information to be available to the physicians in real time. The clinic equipment includes state of the art diagnostic x-ray, digital ultrasound for vascular studies, mammogram for breast cancer screening and diagnosis, EKG and stress testing

[16] Guide to San Juans. Located at: http://www.guidetosanjuans.com/index.cfm?action=archive05. Accessed October 3, 2006.

for cardiovascular health, bone densitometer to diagnose and reduce the risk of osteoporosis and a full service, in-house lab.

The IIIMC facility is nearly 10,000 square feet with 7 exam rooms, a Critical Care/Observation Room that contains two beds, a surgery suite for trauma, a procedure room that can double as an observation bed, 2 exam rooms reserved for the visiting specialists, and an X-ray room. The digital ultrasound can be moved around and the lab is located in the center of the building.

III. Methodology

Quantitative data for FESC encounters were obtained via an On-line Data Tracking System / Clinical Outcome Log, which was developed by ACRH in consort with the FESC Consortium Steering Committee and the FESC project's Provider Workgroup.

All data provided in this section were reported by clinic staff to ACRH via the On-line Database/Clinical Outcome Log. Clinics accepted full responsibility for the integrity of the data they submitted. ACRH did not have access to medical records or any other mechanism to corroborate data validity. A copy of the log is attached as an appendix.

The data for ARMC, CRMC, and IFHS represent 12 months of FESC services provided between 3/15/05 and 3/14/06. The data for IIMC represent 12 months of FESC services provided between 9/15/05 and 9/14/06 (the differing start/end dates are a result of IIMC's later addition to the project). Since the data sets for all clinics represent a full yearly cycle, with its seasonal variations (e.g., fishing season in Unalaska and tourist seasons in Friday Harbor and Glennallen), they are comparable. The total FESC encounters reported were evenly distributed between clinics, and so it was not necessary to adjust the data for analysis.

Raw Outcome Log data were submitted daily via Internet by the clinics in a MS Access Outcome Log form. The Outcome log data for the timeframes studied were downloaded into SPSS for data coding, cleaning, and analysis. Cleaned, analyzed data were then transferred to MSExcel to create the tables and figures presented in this report.

Sites were asked to document the Chief Complaint at the time of admission to the clinic, and the Diagnosis at the time of Discharge. Providers described their patients' chief complaints and diagnoses in a fill-in-the-blank format; the researchers, in close consultation with the Provider Workgroup leader, recoded these open answers into closed-ended categories. The answers were placed into a single "best fit" category, rather than multiple categories.

Destinations of medevacs were not specifically captured in the log and were determined through a manual search of several variables in the raw data.

IV. Findings

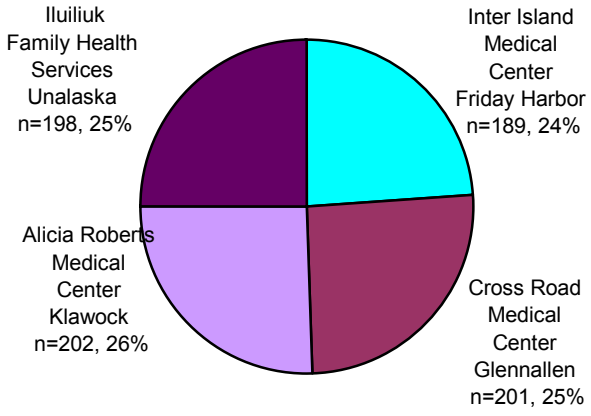
This section presents the combined data for the FESC encounters for all four participating clinics: 1) Alicia Roberts Medical Center (ARMC) in Klawock, Alaska; 2) Cross Road Medical Center (CRMC) in Glennallen, Alaska; 3) Iliuliuk Family Health Services (IFHS) in Unalaska, Alaska; and 4) Inter Island Medical Center (IIMC) in Friday Harbor, Washington. Data is presented for the overall project, as well as for each clinic so clinics may be compared to each other and to the overall project.

A. All FESC Encounters

This subsection looks at FESC encounters of all types at the four participating clinics. In the subsections B, C, and D will be presented the data specifically for Monitoring and Observation encounters, Transfer encounters, and encounters potentially reimbursable by Medicare/Medicaid.

Figure 1 shows the distribution of FESC encounters by site, and illustrates how the 790 encounters reported are surprisingly evenly distributed between the four participating clinics: 189 (24%) from IIMC, 201 (25%) from IFHS, 202 (26%) from ARMC, and 198 (25%) from IFHS. This prevents the data from being significantly skewed and obviates the need for weighted data adjustments.

Figure 1: FESC Encounters by Site (n=790)



The median length of FESC encounters was only 3.75 hours; however, the mean length was considerably longer at 6.91 hours due to the presence of lengthy outliers, such as the maximum encounter length of 99.5 hours in Glennallen (Table 1). Friday Harbor, with a unique capacity to medevac quickly due to its location and readily available medevac resources, had several very brief 0.25/hr Transfer encounters. These outliers, both short and lengthy, produced a large standard deviation of 10.58, emphasizing the extreme variability and range of FESC encounters.

Table 1. Time Descriptors

All FESC Encounter – Time Descriptors	
Number of Encounters	790
Mean Length of Time	6.91
Median Length of Time	3.75
Standard Deviation	10.58
Minimum Length	0.25
Maximum Length	99.50

The time descriptors presented in Table 1 hide the marked variations that exist among the clinics. These variations are clearly seen in Table 2. Mean encounter lengths range from 1.92 hours (IIMC) to 13.89 (CRMC); medians range from 1.50 (IIMC) to 6.00 (CRMC). Maximums range from 6.50 (IIMC) to 99.50 (CRMC). Note that no clinic is "typical", with time descriptors matching those of the overall project.

Table 2. Time descriptors by clinic

ALL ENCOUNTERS	ARMC	CRMC	IFHS	IIMC
Time Descriptors				
Number of Encounters	202	201	198	189
Mean Length of Visit (All Encounters)	4.18	13.89	7.38	1.92
Median Length of Visit (All Encounters)	3.50	6.00	5.13	1.50
Standard Deviation	2.82	17.70	6.29	1.21
Maximum Visit Length	24.25	99.50	41.50	6.50
Minimum Visit	1.00	0.50	1.25	0.25

Figure 2 illustrates the heterogeneity of the encounter mean lengths for the participating clinics by FESC encounter type. The means range from 1.42 hours (IIMC Transfer encounters) to 17.07 hours (CRMC Mon Ob encounters). Mon Ob means range from 3.14 (IIMC) to 17.07 (CRMC); Transfer means from 1.42 (IIMC) to 8.64 (IFHS). Transfer encounters were generally shorter than the Mon Obs for each clinic, with the exception of IFHS, whose Transfers were longer than their Mon Obs due to many prolonged medevac delays due to inclement weather and the absence of a medevac plane on the ground during most of the data collection period.

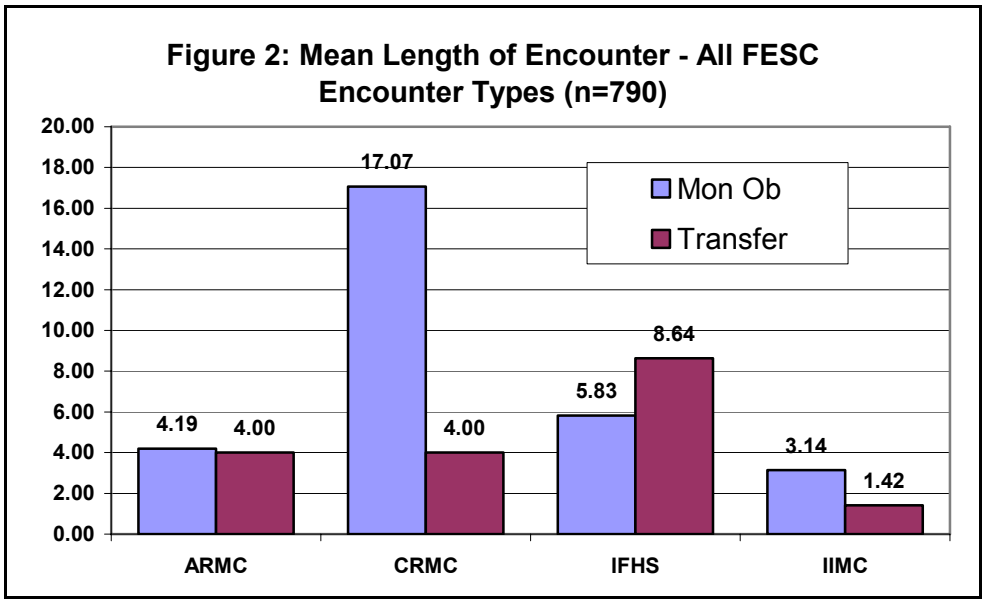
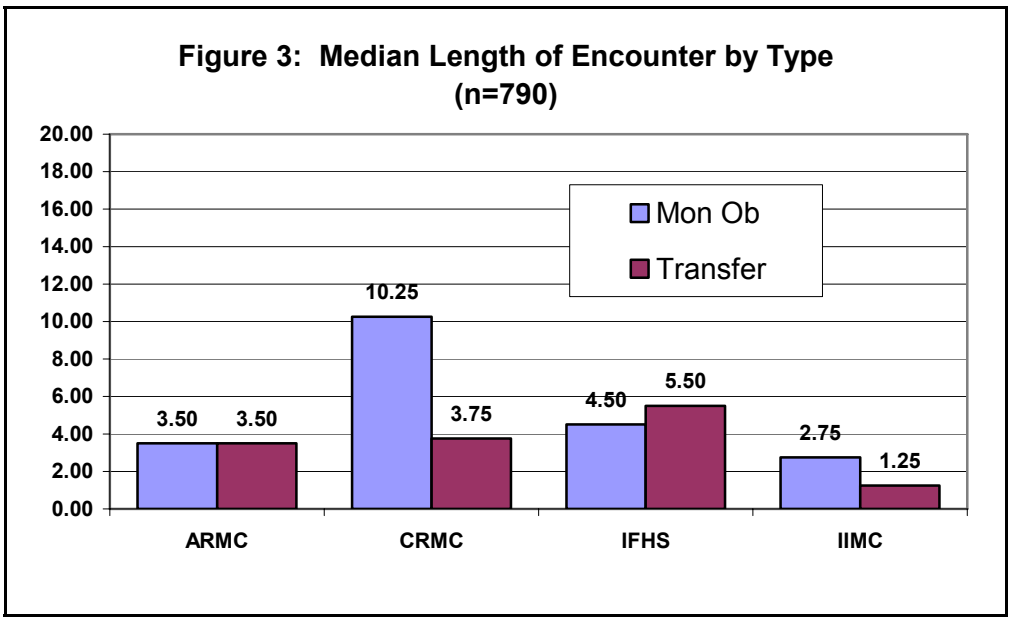


Figure 3 shows the median FESC encounter lengths for the clinics by FESC type. Though the medians reduce of the "statistical noise" of very long or short outliers, they still show a marked heterogeneity among the clinics and the same overall patterns discussed above: no clinic is "typical." The relatively short Transfer median lengths demonstrate the clinics' ability to quickly diagnose, classify, stabilize, and medevac Transfer patients.



In Figure 4 are presented the maximum and minimum encounter lengths for each clinic. Minimum encounters were all Transfers: under the right circumstances, the clinics are able to execute medevacs with extreme rapidity. With the exception of IFHS, the maximum encounters were all prolonged Mon Ob encounters; IFHS' maximum

encounter was a 41.50 hour Transfer encounter prolonged by two days of inclement weather.

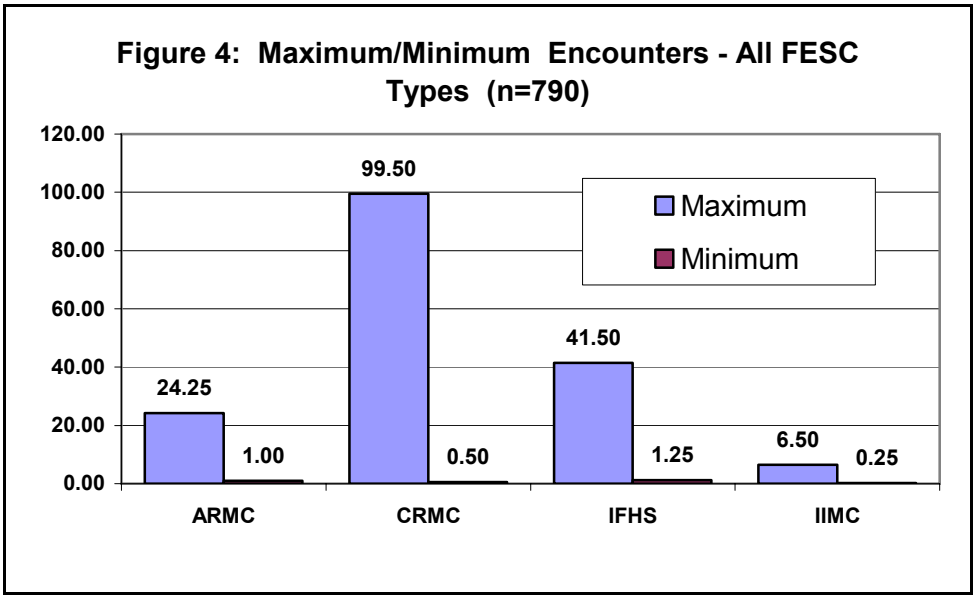


Figure 5 shows the marked variation in maximum encounter lengths for Mon Ob and Transfer encounters. The Transfer maximums effectively quantify the longest medevac delays caused by such factors as bad weather, lack of daylight, waiting for the availability of transport, or stabilization of patients for transport.

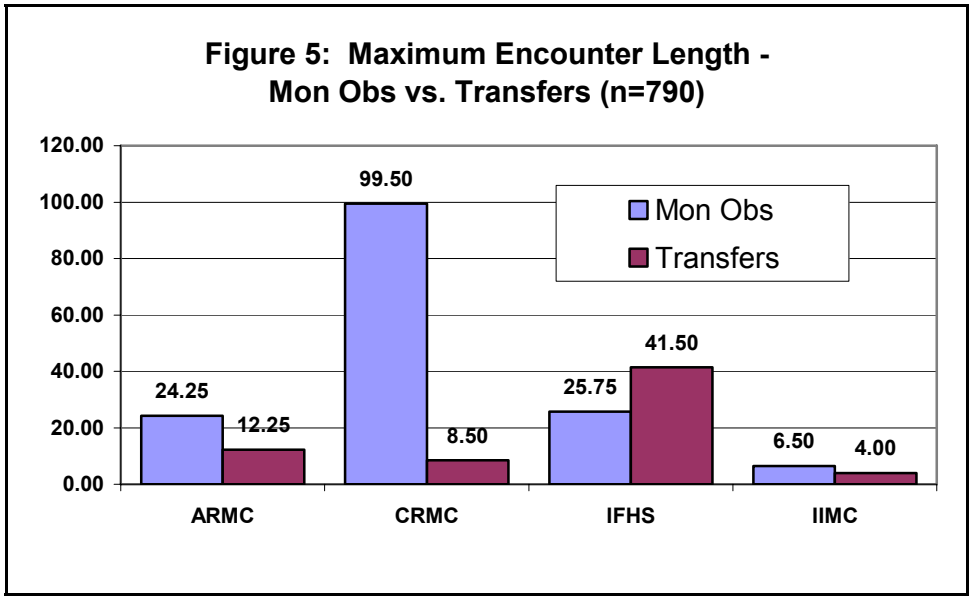
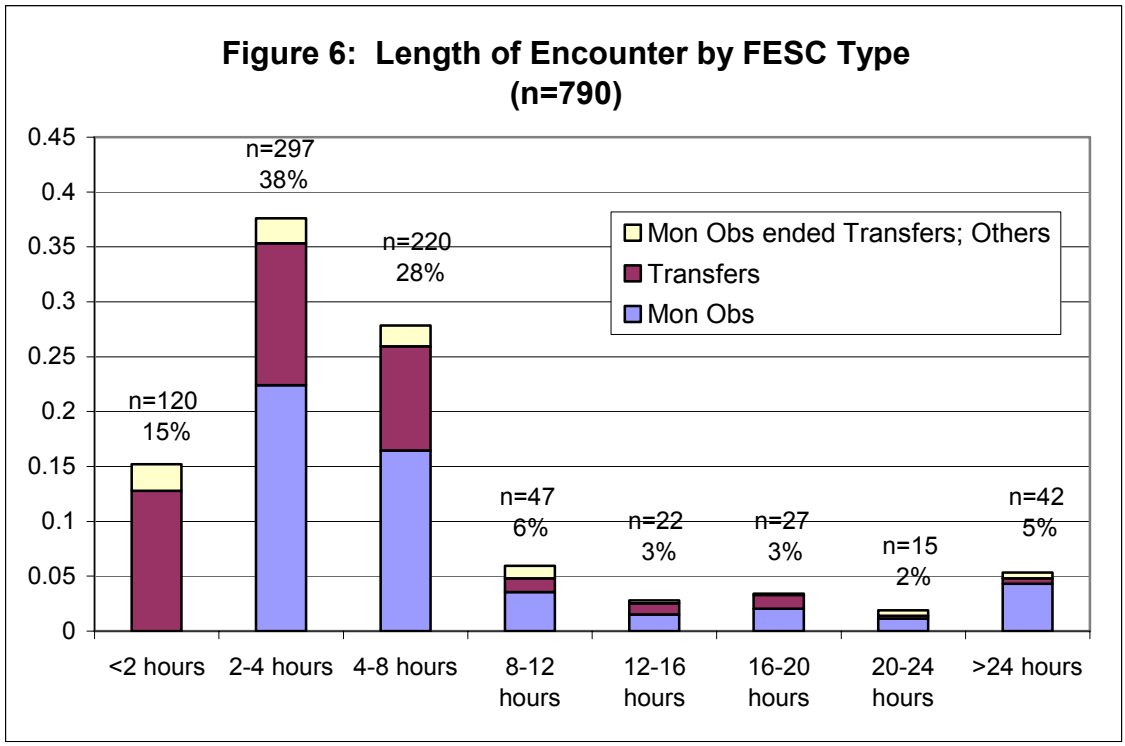
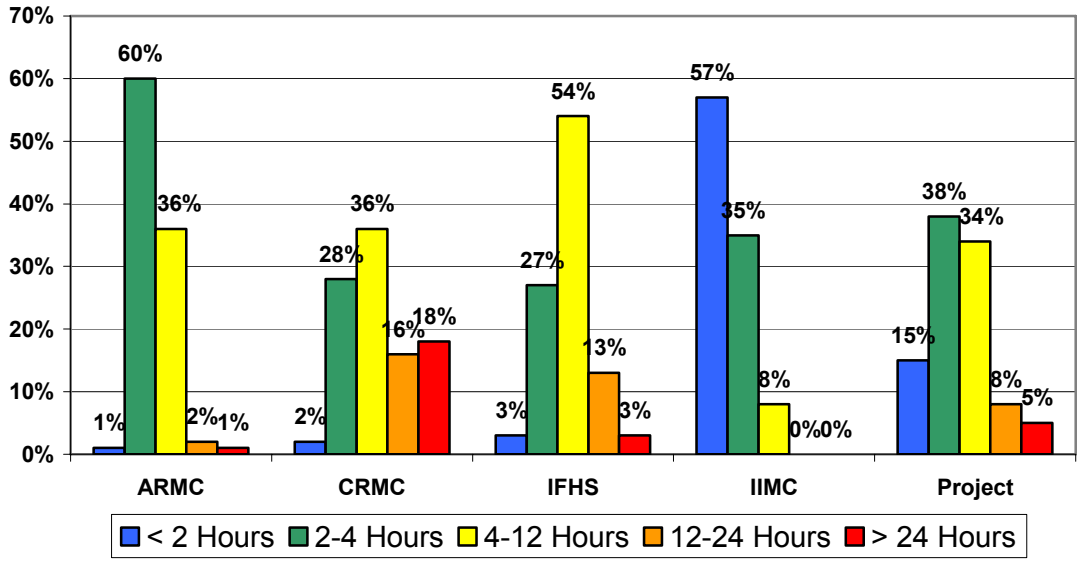


Figure 6 shows the distribution of the length of all project FESC encounters by encounter type, illustrating the overall brevity of most encounters. Over half of the encounters (53%, n=417) were under four hours; only 13% (n=106) were prolonged stays of 12 or more hours. These lengthy encounters tended to be Mon Obs. The large percentage of encounters under four hours testifies to the clinics' ability to diagnose, treat, stabilize, and either discharge home or arrange to transport patients (weather permitting) rather quickly. Note that for the purpose of this analysis, Mon Ob encounters of less than 2 hours are not included; Transfer encounters of all durations are included. "Mon Obs ended Transfers" is a distinct FESC encounter type that refers to patients initially classified as Mon Obs but whose condition eventually warranted a medevac and classification change to Transfer.



As already seen with mean and median encounter lengths, the overall project pattern presented in Figure 6 masks the clinics' heterogeneity, which can be clearly seen in Figure 7.

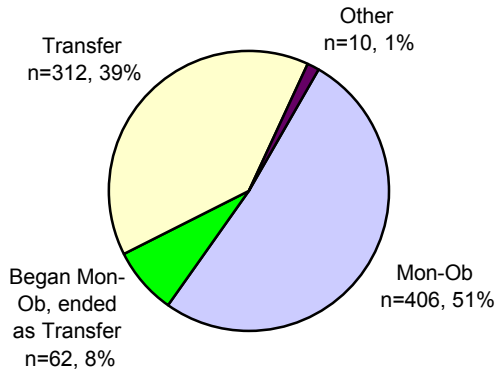
Figure 7: Distribution of Encounter Length (n=790)



Again, no clinic had a "typical" distribution that replicated that of the project. IIMC was characterized by very rapid encounters, with 57% (n= 107) under 2 hours in length; CRMC was characterized by very long encounters, with 34% (n=68) 12 or more hours in length and 18% (n=35) over 24 hours. While it was noted above that 53% of the project's encounters were under 4 hours, this percentage varied markedly clinic to clinic, with IIMC reporting 92% (n=173), ARMC 61% (n=124), and IFHS and CRMC both reporting 30% (n=59 and 61, respectively). And while 13% of project encounters were over 12 hours, this percentage varied from 0% (n=0) of IIMC's, 3% (n=6) of ARMC's, 16% (n=32) of IFHS's, and, as already noted, 34% of CRMC's.

Figure 8 presents the distribution of types of FESC encounters. "Began as Mon Ob, ended as Transfer" refers to patients initially classified as Mon Obs, but whose condition eventually required a medevac and reclassification to Transfer. "Other" includes miscellaneous classifications (e.g., deceased patients, incarcerated patients).

Figure 8: Type of FESC Encounter (n=790)



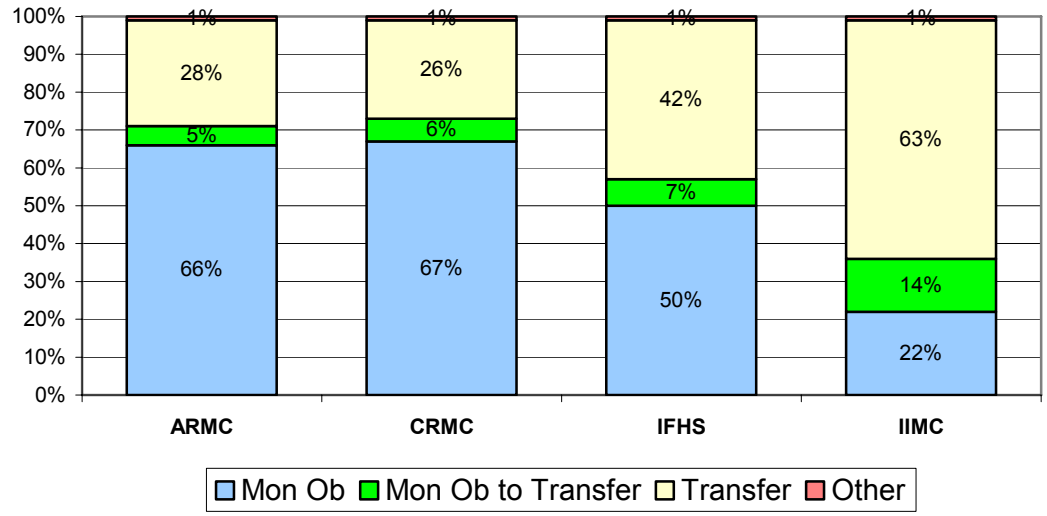
Fifty-nine percent (n=468) of FESC encounters were initially designated "Monitoring and Observation" FESC encounters (Mon Obs). The majority of

these (51% of all, n=406) began and ended as Mon Ob encounters, while 62 (8%) began as Mon Ob encounters but were reclassified as Transfers when the patients were eventually medevaced or otherwise transported to a higher level of care.

Almost half (47%) of the 374 patients ended as Transfers. As mentioned above, 62 of these began as Mon Obs, but the large majority of Transfers (312, 39% of all encounters) were classified Transfers from the outset of the FESC encounter; that is, a decision had been made to medevac, and the clinics were observing and stabilizing these patients while they awaited transport to a tertiary care facility.

Once again, these overall statistics hide marked clinic to clinic variations, which are presented in Figure 9. "Mon Ob to Transfer" denotes the FESC type Began Mon Ob Ended Transfer.

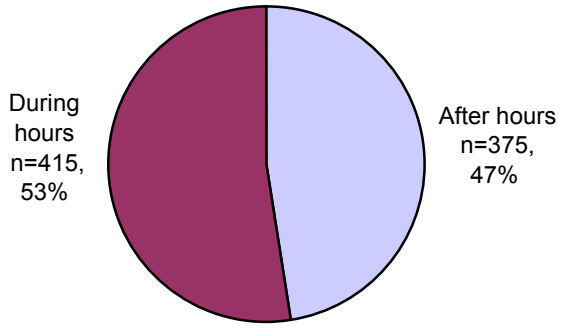
Figure 9: Type of FESC Encounter (n=790)



The Mon Ob to Transfer ratio varied from 66%:28% for ARMC, to 67%:26% for CRMC, 50%:42% for IFHS, and 22%:63% for IIMC, which was the only clinic reporting a higher percentage of Transfers than Mon Obs. Only IFHS had a ratio approximating that of the overall project. Given the multiple factors that converge on the decision to classify a patient Mon Ob or Transfer (e.g., presenting complaint, diagnosis, provider experience/skills/practices, clinic infrastructure, geographic location, medevac resources, weather, etc.), this variable is a key indicator of the conditions unique to each clinic. Note that very few patients were classified "Began Mon Ob ended Transfer" in all four clinics.

That urgent care occurs 24/7 is demonstrated by Figure 10 which shows that nearly half of FESC encounters (47%, n=375) began outside of normal clinic hours. This indicates that a considerable proportion of the FESC workload is falling to the on-call or night shift staff of the clinics.

Figure 10: After Hours FESC Encounters (n=790)



An exception to the clinic's heterogeneity is shown in Figure 11: all clinics had similar percentages of FESC encounters commencing after normal clinic hours, ranging from 40% (ARMC) to 55% (CRMC). Thus all clinics experienced a substantial work and stress load falling to their after-hours staff. Note that with the exception of CRMC, Transfer encounters began more frequently after hours than Mon Ob encounters.

Figure 11: After Hours Encounters (n=790)

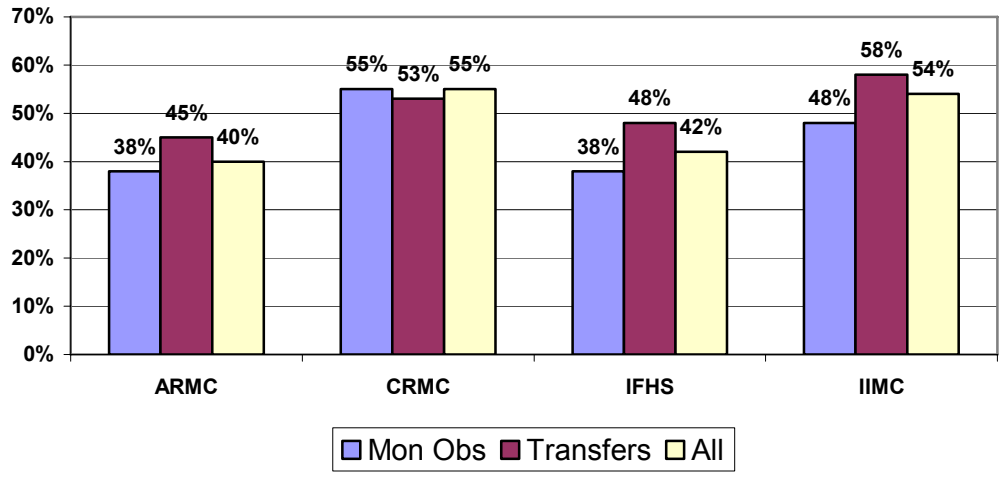


Figure 12 looks at the 375 encounters that began after hours by FESC type. A little over half (51%, n=210) of patients that came in after hours ended up as Transfers (43%, n=161, began and ended as Transfers, and 8%, n=30, began as Mon Obs and became Transfers when their condition warranted a medevac). This is very similar to the overall pattern of 47% of all FESC encounters ending up as Transfers (Table 3). Similarly, 48% (n=180) of the after hours encounters began and ended as Mon Obs, compared to 51% of all encounters. Thus, FESC patient classification was not associated with the timing of the encounters.

Figure 12: After Hours Encounters by FESC Type (n=375)

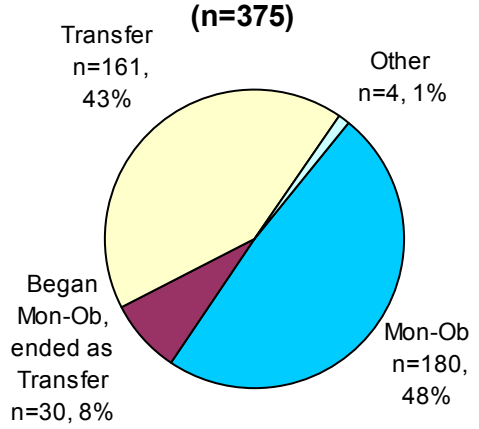


Table 3. After hours encounter FESC types

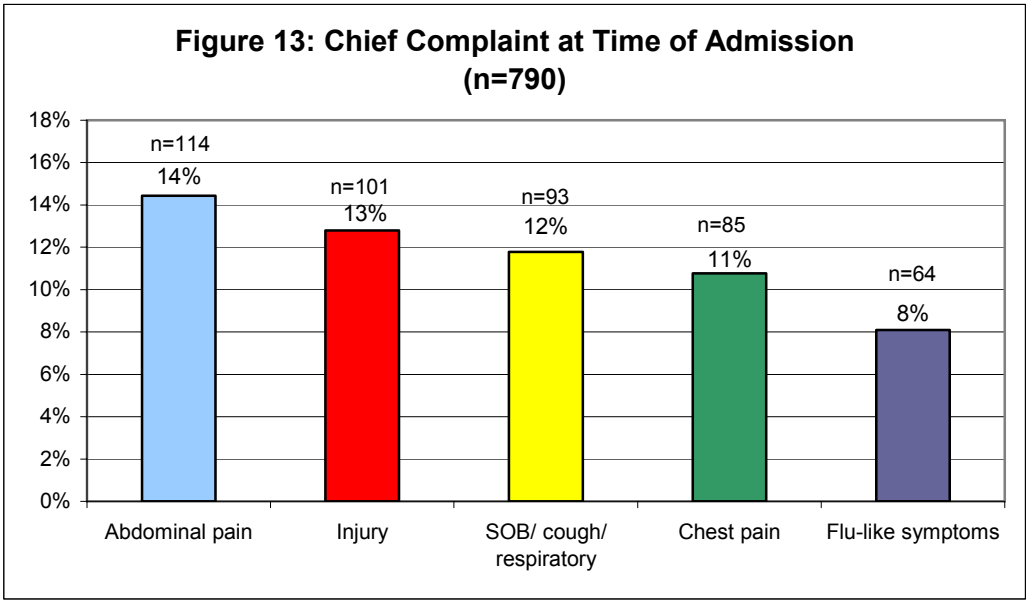
FESC Type	All (n=790)	After Hrs (n=375)
Mon Ob	51.4%	48.0%
Mon Ob to Transfer	7.8%	8.0%
Transfer	39.5%	42.9%
Other	1.3%	1.1%

Looking at this variable by clinic (Table 4), we see more common ground among the clinics: the ratio of Mon Ob to Transfer encounters for their after-hours encounters did not vary significantly from their overall pattern. Thus, in all clinics, FESC type was not associated with timing of the encounter.

Table 4. After hours encounters by clinic and FESC type

	ARMC		CRMC		IFHS		IIMC	
FESC Type	All (n=202)	After Hrs (n=80)	All (n=201)	After Hrs (n=110)	All (n=198)	After Hrs (n=83)	All (n=189)	After Hrs (n=102)
Mon Ob	65.8%	62.5%	66.2%	66.4%	49.5%	44.6%	22.2%	19.6%
Mon Ob to Transfer	5.0%	6.3%	6.0%	7.3%	7.1%	4.8%	13.8%	12.7%
Transfer	27.7%	30.0%	26.4%	25.5%	42.4%	48.2%	63.0%	67.6%
Other	1.5%	1.3%	1.5%	0.9%	1.0%	2.4%	1.1%	0.0%

The top 5 chief complaints of all FESC patients are shown in Figure 13. These represent 58% of all chief complaints. Abdominal pain tops the list (n=114, 14%), as this can be symptomatic of a wide variety of conditions, including cardiovascular, respiratory, injury-related, and gastrointestinal. Similarly, injury (n=101, 13%) figures prominently. Other less frequent chief complaints included dizziness/syncope/confusion (n=55, 7%), behavioral/mental health complaints (n=35, 4%), and pregnancy-related complaints (n=25, 3%).



Examining the frequency of these same five complaints reported by each clinic (Figure 14), we see that no clinic is "typical" (though ARMC's pattern comes close):

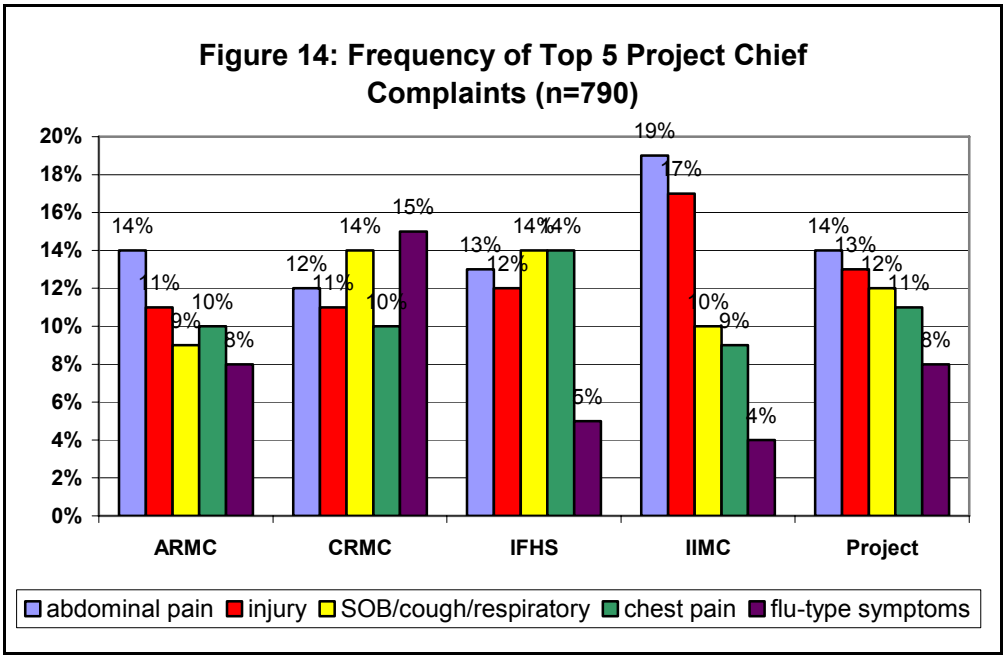
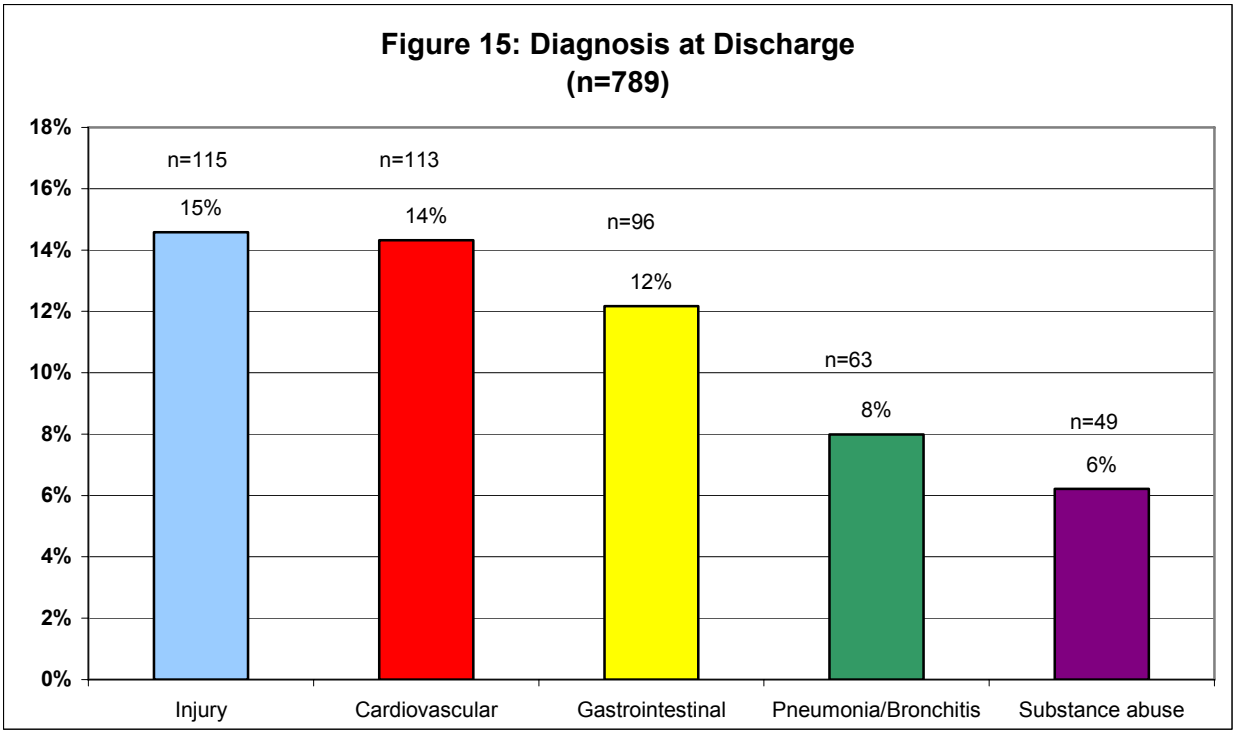


Table 5 presents the top five chief complaints reported for each clinic. Despite the variations, note that all reported a high frequency of abdominal pain, injury, chest pain, and SOB/respiratory complaints. IFHS reported many behavioral/mental health complaints.

Table 5. Top 5 chief complaints by clinic

ARMC			**CRMC**		
Complaint	n	%	Complaint	n	%
abdominal pain	28	13.9%	flu-type	31	15.4%
injury	23	11.4%	SOB/respiratory	29	14.4%
chest pain	21	10.4%	abdominal pain	25	12.4%
SOB/respiratory	19	9.4%	injury	23	11.4%
flu-type	17	8.4%	chest pain	19	9.5%
Total	108	53.5%	Total	127	63.1%
IFHS			**IIMC**		
Complaint	n	%	Complaint	n	%
chest pain	28	14.1%	abdominal pain	36	19.0%
SOB/respiratory	27	13.6%	injury	32	16.9%
abdominal pain	25	12.6%	dizzy/syncope	20	10.6%
injury	23	12.6%	SOB/respiratory	18	9.5%
behavioral/mental health	15	7.6%	chest pain	17	9.0%
Total	118	60.5%	Total	123	65.0%

The five most common diagnoses for FESC patients at discharge are shown in Figure 15, representing 55% of all diagnoses. Note that injury tops the list (n=115, 15%), followed closely by cardiovascular (n=113, 14%) and gastrointestinal diagnoses (n=96, 12%). Other less frequent diagnoses at discharge included renal/urinary (n=46, 6%), brain injury/problem (n=36, 5%), respiratory (n=35, 4%), and a broad category that combines hepatic/pancreatic/gallbladder/appendix-related diagnoses (n=29, 4%).



Looking at these five most frequent diagnoses reported for each clinic (Figure 16), we note that only IFHS reported similar frequencies as the overall project:

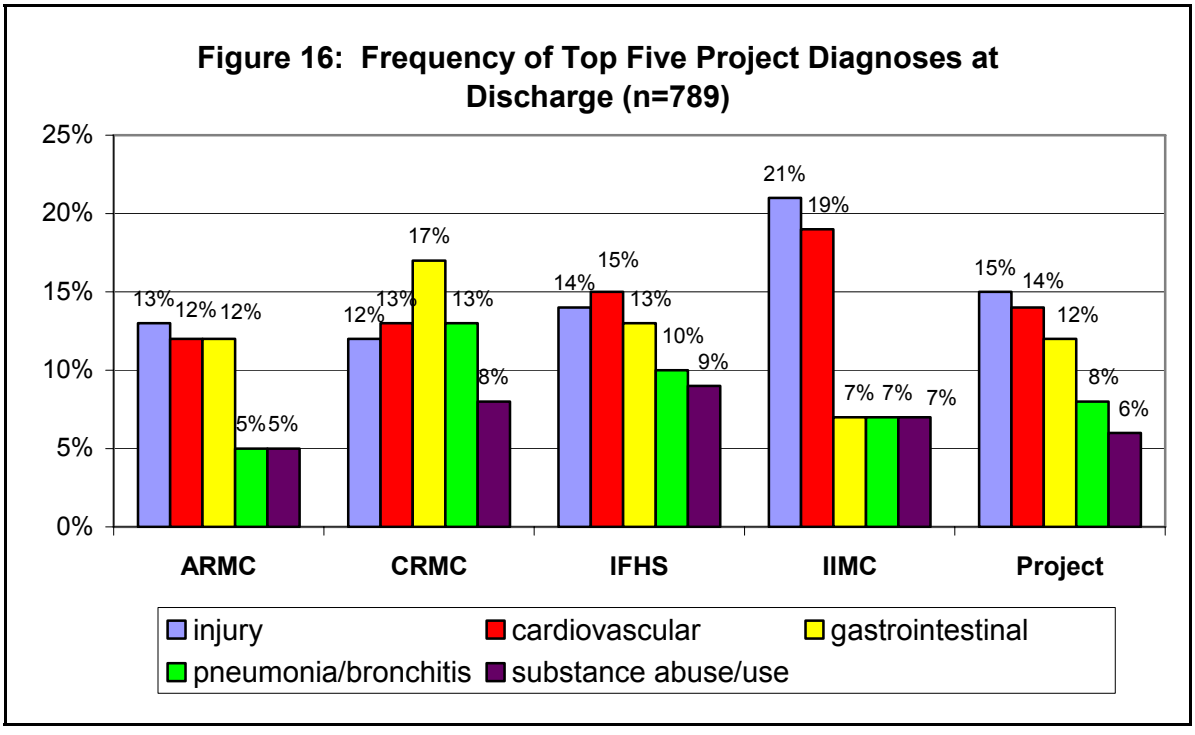


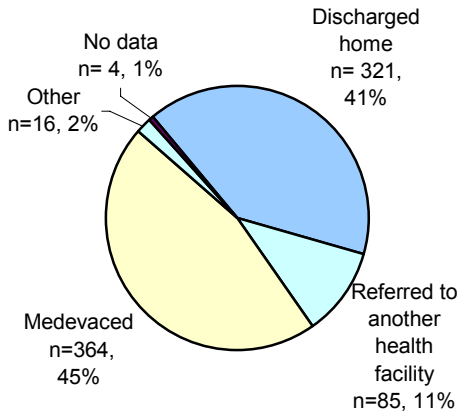
Table 6 looks at the top 5 diagnoses at discharge reported for each clinic, which represent 51.5% to 61.1% of their total diagnoses. Despite the variations, note that all reported high frequencies of injury (11.4% to 19.6%) and cardiovascular diagnoses (11.9% to 18.0%). Gastrointestinal diagnoses were also frequent in all clinics.

Table 6. Top 5 diagnoses at discharge by Clinic

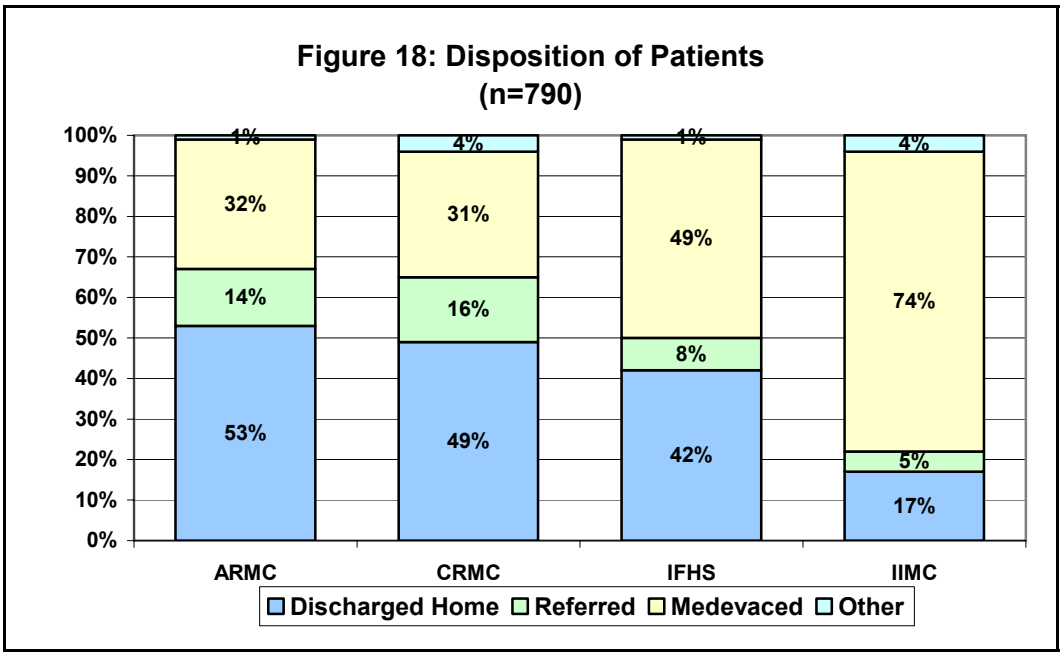
ARMC			**CRMC**		
Diagnosis	n	%	Diagnosis	n	%
injury	27	13.4%	gastrointestinal	33	16.4%
cardiovascular	24	11.9%	pneumonia/bronchitis	26	12.9%
gastrointestinal	24	11.9%	cardiovascular	25	12.4%
renal/urinary	16	7.9%	injury	23	11.4%
infection	13	6.4%	substance abuse	16	8.0%
Total	104	51.5%	Total	123	61.1%
IFHS			**IIMC**		
Diagnosis	n	%	Diagnosis	n	%
cardiovascular	30	15.2%	injury	37	19.6%
injury	28	14.1%	cardiovascular	34	18.0%
gastrointestinal	25	12.6%	gastrointestinal	14	7.4%
pneumonia/bronchitis	19	9.6%	brain injury/problem	12	6.3%
substance abuse	17	8.6%	hepatic/pancreatic	12	6.3%
Total	119	60.1%	Total	109	57.6%

Forty-one percent of FESC patients (n=321) were discharged home after their FESC encounter, without needing either a medevac or non-urgent follow-up referral (Figure 17). Eleven percent (n=85) were referred to a higher level health facility for non-urgent follow up. But close to half the patients (n=364, 46%) were medevaced. The small Other category (n=16, 2%) includes a variety of dispositions, such as Transfer patients who refused medevac, Transfers who arranged their own transportation, patients referred to long term care facilities and women's shelters, aborted medevac flights, deceased patients, and patients for whom there are no data.

Figure 17: Disposition of FESC Encounters (n=790)

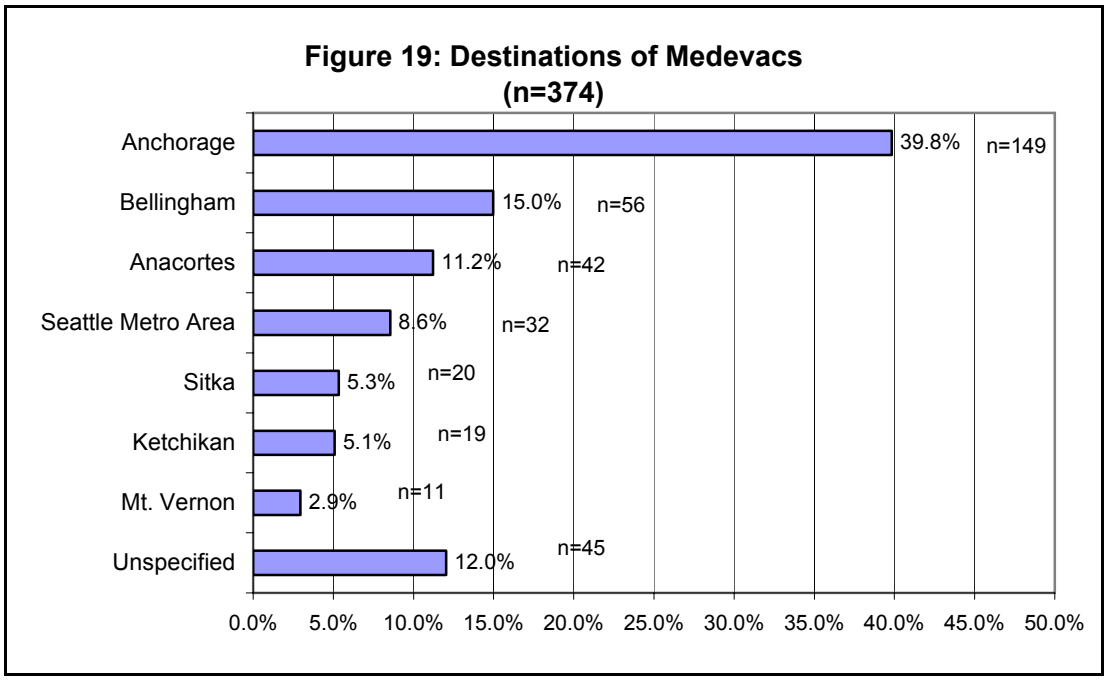


Looking at patient disposition by clinic (Figure 18), a marked heterogeneity is evident, which closely parallels FESC patient classification (Figure 9), since most Mon Obs are discharged home (see subsection B. on Mon Obs below) and nearly all Transfers (and Began Mon Ob Ended Transfers) are medevaced:



Thus, while only 31% (n=63) and 32% (n=64) of CRMC's and ARMC's patients, respectively, were medevaced, 49% (n=97) of IFHS's and a full 74% (n=140) of IIMC's were. The percentage of FESC patients who were discharged home without need for either medevac or follow-up referral varied from a low of 17% (n=32) for IIMC to a high of 53% (n=104) for ARMC, with IFHS reporting 42% (n=83) and CRMC 49% (n=98). Note also the marked variation in percentage referred to other facilities for follow-up, varying from 5% (n= 10) for IIMC to 16% (n=32) for CRMC; IFHS reported 8% (n=15) and ARMC 14% (n=28).

Figure 19 illustrates the destinations of FESC patients who were actually medevaced (occasionally, patients refused medevac, often for financial reasons if they were un- or underinsured). Not surprisingly, Anchorage tops the list at 40% of all medevac destinations (n=149), as it received all medevacs from IFHS in Unalaska and CRMC in Glennallen, as well as patients needing complex or specialized care from ARMC in Klawock. The prominence of the Washington State destinations (Bellingham, Anacortes, Seattle metro area, and Mt. Vernon) reflects the relatively numerous medevacs of IIMC in Friday Harbor; in addition, ARMC occasionally medevaced patients to Seattle.



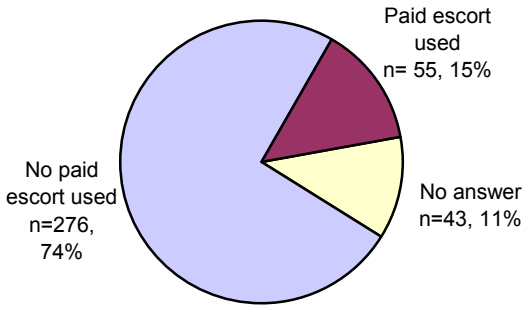
The distribution of medevac destinations for each clinic is highly idiosyncratic, driven by its location, geography, availability of receiving facilities, transportation resources, and weather (Table 7). Note that Klawock, with its median geographic location, has the widest geographical range of destination options, from Anchorage to the north to Seattle in the south, as well as the proximate destinations of Sitka and Ketchikan.

Table 7. Medevac destinations by clinic

ARMC			**CRMC**		
Destination	n	%	Destination	n	%
Sitka	20	30.3%	Anchorage	62	95.4%
Ketchikan	19	28.8%	Unspecified	3	4.6%
Seattle Metro Area	7	10.6%			
Anchorage	4	6.1%			
Unspecified	16	24.2%			
Total	66	100.0%	Total	65	100.0%
IFHS			**IIMC**		
Destination	n	%	Destination	n	%
Anchorage	83	84.7%	Bellingham	56	38.6%
Unspecified	15	15.3%	Anacortes	42	29.0%
			Seattle Metro Area	25	17.2%
			Mt. Vernon	11	7.6%
			Unspecified	11	7.6%
Total	98	100.0%	Total	145	100.0%

With more critical patients, or patients needing non-medical support (e.g., advocates to negotiate cultural barriers), an escort is often needed to assist with transport to the higher level facility. Paid escorts increase the cost of transport, and thus the cost of overall care. Almost three-quarters of medevacs (74%, n=276) did not use paid escorts (Figure 20), often because the transferring company provided an attendant. Only 15% (n=55) utilized escorts. (Note, however, that with 11% (n=43) of reported medevacs it was not indicated whether a paid escort was used.)

Figure 20: Use of Paid Escorts (n=374)



Use of paid escorts varied radically from clinic to clinic, with CRMC reporting none (0%), ARMC 2 (3.1%), IFHS 20 (20.4%), and IIMC 33 (22.8%).

Figure 21 presents the overall frequency of usage for equipment and certain procedures. Non-invasive BP monitors, pulse oximeters, and IVs were used in at least 73% of all FESC encounters. Also frequently used were cardiac monitors (43%), O_2 (34%), and IV pumps (22%). Note the diversity and volume of equipment, procedures, and labs used.

Figure 21: Equipment and Procedures (n=790)

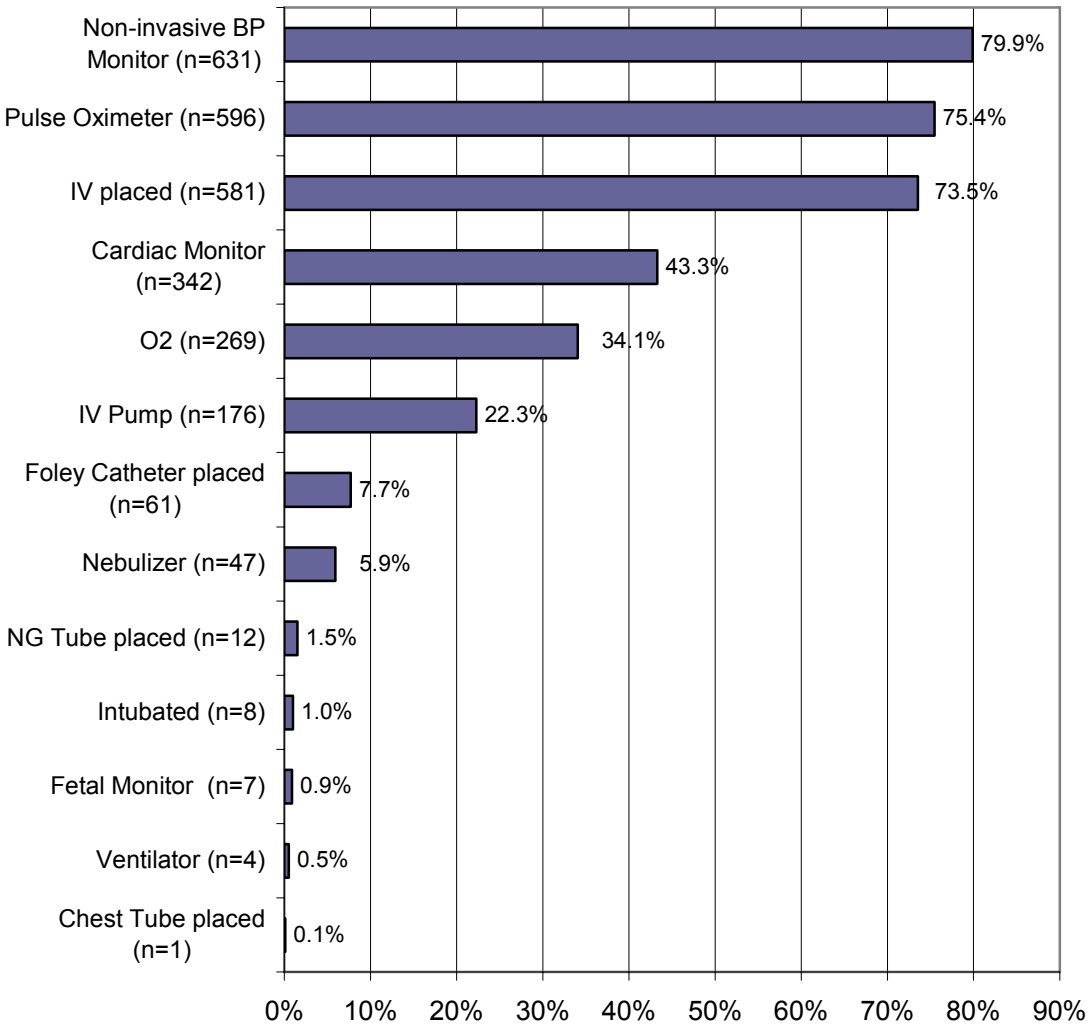


Figure 22 shows the five most frequent labs used in FESC encounters. CBC was used the most often, with almost half (49%) of all FESC encounters for this data period, followed by U/As (38%).

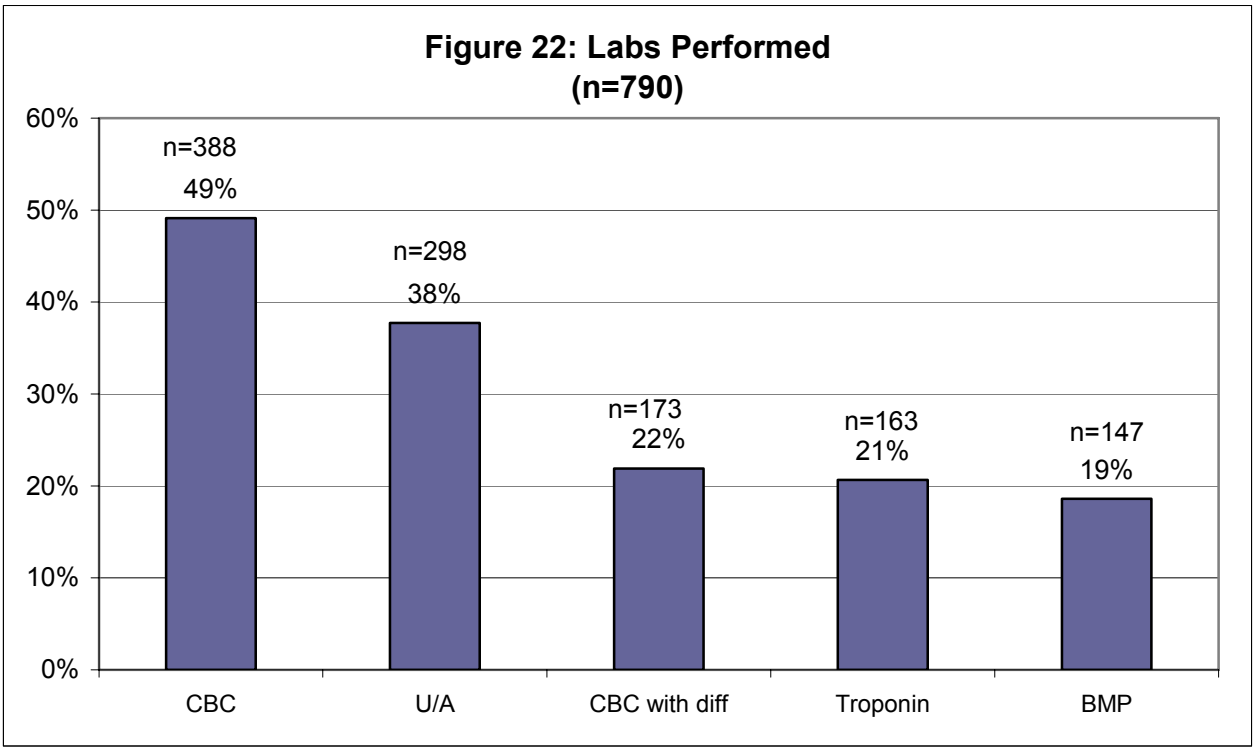


Figure 23 shows the relative frequency of EKG and X-ray procedures used in the FESC encounters. Note that 22% involved EKGs. The most common X-rays performed were chest X-rays (CXR) (22%).

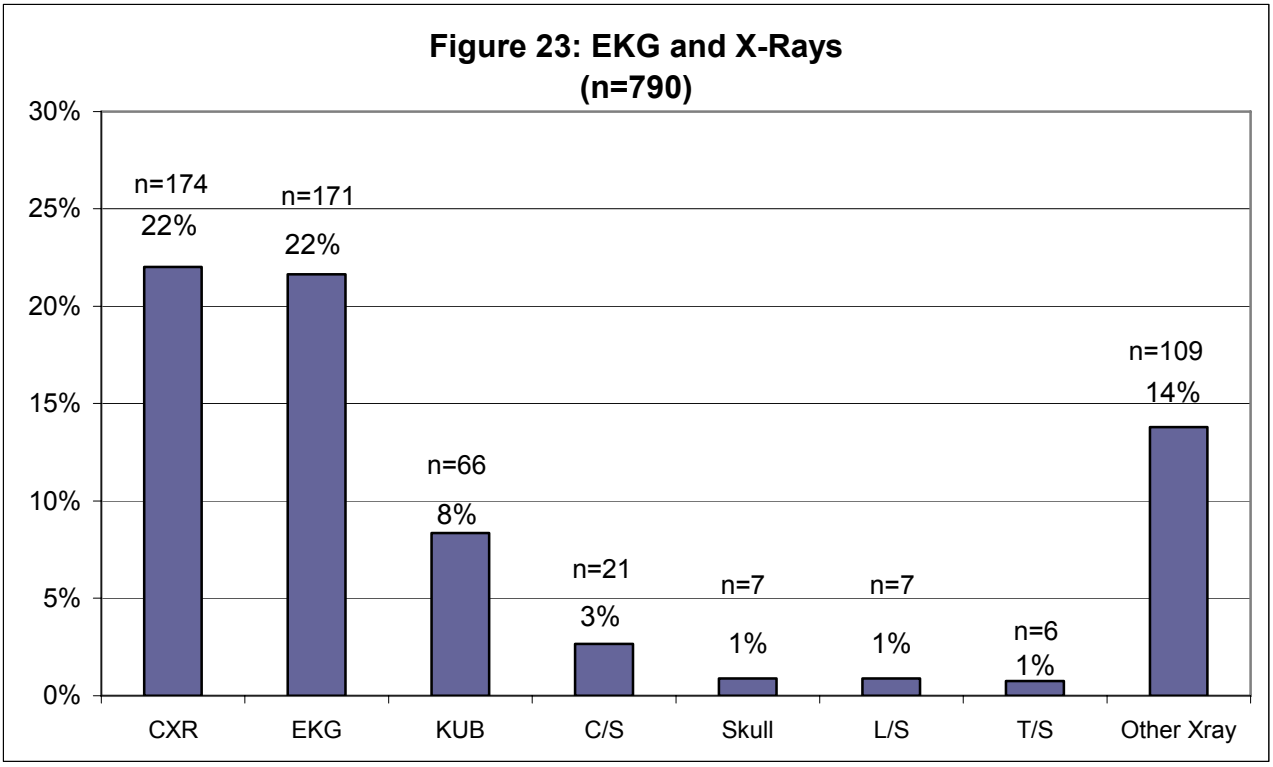


Table 8 reports all the equipment, procedures, labs, X-rays, and EKG labs used. Note that while many were used infrequently, the list is quite extensive. These data intend to demonstrate the clinical needs of FESC patients. It is probable that less isolated clinics, such as clinics in localities with hospitals, would not reflect the same diversity or volume of equipment, X-rays, and lab procedures.

Table 8. Equipment, Procedures, Labs, X-ray/EKG for all FESC Encounters (n=790)

Equipment and Procedures Used in FESC Encounters		
	number	percent
Non-invasive BP Monitor	631	80%
Pulse Oximeter	596	75%
IV placed	581	74%
Cardiac Monitor	342	43%
O_2	269	34%
IV Pump	176	22%
Foley Catheter placed	61	8%
Nebulizer	47	6%
NG Tube placed	12	2%
Intubated	8	1%
Fetal Monitor	7	1%
Ventilator	4	1%
Chest Tube	1	0%
X-rays/ EKG for FESC Encounters		
	number	percent
CXR	174	22%
EKG	171	22%
KUB	66	8%
C/S	21	3%
Skull	7	1%
L/S	7	1%
T/S	6	1%
Other X-ray	109	14%

Labs Used in FESC Encounters		
	number	percent
CBC	388	49%
U/A	298	38%
CBC with diff	173	22%
Troponin	163	21%
BMP	147	19%
Electrolytes	128	16%
Myoglobin	127	16%
CKMB	124	16%
CMP	114	14%
BUN/Creatinine	108	14%
Liver Function	97	12%
ETOH	51	6%
Amylase	42	5%
CK	30	4%
PT/PTT	29	4%
HCG	27	3%
ABG	19	2%
Sed Rate	16	2%
Other labs	248	31%

Table 9 presents the above data for each clinic, listed in order of overall project frequency. With only a couple of exceptions (IV pump, Foley catheter), equipment and procedures used were very similar. However, labs performed on FESC patients were very variable from clinic to clinic, particularly CBC and CBC with differential. Also highly divergent were troponin, BMP, electrolytes, myoglobin, CKMB, CMP, BUN/creatine, liver function, and ETOH. X-rays taken and use of EKG were also highly variable. This underscores clinic differences in lab capacity, equipment infrastructure, patient presenting complaints/conditions, and provider diagnostic practices.

Table 9. Equipment/procedures, labs, X-ray, and EKG by clinic

ALL ENCOUNTERS	ARMC (n=202)		CRMC (n=201)		IFHS (n=198)		IIMC (n=189)	
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Non-invasive BP Monitor	162	80.2%	168	83.6%	160	80.8%	141	74.6%
Pulse Oximeter	130	64.4%	177	88.1%	161	81.3%	128	67.7%
IV placed	148	73.3%	138	68.7%	153	77.3%	142	75.1%
Cardiac Monitor	110	54.5%	79	39.3%	61	30.8%	92	48.7%
O_2	61	30.2%	80	39.8%	67	33.8%	61	32.3%
IV Pump	47	23.3%	112	55.7%	16	8.1%	1	0.5%
Foley Catheter placed	10	5.0%	30	14.9%	19	9.6%	2	1.1%
Intubated	1	0.5%	0	0.0%	6	3.0%	1	0.5%
Ventilator	1	0.5%	0	0.0%	3	1.5%	0	0.0%
Chest Tube placed	0	0.0%	0	0.0%	1	0.5%	0	0.0%
Other **	19	9.4%	36	17.9%	38	19.2%	15	7.9%
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	116	57.4%	98	48.8%	174	87.9%	0	0.0%
U/A	99	49.0%	96	47.8%	83	41.9%	20	10.6%
CBC with diff	60	29.7%	36	17.9%	7	3.5%	70	37.0%
Troponin	34	16.8%	38	18.9%	70	35.4%	21	11.1%
BMP	9	4.5%	18	9.0%	116	58.6%	4	2.1%
Electrolytes	85	42.1%	8	4.0%	32	16.2%	3	1.6%
Myoglobin	33	16.3%	4	2.0%	69	34.8%	21	11.1%
CKMB	34	16.8%	0	0.0%	70	35.4%	20	10.6%
CMP	6	3.0%	60	29.9%	39	19.7%	9	4.8%
BUN/Creatinine	65	32.2%	8	4.0%	32	16.2%	3	1.6%
Liver Function	53	26.2%	7	3.5%	37	18.7%	0	0.0%
ETOH	19	9.4%	5	2.5%	26	13.1%	1	0.5%
Amylase	6	3.0%	12	6.0%	23	11.6%	1	0.5%
CK	21	10.4%	0	0.0%	9	4.5%	0	0.0%
PT/PTT	15	7.4%	5	2.5%	3	1.5%	6	3.2%
HCG	14	6.9%	2	1.0%	11	5.6%	0	0.0%
ABG	0	0.0%	2	1.0%	17	8.6%	0	0.0%
Sed Rate	3	1.5%	3	1.5%	8	4.0%	2	1.1%
Other labs	61	30.2%	90	44.8%	84	42.4%	13	6.9%
X-Rays/EKGs Done	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CXR	48	23.8%	49	24.4%	69	34.8%	8	4.2%
EKG	13	6.4%	36	17.9%	77	38.9%	45	23.8%
KUB	25	12.4%	6	3.0%	24	12.1%	11	5.8%
C/S	7	3.5%	1	0.5%	11	5.6%	2	1.1%
Skull	1	0.5%	2	1.0%	4	2.0%	0	0.0%
L/S	0	0.0%	2	1.0%	5	2.5%	0	0.0%
T/S	1	0.5%	1	0.5%	4	2.0%	0	0.0%
Other X-ray	30	14.9%	22	10.9%	24	12.1%	33	17.5%

** - Includes Nebulizer, NG Tube, and Fetal Heart Monitor

B. Monitoring and Observation Encounters Two Hours and Over

This subsection examines the data for the 406 Monitoring and Observation encounters that were at least two hours in length.

The mean and median lengths of Mon Ob encounters were 8.69 and 4.25 hours, respectively (Table 10). The mean length is considerably greater than the median due to the presence of lengthy outliers, such as the maximum Mon Ob of 99.5 hours recorded for CRMC. This also contributed to a high variability and range for Mon Ob length, reflected in a high standard deviation of 12.38. Note that Mon Obs, by a definition agreed to by the FESC Consortium, were at least 2 hours in length, and so tended to be considerably longer than Transfer encounters.

Table 10. Time Descriptors for Mon Ob Encounters

All Mon Ob Encounters Time Descriptors	
Number of encounters	406
Mean Length of Time	8.69
Median Length of Time	4.25
Standard Deviation	12.38
Minimum	2.00
Maximum	99.50

Mean, median and maximum lengths of Mon Ob encounters varied widely from clinic to clinic, as Table 11 clearly shows:

Table 11. Time descriptors for Mon Obs, by clinic

Time Descriptors	ARMC	CRMC	IFHS	IIMC
Number of Encounters	133	133	98	42
Mean Length of Visit	4.19	17.07	5.83	3.14
Median Length of Visit	3.50	10.25	4.50	2.75
Standard Deviation	2.98	18.47	4.18	1.14
Maximum Visit Length	24.25	99.50	25.75	6.50

The means and medians ranged from 3.14 ad 2.75 hours (IIMC) to 17.07 and 10.25 hours (CRMC). Note, however, that median Mon Ob lengths (which reduce the statistical noise of occasional very long outliers) for three of the four clinics fall in a fairly compact range, 2.75 (IIMC) to 4.50 (IFHS), with ARMC falling between at 3.50. CRMC is distinctive in the length of its Mon Ob encounters.

Mon Ob lengths are further elucidated by Figure 24, which graphs the time distribution of the Mon Obs for each clinic [note that because Mon Obs are by definition at least 2 hours in length, all clinics recorded 0% for the <2 hours time range]. ARMC and IIMC displayed similar distributions, with 61% and 79%, respectively, falling under 4 hours, and 2% and 0% 12 hours or more, respectively. IFHS was unique in having 61% of its encounters fall in the 4-12 hour range, though only 6% were 12 hours or more. CRMC's Mon Ob time distribution is distinctive, with only 23% under 2 hours, and 46% 12 or more hours in length. Again, no clinic displayed a "typical" time distribution matching that of the overall project.

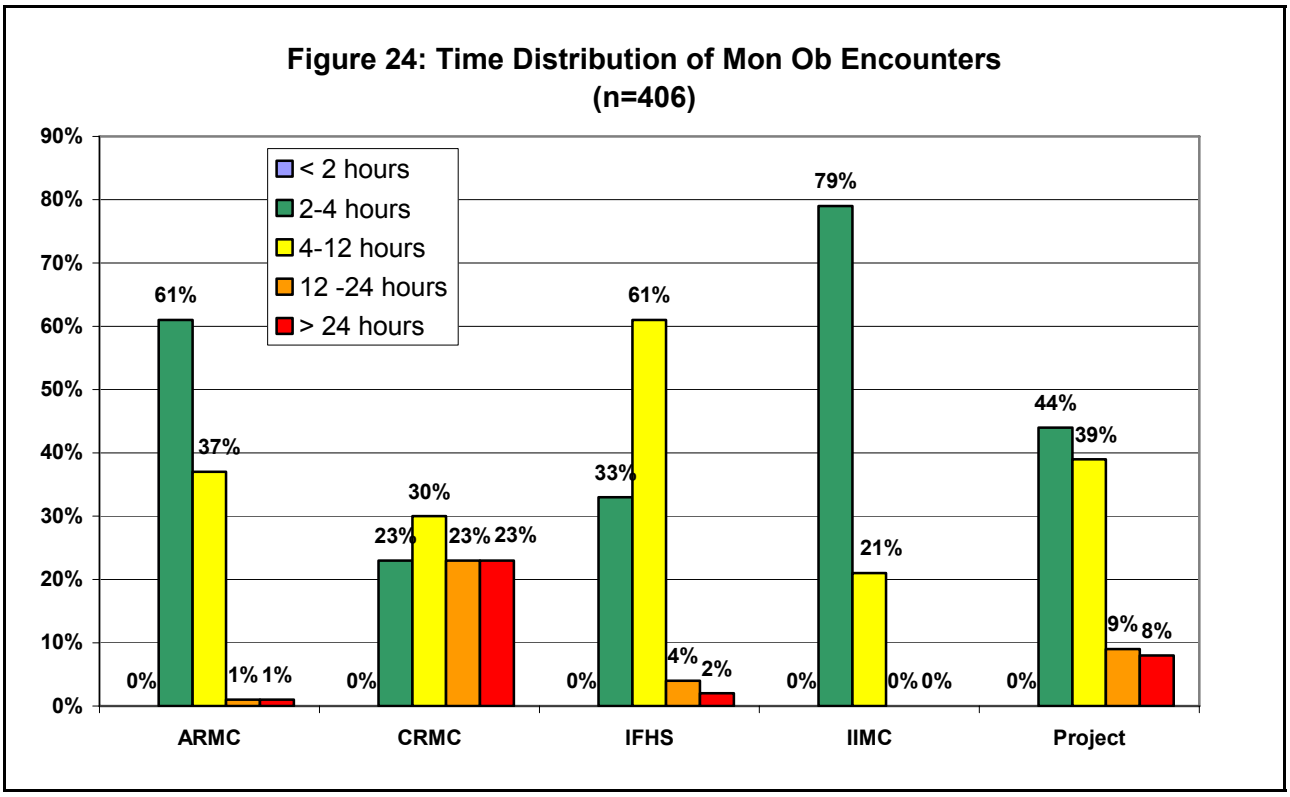
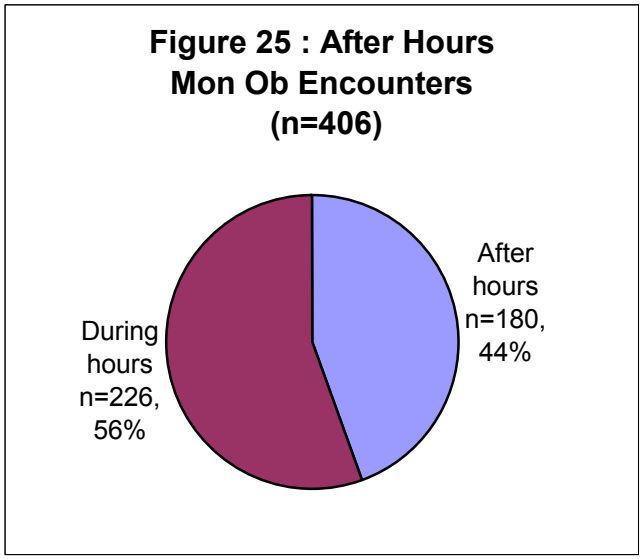


Figure 25 shows that 44% (n=180) of Mon Ob encounters began outside of normal clinic hours, close to the 47% for all FESC types combined. Timing of the encounter was not associated with patient classification. This was true of all clinics. Figure 11 above shows the fairly small variation among the clinics in percentage of Mon Ob encounters commencing after hours, with CRMC leading with 55%, followed by IIMC (48%), ARMC (38%), and IFHS (also 38%). Figure 11 also shows how CRMC was the only clinic whose Mon Ob encounters were more frequently after hours than its Transfer encounters; in all the other clinics Transfers were more frequently after hours.



The five most frequent chief complaints of Mon Ob patients accounted for 57% of all Mon Ob chief complaints (Figure 26). They were nearly identical to the top five chief complaints of the overall FESC patient population, differing only with flu-like symptoms as the most frequent complaint for the Mon Obs. This likely can be attributed to the fact that these are symptoms of conditions that can often be stabilized during a Mon Ob encounter. Other, less frequent complaints of Mon Ob patients include dizziness/DLOC/ syncope/confusion (n=27, 7%), fever (n=18, 4%), and behavioral/mental health complaints (n=17, 4%).

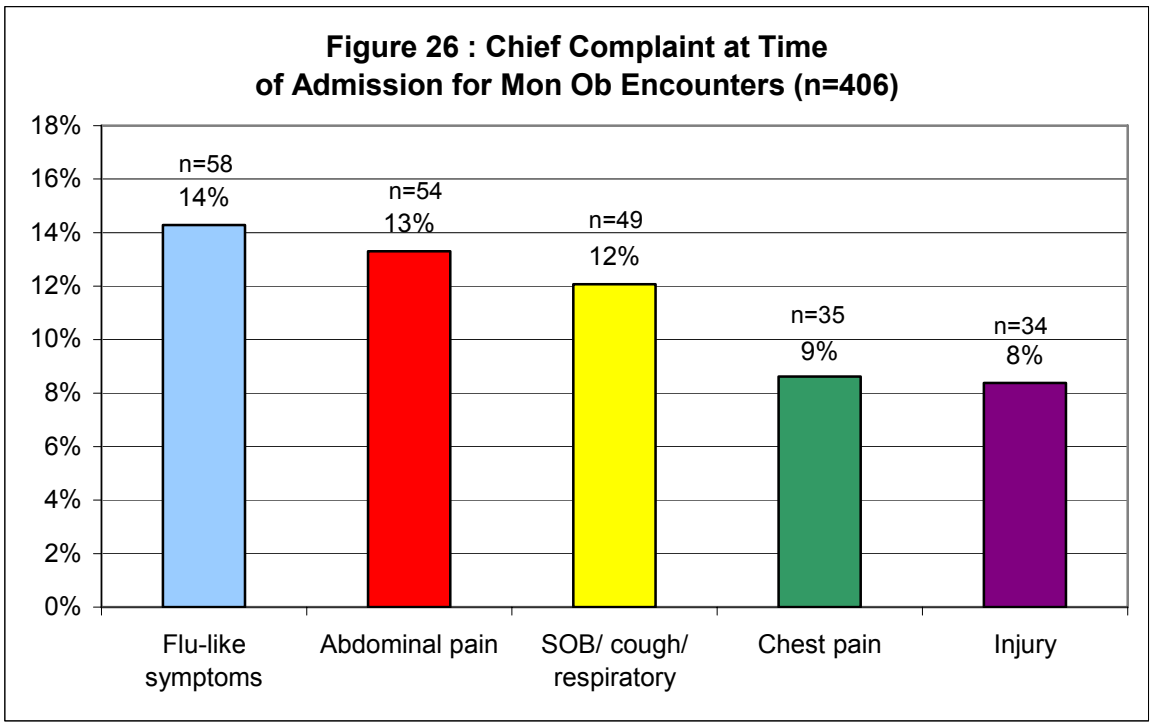
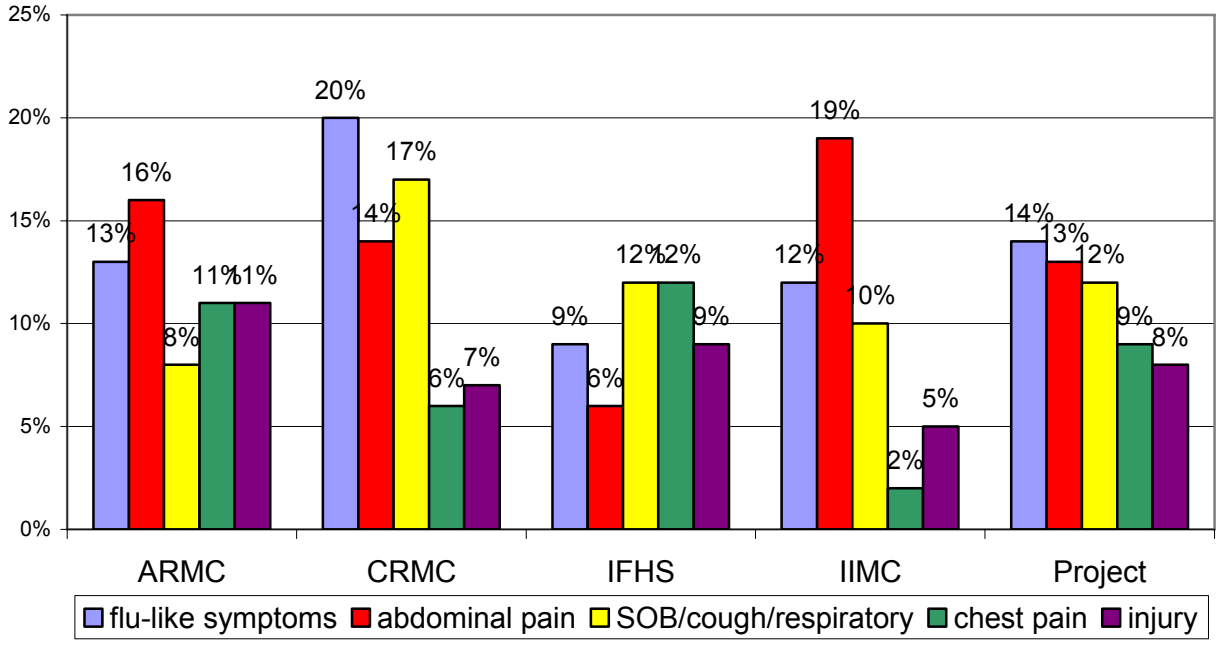


Figure 27 graphs the frequency of these top 5 project chief complaints for each of the clinics, underscoring their heterogeneity, with none reporting a frequency distribution like that for the overall project.

Figure 27: Frequency of Top 5 Project Chief Complaints for Mon Obs (n=406)



Looking at the top 5 chief complaints reported by each clinic does show some common ground within the diversity (Table 12): all four reported flu-like symptoms and SOB/cough/respiratory complaints among their five most frequent, and three of the four abdominal pain, chest pain, and injury.

Table 12. Top 5 chief complaints for Mon Obs by clinic

ARMC			**CRMC**		
Complaint	n	%	Complaint	n	%
Abdominal pain	21	15.8%	Flu-like symptoms	27	20.3%
Flu-like symptoms	17	12.8%	SOB, cough, respiratory	22	16.5%
Chest pain	14	10.5%	Abdominal pain	19	14.3%
Injury	14	10.5%	Injury	9	6.8%
SOB, cough, respiratory	11	8.3%	Chest pain	8	6.0%
Total	77	57.9%	Total	85	63.9%
IFHS			**IIMC**		
Complaint	n	%	Complaint	n	%
SOB, cough, respiratory	12	12.2%	Abdominal pain	8	19.0%
Chest pain	12	12.2%	Dizzy/syncope/confusion	6	14.3%
Fever	10	10.2%	Flu-like symptoms	5	11.9%
Flu-like symptoms	9	9.2%	SOB, cough, respiratory	4	9.5%
Injury	9	9.2%	Flank pain	3	7.1%
Total	52	53.1%	Total	26	61.9%

The six most common diagnoses at discharge for the Mon Ob patients are shown in Figure 28 (n=405, missing data =1). These represent 62% of all Mon Ob diagnoses at discharge. These differ slightly from the top five diagnoses for the total FESC patient population, in that 1) gastrointestinal diagnoses (n=64, 16%) were the most frequent and 2) renal/urinary diagnoses (n=33, 8%) appear among the five most frequent diagnoses. Other less frequent diagnoses at discharge included respiratory (n=21, 5%), flu/flu-like illness (n=17, 4%), and diabetes-related diagnoses (n=17, 4%).

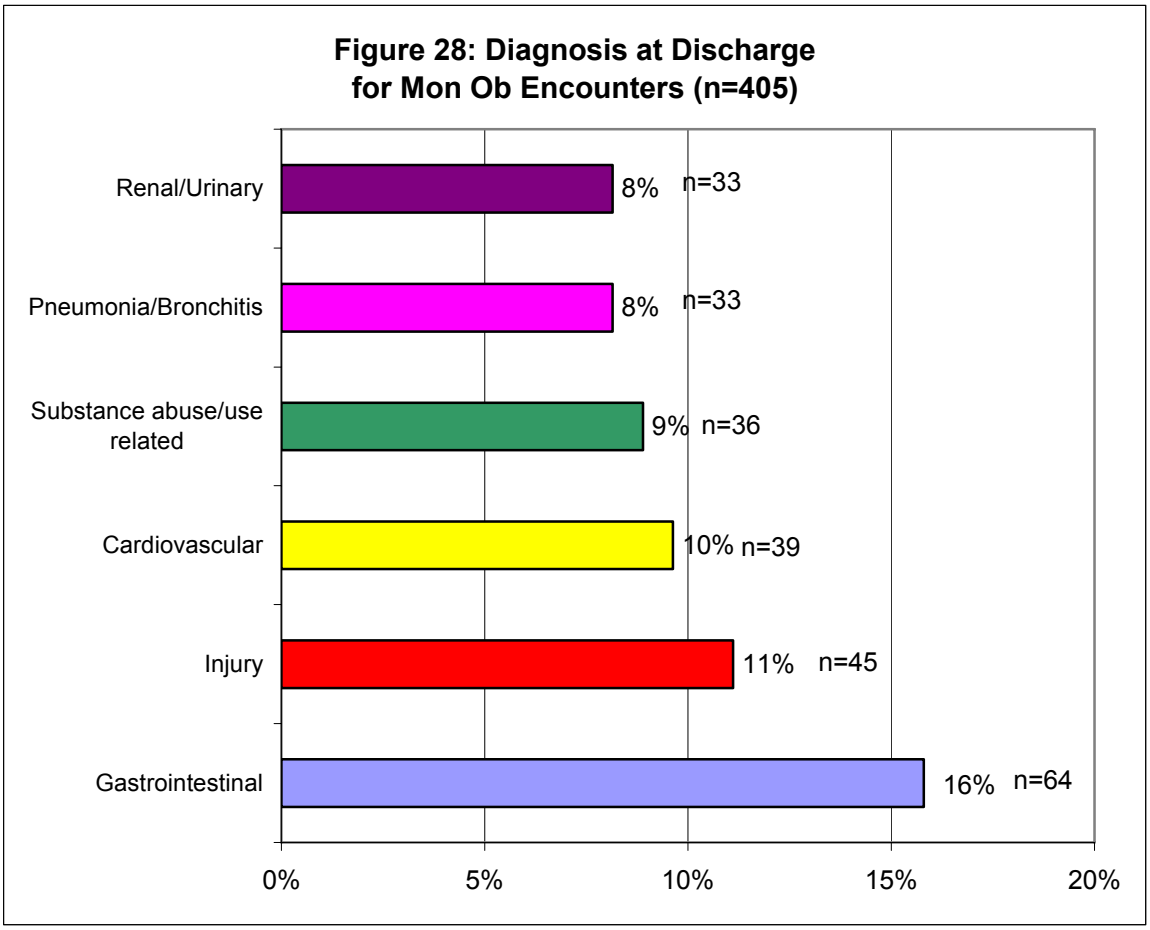
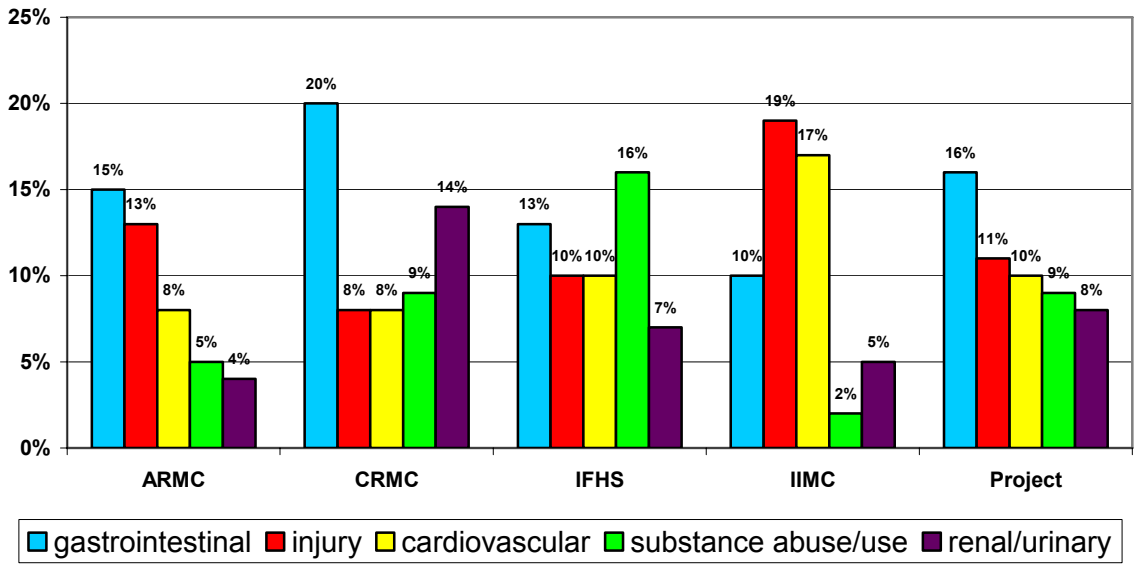


Figure 29 graphs the frequency of these top 5 project diagnoses at discharge for each of the clinics, underscoring their heterogeneity, with only ARMC reporting a frequency distribution like that for the overall project.

Figure 29: Frequency of Project Top Five Mon Ob Diagnoses at Discharge (n=405)



Looking at the top 5 diagnoses at discharge for Mon Obs reported by each clinic reveals much common ground within their diversity (Table 13): all four reported gastrointestinal, injury, and cardiovascular diagnoses among their five most frequent. IFHS was distinctive in having substance abuse as its most frequent Mon Ob diagnosis (16%, n=16), and ARMC in reporting a substantial percentage of renal/urinary Mon Ob diagnoses (11%, n=14).

Table 13. Top 5 diagnoses at discharge for Mon Obs, by clinic

ARMC			**CRMC**		
Diagnosis	n	%	Diagnosis	n	%
Gastrointestinal	20	15.0%	Gastrointestinal	27	20.3%
Injury	17	12.8%	Pneumonia/Bronchitis	19	14.3%
Renal/Urinary	14	10.5%	Substance abuse	12	9.0%
Cardiovascular	11	8.3%	Cardiovascular	11	8.3%
Infection	11	8.3%	Injury	10	7.5%
Total	73	54.9%	Total	79	59.4%
IFHS			**IIMC**		
Diagnosis	n	%	Diagnosis	n	%
Substance abuse	16	16.3%	Injury	8	19.0%
Gastrointestinal	13	13.3%	Cardiovascular	7	16.7%
Injury	10	10.2%	Gastrointestinal	4	9.5%
Cardiovascular	10	10.2%	Respiratory	3	7.1%
Flu/Flu-like illness	8	8.2%	Hepatic/pancreatic	3	7.1%
Total	57	58.2%	Total	25	59.5%

Figure 30 displays a very different pattern of patient disposition from that of the entire patient population, since we are looking only at Mon Obs, who, by definition, have not been transferred/medevaced. The large majority of Mon Obs (78%, n=316) were discharged home, and another 20% (n=81) were referred to another health facility for non-urgent follow-up care. Thus, 40% (316 of 790) of all FESC encounters were Mon Obs successfully treated in-clinic and in-community, avoiding a medevac or a follow-up trip to another health facility. Thus, the clinics had the resources to resolve a substantial percentage of FESC encounters without incurring the expense and inconvenience of medevacs or long off-island/out-of-area referral visits.

Figure 30: Disposition of Mon Ob Encounters (n=406)

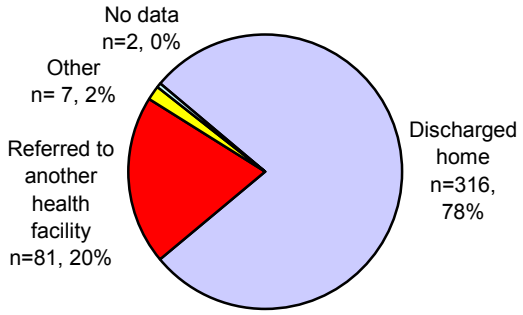


Figure 31 reveals more common ground among the clinics: they all reported similar percentages of Mon Obs discharged home, ranging from 73% (CRMC) to 83% (IFHS), and likewise similar percentages referred to other facilities for non-urgent follow-up care, ranging from 15% (IFHS) to 24% (CRMC).

Figure 31: Disposition of Mon Ob Encounters (n=406)

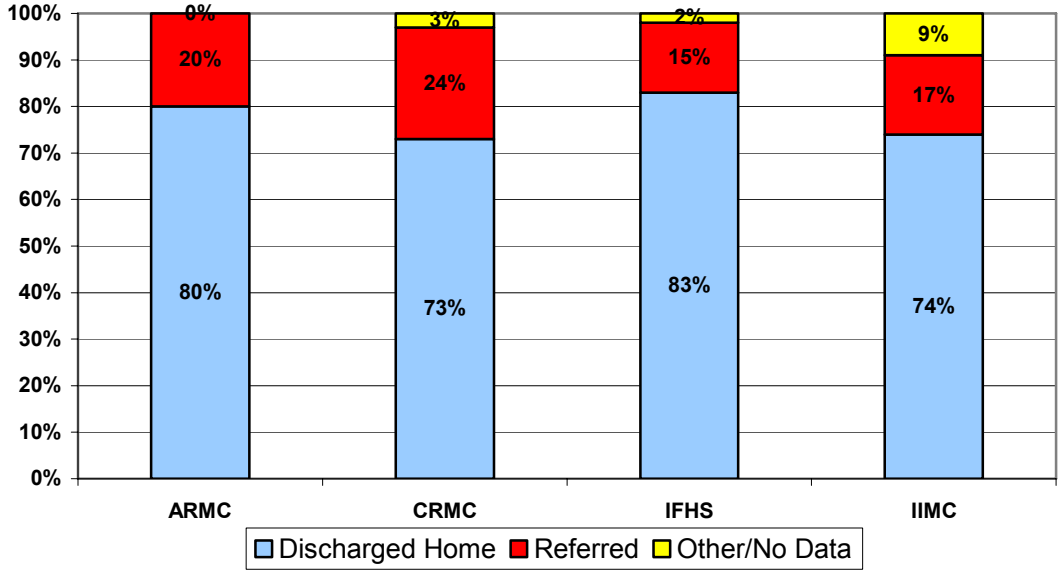


Table 14 delineates the equipment/procedures, labs, X-rays, and EKG utilized in providing services specifically to the Mon Ob FESC patients. Non-invasive BP monitors, IVs, and pulse oximeters were each used on at least 70% of all Mon Obs. The most frequent lab workups were CBCs (n=224, 55%) and U/As (n=185, 46%). The most common X-ray was a CXR (n=96, 24%), followed by an EKG (n=67, 17%). Again, note the breadth of equipment, labs, and procedures utilized.

Table 14. Equipment, procedures, labs, X-rays, EKGs for Mon Ob Encounters (n=406)

Equipment and Procedures Used in Mon Ob FESC Encounters		
	number	percent
Non-invasive BP monitor	313	77%
IV used	287	71%
Pulse oximeter	286	70%
Cardiac monitor	148	36%
O2 used	104	26%
IV pump	95	23%
Foley catheter	15	4%
Ventilator	0	0%
Intubated	0	0%
Chest tube	0	0%
Other	46	11%
X-rays/ EKG for Mon Ob FESC Encounters		
	number	percent
CXR	96	24%
EKG	67	17%
KUB	35	9%
C/S	5	1%
Skull	3	1%
L/S	2	0%
T/S	1	0%
Other X-ray	47	12%

Labs for Mon Ob FESC Encounters		
	number	percent
CBC	224	55%
U/A	185	46%
Electrolytes	89	22%
CBC with diff	86	21%
BMP	81	20%
BUN/Creatinine	74	18%
Troponin	73	18%
CMP	57	14%
Liver Function	57	14%
Myoglobin	54	13%
CKMB	53	13%
ETOH	31	8%
Amylase	22	5%
CK	17	4%
HCG	14	3%
PT/PTT	12	3%
Sed Rate	6	1%
ABG	2	0%
Other labs	152	37%

Table 15 breaks down the Table 14 data by clinic, showing very similar frequencies of equipment and procedures used in all four clinics, but very divergent frequencies of labs, X-rays, and EKGs. CBCs ranged from 88% of IFHS Mon Obs to 0% of IIMC's; CBC with differential ranged from 38% of IIMC Mon Obs to 2% of IFHS's. Other labs performed for Mon Obs with highly divergent use frequencies included electrolytes (0% to 48%), BMP (2% to 61%), and liver function (0% to 26%). CXRs ranged from 2% (IIMC) to 23% (ARMC), and EKGs from 6% of Mon Obs (ARMC) to 26% (CRMC). As with the overall clinic equipment and lab use patterns observed above, this underscores clinic differences in lab capacity, equipment infrastructure, patient presenting complaints/conditions, and provider diagnostic practices.

Table 15. Equipment, procedures, labs, X-rays, EKGs for Mon Ob encounters by clinic

MON OB ENCOUNTERS	ARMC (n=133)		CRMC (n=133)		IFHS (n=98)		IIMC (n=42)	
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Non-invasive BP Monitor	99	74.4%	107	80.5%	76	77.6%	31	73.8%
IV placed	90	67.7%	89	66.9%	77	78.6%	31	73.8%
Pulse Oximeter	73	54.9%	115	86.5%	73	74.5%	25	59.5%
Cardiac Monitor	68	51.1%	40	30.1%	26	26.5%	14	33.3%
O_2	32	24.1%	40	30.1%	23	23.5%	9	21.4%
IV Pump	25	18.8%	68	51.1%	2	2.0%	0	0.0%
Foley Catheter placed	2	1.5%	9	6.8%	3	3.1%	1	2.4%
Intubated	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Ventilator	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Chest Tube placed	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	13	9.8%	20	15.0%	11	11.2%	2	4.8%
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	78	58.6%	60	45.1%	86	88%	0	0.0%
U/A	71	53.4%	66	49.6%	38	38.8%	10	23.8%
Electrolytes	65	48.9%	8	6.0%	16	16.3%	0	0.0%
CBC with diff	48	36.1%	20	15.0%	2	2.0%	16	38.1%
BMP	6	4.5%	14	10.5%	60	61.2%	1	2.4%
BUN/Creatinine	49	36.8%	8	6.0%	16	16.3%	1	2.4%
Troponin	23	17.3%	20	15.0%	28	28.6%	2	4.8%
CMP	3	2.3%	34	25.6%	16	16.3%	4	9.5%
Liver Function	35	26.3%	6	4.5%	16	16.3%	0	0.0%
Myoglobin	23	17.3%	2	1.5%	27	27.6%	2	4.8%
CKMB	23	17.3%	0	0.0%	28	28.6%	2	4.8%
ETOH	11	8.3%	1	0.8%	19	19.4%	0	0.0%
Amylase	4	3.0%	8	6.0%	9	9.2%	1	2.4%
CK	15	11.3%	0	0.0%	2	2.0%	0	0.0%
HCG	9	6.8%	2	1.5%	3	3.1%	0	0.0%
PT/PTT	6	4.5%	2	1.5%	2	2.0%	2	4.8%
Sed Rate	2	1.5%	2	1.5%	2	2.0%	0	0.0%
ABG	0	0.0%	0	0.0%	2	2.0%	0	0.0%
Other labs	37	27.8%	60	45.1%	47	48.0%	8	19.0%
X-Rays/EKGs Done	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CXR	31	23.3%	34	25.6%	30	15.2%	1	2.4%
EKG	8	6.0%	16	12.0%	35	17.7%	8	19.0%
KUB	18	13.5%	5	3.8%	9	4.5%	3	7.1%
C/S	1	0.8%	0	0.0%	3	1.5%	1	2.4%
Skull	1	0.8%	2	1.5%	0	0.0%	0	0.0%
L/S	0	0.0%	0	0.0%	2	1.0%	0	0.0%
T/S	0	0.0%	0	0.0%	1	0.5%	0	0.0%
Other X-ray	21	15.8%	15	11.3%	9	4.5%	2	4.8%

C. Transfer Encounters

Three hundred and twelve (39%) of the FESC encounters were designated Transfers; that is, the clinics were observing and stabilizing patients while they awaited transport to a tertiary care facility.

The mean length of Transfer encounters was 4.27 hours, and the median length only 2.75 hours (Table 16). This indicates that the clinics were able to diagnose, classify, stabilize, and arrange transport for Transfer patients rather quickly, in an average of a little over 4 hours. Note, however, that there were occasionally much longer Transfer encounters, such as the maximum 41.50 hours recorded by IFHS in Unalaska when bad weather delayed patient transport for almost two days.

Table 16. Time Descriptors for Transfers

All Transfer Encounters Time Descriptors	
Number of encounters	312
Mean Length of Time	4.27
Median Length of Time	2.75
Standard Deviation	5.09
Minimum	0.25
Maximum	41.50

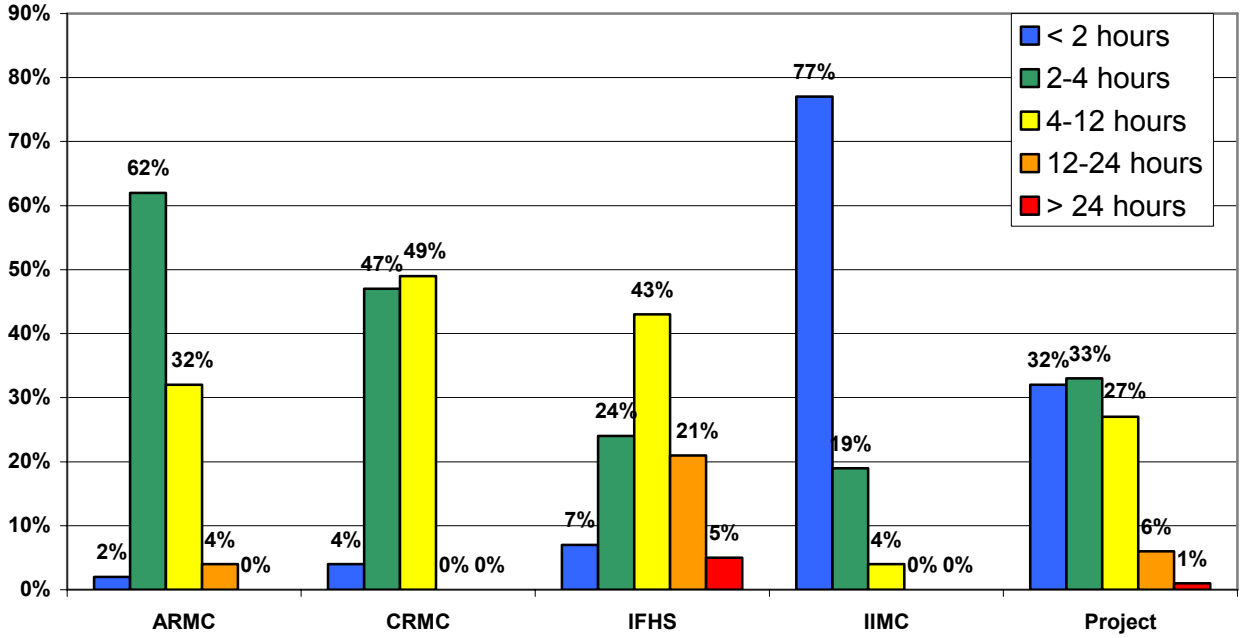
Table 17 reveals the variations among the time descriptors for Transfers among the four clinics, which were not nearly as pronounced as among the Mon Ob encounters (standard deviation of only 5.09 vs. 12.38 for the Mon Obs). The range of the Transfer median lengths of the clinics was 1.25 (IIMC) to 5.50 (IFHS). IIMC, with its many readily available medevac options (plane, helicopter, sheriff's boat, and ferry), executed its Transfers the most rapidly. Even CRMC, notable for its long Mon Ob encounters, reported Transfer encounters approximating the project mean and median, indicating that the overall great length of its encounters was attributable to its Mon Ob encounters, not its Transfers. IFHS reported the longest mean and median Transfer encounters due to occasional medevac delays caused by bad weather, limited daylight, and unavailability of transport (i.e., waiting for planes to arrive from Anchorage). Still, despite these impediments, it managed to medevac half of its Transfer patients in less than 5.50 hours (approximately the time necessary to await a plane called in from Anchorage). In all, these numbers testify to the clinics' ability to quickly diagnose, classify, stabilize, and arrange transport for their Transfer FESC encounters.

Table 17. Time descriptors for Transfers, by clinic

TRANSFER ENCOUNTERS	ARMC	CRMC	IFHS	IIMC
Time Descriptors				
Number of Encounters	56	53	84	119
Mean Length of Visit	4.00	4.00	8.64	1.42
Median Length of Visit	3.50	3.75	5.50	1.25
Standard Deviation	2.24	1.40	7.77	0.87
Maximum Visit Length	12.25	8.50	41.50	4.00
Minimum Visit Length	1.00	0.50	1.25	0.25

Figure 32 graphs the time distribution of the clinics' Transfer encounters, showing clearly how no clinic displayed a "typical" distribution pattern. IIMC's are striking in their rapidity, with 77% taking less than two hours. ARMC's were also rapid, with 64% under 4 hours. Only IFHS had a majority of its Transfers (69%) take over four hours, for the reasons noted above; this contrasts with ARMC (36%), CRMC (49%), and IIMC (4%).

Figure 32: Time Distribution of Transfer Encounters (n=312)



Slightly over half of the Transfer encounters (52%, n=161) initiated outside of normal clinic hours (Figure 33), a somewhat greater percentage than the Mon Obs' 44% (Figure 25). Since the traumatic events that often necessitate medevacs occur 24/7, it is not surprising to see around half the Transfer encounters beginning after hours.

Figure 33: After Hours Transfer Encounters (n=312)

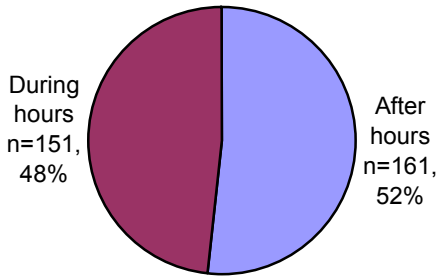
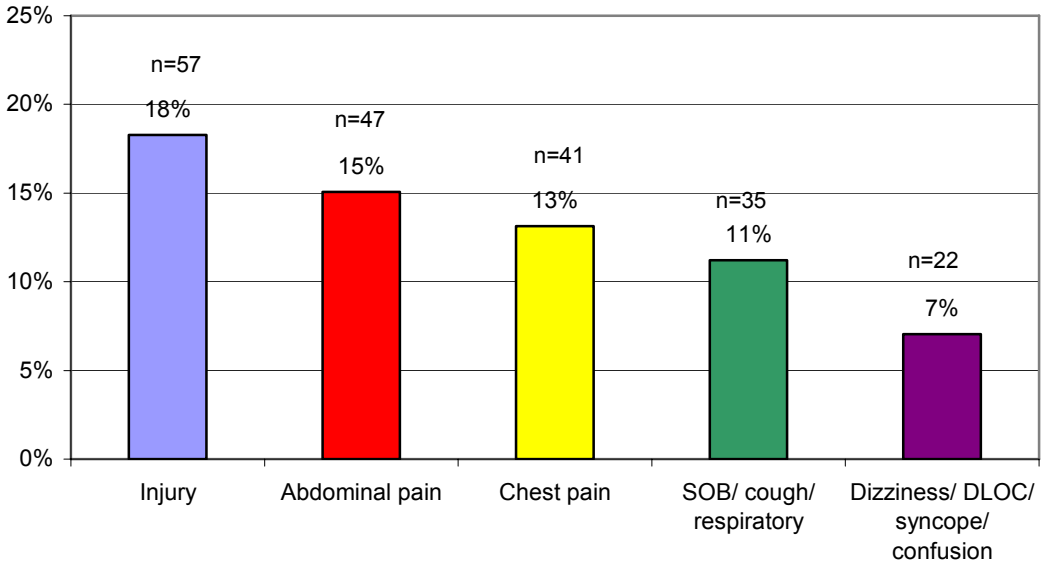


Figure 11 (p. 19) shows the fairly small variation among the clinics in percentage of Transfer encounters commencing after hours, with IIMC

leading with 58%, followed by CRMC (53%), IFHS (48%), and ARMC (45%). As already noted, in all the clinics but CRMC, Transfers were more frequently after hours than Mon Obs.

The top five chief complaints at time of admission for all Transfers are presented in Figure 34; these represent 65% of all chief complaints for the Transfer category. This differs from the pattern seen for the overall project which 1) featured injury as the most frequent chief complaint and 2) included dizziness/DLOC/syncope/confusion. Other less frequent chief complaints of Transfers included pregnancy-related (n=17, 5%), behavioral/mental health (n=16, 5%), and pain in limb(s) (n=14, 4%).

Figure 34 : Chief Complaint at Time of Admission for Transfer Encounters (n=312)



Graphing for each clinic the distribution of these five most frequent chief complaints (Figure 35) reveals only IFHS with a percentage distribution similar to the overall project's. Otherwise, no clinic is "typical."

Figure 35: Frequency of Top 5 Chief Complaints for Transfers (n=312)

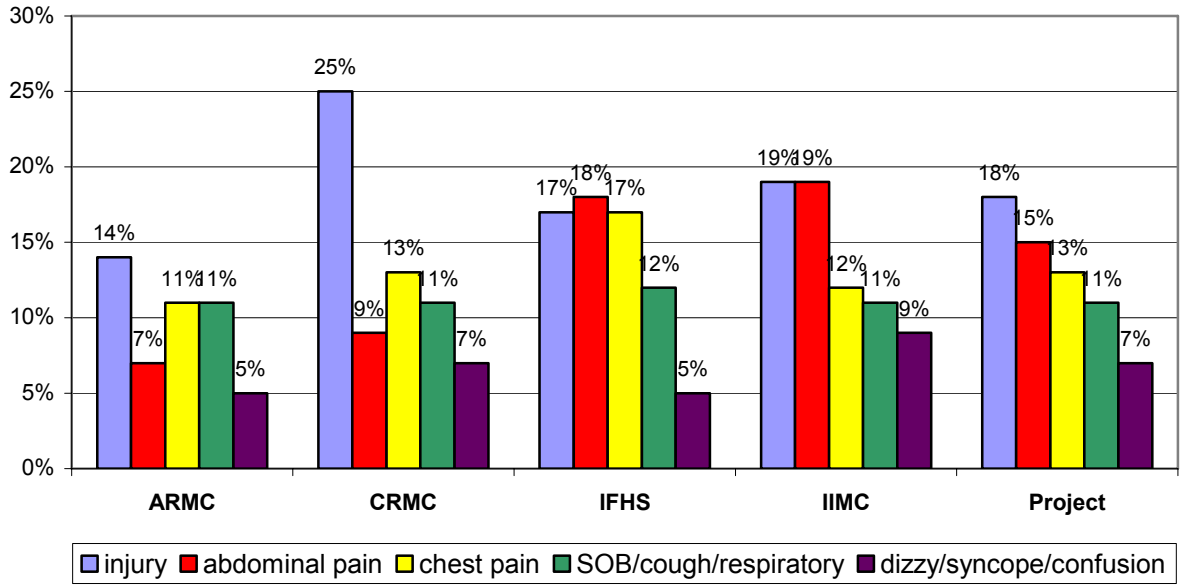


Table 18 presents the five most frequent chief complaints for the Transfer encounters of each clinic. All five included injury, chest pain, SOB/cough/respiratory, and abdominal pain among their five most frequently reported chief complaints.

Table 18. Top 5 chief complaints of Transfers, by clinic

ARMC			**CRMC**		
Complaint	n	%	Complaint	n	%
Injury	8	14.3%	Injury	13	24.5%
Chest pain	6	10.7%	Chest pain	7	13.2%
SOB, cough, respiratory	6	10.7%	SOB, cough, respiratory	6	11.3%
Pregnancy related	5	8.9%	Abdominal pain	5	9.4%
Abdominal pain	4	7.1%	Dizzy/syncope/confusion	4	7.5%
Total	29	51.8%	Total	35	66.0%
IFHS			**IIMC**		
Complaint	n	%	Complaint	n	%
Abdominal pain	15	17.9%	Abdominal pain	23	19.3%
Injury	14	16.7%	Injury	22	18.5%
Chest pain	14	16.7%	Chest pain	14	11.8%
SOB, cough, respiratory	10	11.9%	SOB, cough, respiratory	13	10.9%
Behavioral/Mental health	5	6.0%	Dizzy/syncope/confusion	11	9.2%
Total	58	69.0%	Total	83	69.7%

Figure 36 presents the five most frequent diagnoses at discharge for all Transfer patients, representing 60% of all Transfer diagnoses. This differs from the overall pattern with the presence of pregnancy-related diagnoses in place of substance abuse-related diagnoses among the five most frequent. Note that injury tops the list (n=65, 21%) for Transfers, followed closely by cardiovascular (n=58, 19%): these two alone account for 40% of Transfer diagnoses. Other less frequent diagnoses for Transfers included brain injury/problem (n=19, 6%), hepatic/pancreatic/gallbladder/appendix (n=17, 5%), and renal/urinary (n=12, 4%).

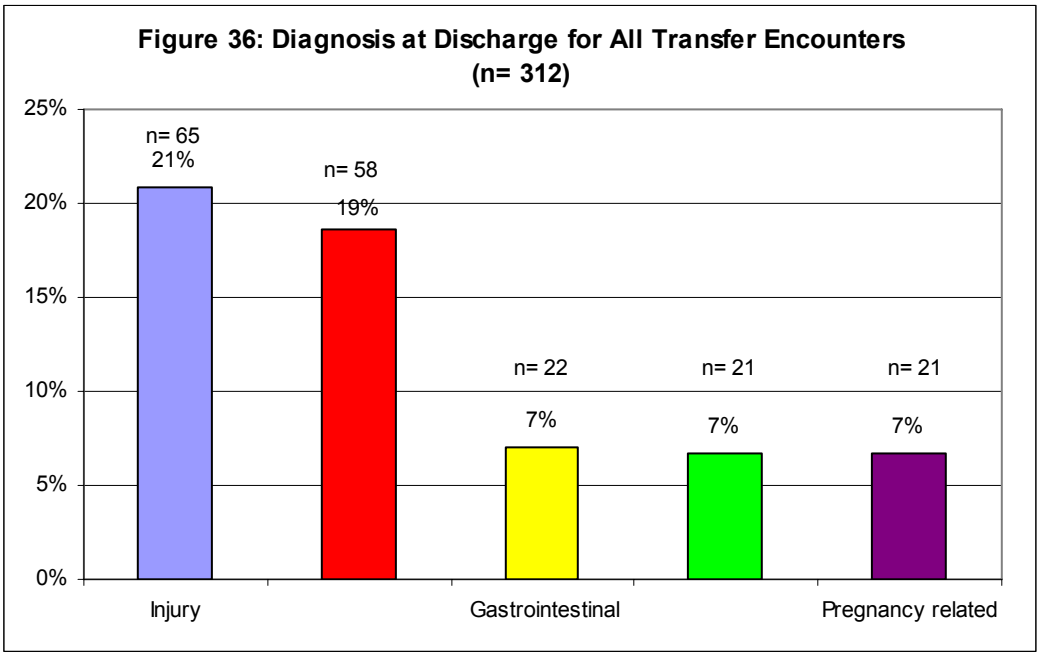
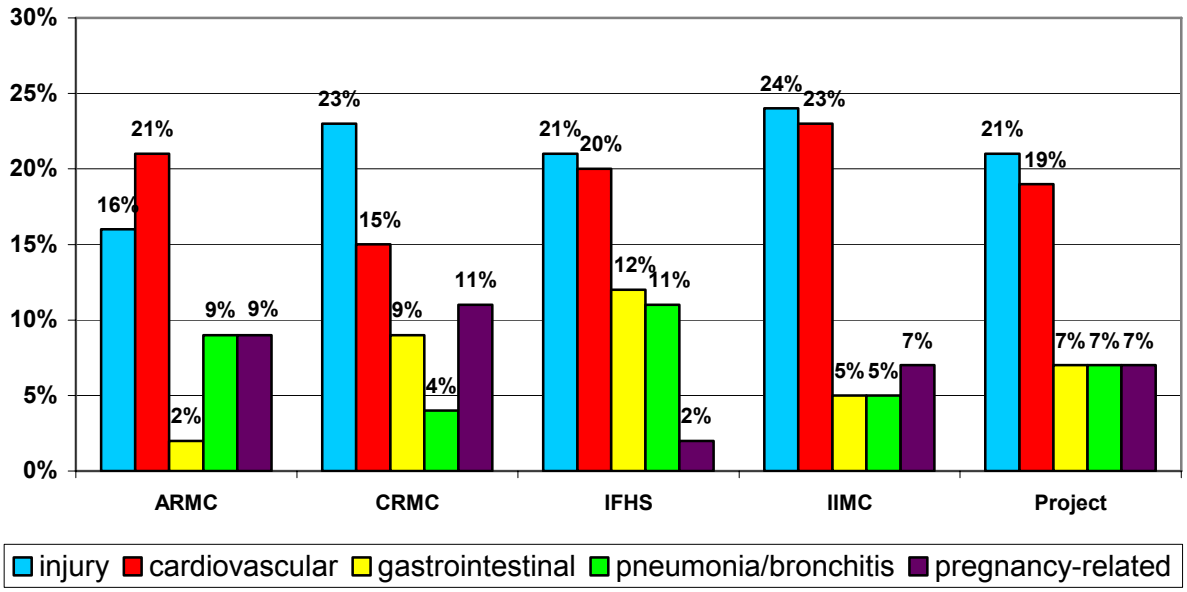


Figure 37 plots the frequency of the top 5 project diagnosis at discharge for Transfers for each clinic; only IIMC reported a frequency distribution close to that of the overall project. Nevertheless, all four clinics reported high frequencies of cardiovascular and injury diagnoses, ranging between a combined 36% and 47% of Transfer diagnoses.

Figure 37: Frequency of Top Five Project Diagnoses at Discharge for Transfers (n=312)



Outside of cardiovascular and injury diagnoses, the clinics showed moderate variability in Transfer diagnoses reported (Table 19), with brain injury/problems, gastrointestinal, and pregnancy-related diagnoses all prominent among three of four, and pneumonia/bronchitis among two.

Table 19. Top 5 diagnoses at discharge for Transfers, by clinic

ARMC			**CRMC**		
Diagnosis	n	%	Diagnosis	n	%
Cardiovascular	12	21.4%	Injury	12	22.6%
Injury	9	16.1%	Cardiovascular	8	15.1%
Pneumonia/Bronchitis	5	8.9%	Pregnancy related	6	11.3%
Pregnancy related	5	8.9%	Gastrointestinal	5	9.4%
Brain injury/problem	3	5.4%	Renal/Urinary	4	7.5%
Total	34	60.7%	Total	35	66.0%
IFHS			**IIMC**		
Diagnosis	n	%	Diagnosis	n	%
Injury	18	21.4%	Injury	26	21.8%
Cardiovascular	17	20.2%	Cardiovascular	21	17.6%
Gastrointestinal	10	11.9%	Pregnancy related	8	6.7%
Pneumonia/Bronchitis	9	10.7%	Brain injury/problem	8	6.7%
Brain injury/problem	6	7.1%	Gastrointestinal	6	5.0%
Total	60	71.4%	Total	69	58.0%

Table 20 shows the equipment/procedures, labs, X-rays, and EKG used in providing services to all Transfer encounters. As with the Mon Obs, the Transfers used the following three most frequently: non-invasive BP monitor, pulse oximeters, and IV (82%, 81%, and 77% of Transfers, respectively). CBCs and U/As were the most frequent labs used (44% and 29% of Transfers); and CXR was the most common type of X-ray used (28%). Note that an EKG was used on 28% of Transfers (compared to 17% of Mon Obs).

Table 20. Equipment, Procedures, Labs, X-rays, and EKG for All Transfer Encounters (n=312)

Equipment and Procedures Used in Transfer FESC Encounters		
	number	percent
Non-invasive BP monitor	257	82%
Pulse oximeter	253	81%
IV used	241	77%
Cardiac monitor	163	52%
O2 used	140	45%
IV pump	69	22%
Foley catheter	42	13%
Intubated	8	3%
Ventilator	4	1%
Chest tube	1	0%
Other	48	15%
X-rays/ EKG for Transfer FESC Encounters		
	number	percent
EKG	88	28%
CXR	61	20%
KUB	28	9%
C/S	13	4%
T/S	5	2%
L/S	5	2%
Skull	4	1%
Other X-ray	54	17%

Labs for Transfer FESC Encounters		
	number	percent
CBC	138	44%
U/A	91	29%
Troponin	75	24%
CBC with diff	62	20%
Myoglobin	61	20%
CKMB	61	20%
BMP	55	18%
CMP	41	13%
Liver Function	34	11%
Electrolytes	31	10%
BUN/Creatinine	28	9%
Amylase	16	5%
ETOH	16	5%
PT/PTT	14	4%
ABG	12	4%
CK	11	4%
HCG	9	3%
Sed Rate	5	2%
Other labs	75	24%

When the individual clinics are examined (Table 21), what emerges is a marked congruence in equipment/procedures used for Transfers (with the exceptions of IV pump and Foley catheter, both rarely used by IIMC), and a marked divergence in labs, X-rays, and EKG. Particularly divergent are CBC (ranging from 0% for IIMC to 87% for IFHS); U/A (8% IIMC to 45% CRMC), myoglobin and CKMB (0% CRMC to 42% IFHS), BMP (2% IIMC to 57% IFHS), EKG (9% ARMC to 43% IFHS), and CXR (4% IIMC to 36% IFHS). Many factors likely contribute to this heterogeneity, among them the presenting conditions of patients (and the local demographic and socio-economic conditions that contribute to these conditions), the lab and infrastructure resources of the clinics, and the diagnostic practices of the providers.

Table 21. Equipment/Procedures, Labs, X-ray. And EKG for Transfers, by Clinic

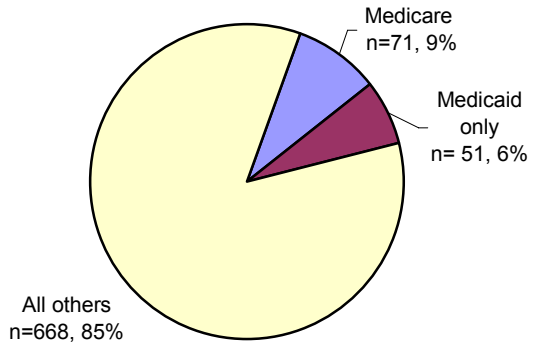
TRANSFER ENCOUNTERS	ARMC (n=56)		CRMC (n=53)		IFHS (n=84)		IIMC (n=119)	
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Non-invasive BP Monitor	50	89.3%	48	90.6%	70	83.3%	89	74.8%
Pulse Oximeter	46	82.1%	49	92.5%	73	86.9%	85	71.4%
IV placed	46	82.1%	40	75.5%	62	73.8%	93	78.2%
Cardiac Monitor	32	57.1%	33	62.3%	30	35.7%	68	57.1%
O_2	25	44.6%	31	58.5%	37	44.0%	47	39.5%
IV Pump	19	33.9%	37	69.8%	12	14.3%	1	0.8%
Foley Catheter placed	8	14.3%	19	35.8%	14	16.7%	1	0.8%
Intubated	1	1.8%	0	0.0%	6	7.1%	1	0.8%
Ventilator	1	1.8%	0	0.0%	3	3.6%	0	0.0%
Chest Tube placed	0	0.0%	0	0.0%	1	1.2%	0	0.0%
Other	5	8.9%	13	24.5%	17	20.2%	13	10.9%
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	31	55.4%	34	64.2%	73	86.9%	0	0.0%
U/A	22	39.3%	24	45.3%	36	42.9%	9	7.6%
Troponin	10	17.9%	13	24.5%	35	41.7%	17	14.3%
CBC with diff	9	16.1%	7	13.2%	4	4.8%	42	35.3%
Myoglobin	9	16.1%	0	0.0%	35	41.7%	17	14.3%
CKMB	10	17.9%	0	0.0%	35	41.7%	16	13.4%
BMP	2	3.6%	3	5.7%	48	57.1%	2	1.7%
CMP	3	5.4%	20	37.7%	15	17.9%	3	2.5%
Liver Function	15	26.8%	1	1.9%	18	21.4%	0	0.0%
Electrolytes	14	25.0%	0	0.0%	14	16.7%	3	2.5%
BUN/Creatinine	12	21.4%	0	0.0%	14	16.7%	2	1.7%
ETOH	5	8.9%	3	5.7%	7	8.3%	1	0.8%
Amylase	2	3.6%	3	5.7%	11	13.1%	0	0.0%
PT/PTT	8	14.3%	3	5.7%	1	1.2%	2	1.7%
ABG	0	0.0%	1	1.9%	11	13.1%	0	0.0%
CK	5	8.9%	0	0.0%	6	7.1%	0	0.0%
HCG	4	7.1%	0	0.0%	5	6.0%	0	0.0%
Sed Rate	1	1.8%	0	0.0%	3	3.6%	1	0.8%
Other labs	19	33.9%	24	45.3%	28	33.3%	4	3.4%
X-Rays/EKGs Done	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
EKG	5	8.9%	16	30.2%	36	42.9%	31	26.1%
CXR	15	26.8%	11	20.8%	30	35.7%	5	4.2%
KUB	6	10.7%	1	1.9%	15	17.9%	6	5.0%
C/S	3	5.4%	1	1.9%	8	9.5%	1	0.8%
L/S	0	0.0%	2	3.8%	3	3.6%	0	0.0%
T/S	1	1.8%	1	1.9%	3	3.6%	0	0.0%
Skull	0	0.0%	0	0.0%	4	4.8%	0	0.0%
Other X-ray	8	14.3%	6	11.3%	15	17.9%	25	21.0%

D. Medicare and Medicaid-Eligible FESC Encounters

This subsection examines FESC encounters of all FESC types that are potentially reimbursable by CMS and the State of Alaska (assuming Medicare and Medicaid reimbursement policies are successfully instituted). The criteria the FESC encounter must meet for potential reimbursement are 1) eligibility for Medicare and/or Medicaid and 2) the encounter is 4 or more hours in length. Encounters for eligible patients that are under 4 hours in length are reimbursable as FESC patients, but would not be reimbursable by Medicare or Medicaid.

Figure 38 shows that only 122 of all encounters (15%) were potentially reimbursable from either program, and that only 71 (9%) were specifically Medicare-reimbursable. This 15% is drawn from a pool of 36% of the FESC patients eligible for either or both programs (Figure 39). But as Figure 39 demonstrates, this eligible patient pool is extremely variable from clinic to clinic, and likewise the percentage of these eligible patients whose encounters are four or more hours in length and therefore potentially reimbursable is also very variable.

Figure 38: Medicare/Medicaid Reimbursable Encounters (n=790)



Only 6% of IFHS's FESC patients are Medicare/caid eligible, but due to IFHS's relatively long encounters. 4% of IFHS's encounters are Medicare reimbursable and 1% Medicaid reimbursable. At the other end of the range, 55% of IIMC's patients are eligible for either or both program, but due to the brevity of most IIMC encounters, only 5% of those encounters pass through the four hour "filter" and are Medicare reimbursable; none (0%) are Medicaid reimbursable. In contrast, 46% of CRMC's patients are eligible, and due to CRMC's relatively long FESC encounters, 37% are reimbursable (19% by Medicare, 18% by Medicaid), the highest percentage among the clinics. And while 36% of ARMC's patients are Medicare and/or Medicaid eligible, due to the relative brevity of ARMC encounters, only 13% of their encounters are reimbursable (7% Medicare, 6% Medicaid.)

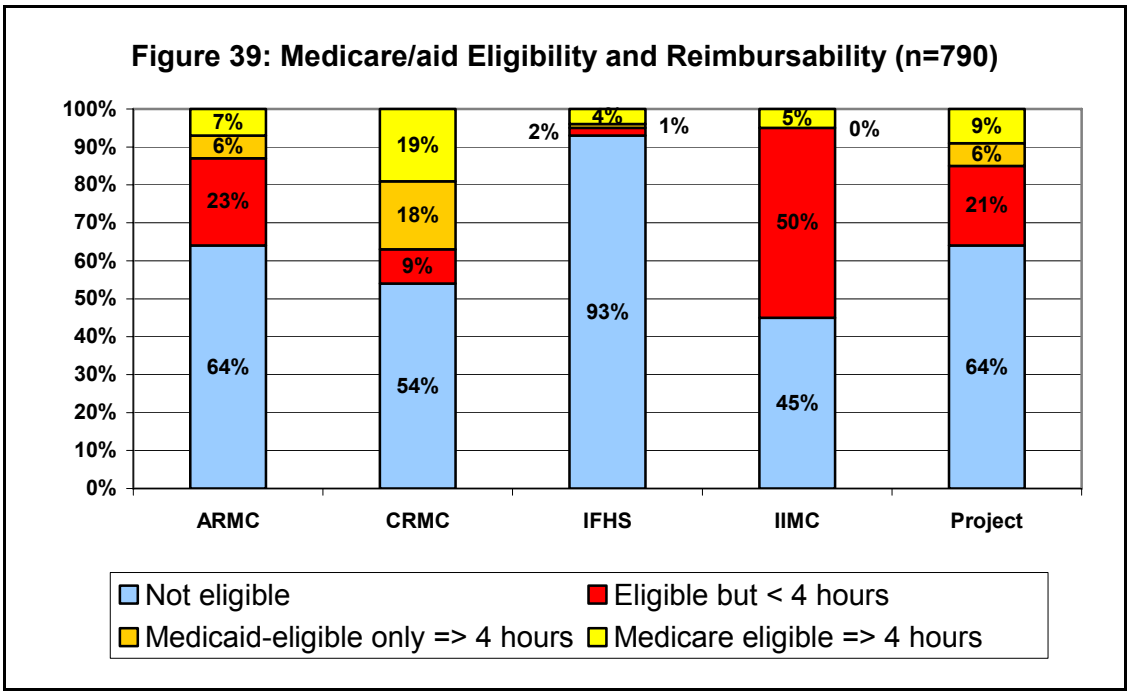


Table 22 shows the eligible and reimbursable population broken down by FESC type (Mon Obs, Transfers, and a third category combining Mon Obs that ended as Transfers and Other encounters) and by Medicare/Medicaid eligibility (those eligible for Medicare, and those eligible for Medicaid only). Thirty-three percent of all FESC encounters of four or more hours were potentially reimbursable; 37% of Mon Obs four or more hours were reimbursable; but only 24% of Transfers four or more hours were reimbursable.

Table 22. Medicare/aid eligibility by FESC Type

Medicare and Medicaid Eligibility by FESC Type										
	All Encounters		Mon Obs >= 4 Hours		Transfers >= 4 Hours		Mon Ob to Transfers & Others >= 4 Hours		All >= 4 Hours	
	no.	pctg	no.	Pctg	no.	pctg	no.	pctg	no.	pctg.
Not Eligible	507	64%	146	64%	83	76%	22	63%	251	67%
Medicare Eligible	195	24%	47	21%	16	15%	8	23%	71	19%
Medicaid Eligible	88	11%	36	16%	10	9%	5	14%	51	14%
Total	790	100%	229	100%	109	100%	35	100%	373	100%

Medicare and Medicaid reimbursements are determined by length of patient encounter, with potential reimbursements given for every four-hour unit of time. This warrants a close examination of the time descriptors for reimbursable encounters. In Table 23, note that the project's reimbursable encounters are generally far longer than those of the overall FESC patient population, with a mean of 16.40 hours (vs. 6.91 for the overall population), and median of 8.13 (vs. 3.75). Medicare and Medicaid encounters were almost equally long. While the minimum length of these reimbursable encounters is by definition 4 hours, eliminating the very large pool of short encounters, this alone does not explain the marked length of the reimbursable encounters.

Table 23. Time descriptors for Medicare-Medicaid reimbursable encounters

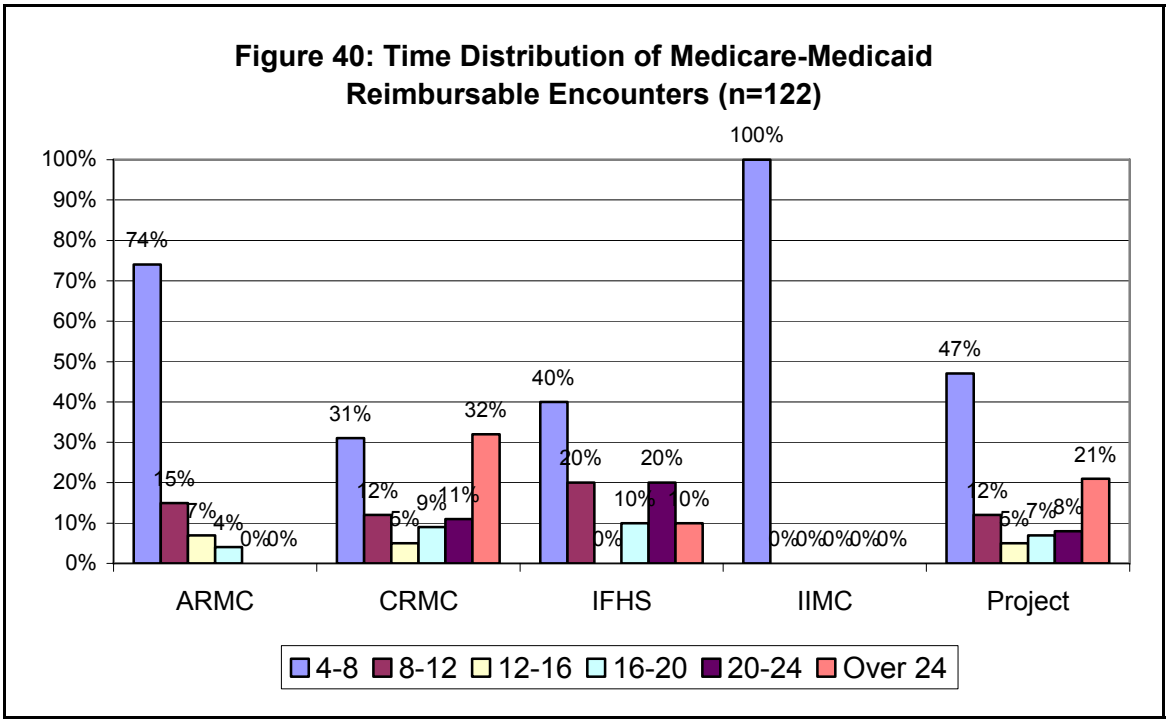
Encounters => 4 Hrs	**Time descriptors**
Medicare and/or Medicaid Reimbursable	
Number of Encounters	122
Mean Length of Visit	16.40
Median Length of Visit	8.13
Standard Deviation	18.16
Maximum Visit Length	99.50
Medicare Reimbursable	
Number of Encounters	71
Mean Length of Visit	16.11
Median Length of Visit	7.75
Standard Deviation	17.98
Maximum Visit Length	99.50
Medicaid-only Reimbursable	
Number of Encounters	51
Mean Length of Visit	16.81
Median Length of Visit	8.50
Standard Deviation	18.56
Maximum Length of Visit	99.25

Table 24 breaks down these numbers by clinic, and shows that the marked length of the reimbursable encounters is largely attributable to those of CRMC, whose 75 encounters represented 61% of reimbursable encounters (53% of Medicare-reimbursable) and averaged 21.95 hours (23.75 hours for Medicare-reimbursable). IFHS's less numerous reimbursable encounters also contributed somewhat, with a mean of 13.30 hours (13.12 for Medicare-reimbursable).

Table 24. Time descriptors for Medicare/Medicaid-reimbursable encounters by clinic

Reimbursable Encounters	ARMC	CRMC	IFHS	IIMC
Time Descriptors				
Medicare and Medicaid Eligible				
Number of Encounters	27	75	10	10
Mean Length of Visit	6.51	21.95	13.30	4.55
Median Length of Visit	5.00	16.25	8.25	4.63
Standard Deviation	3.39	20.97	7.97	0.52
Maximum Visit Length	18.25	99.50	28.00	5.25
Medicare Eligible				
Number of Encounters	15	38	8	10
Mean Length of Visit	6.75	23.47	13.12	4.55
Median Length of Visit	5.00	19.75	8.25	4.63
Standard Deviation	3.97	21.54	8.21	0.52
Maximum Visit Length	18.25	99.50	28.00	5.25
Medicaid-only Eligible				
Number of Encounters	12	37	2	0
Mean Length of Visit	6.21	20.40	14.00	0.00
Median Length of Visit	4.75	11.75	14.00	0.00
Standard Deviation	2.63	20.56	9.90	0.00
Maximum Length of Visit	12.25	99.25	21.00	0.00

Figure 40 presents the time distribution of reimbursable encounters for the four clinics:



Even with the non-reimbursable encounters under four hours in length filtered out, the relative brevity of ARMC and IIMC reimbursable encounters is evident: 100% of IIMC's and 74% of ARMC's are under 8 hours. In contrast, only 31% of CRMC's were under 8 hours, and 32% were over 24 hours.

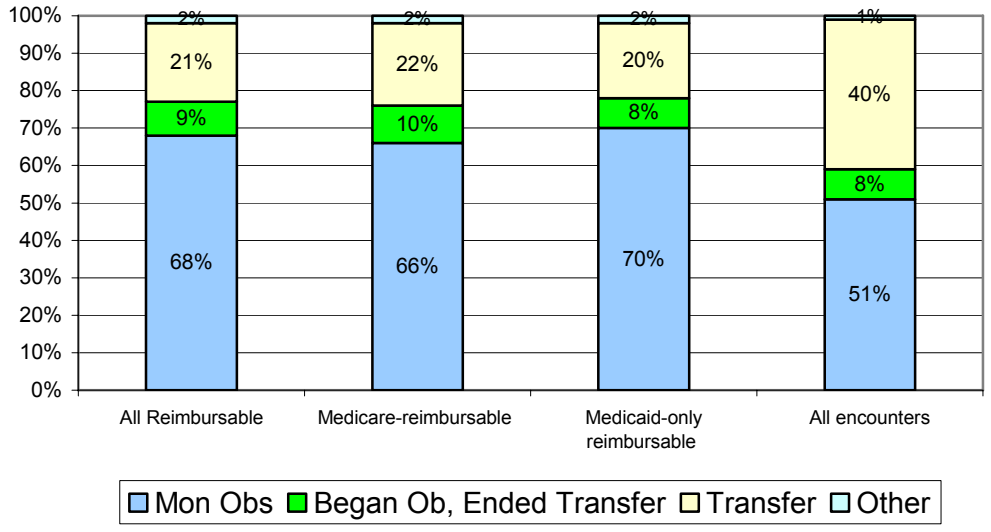
Given CRMC's far more numerous reimbursable encounters and their longer time distribution, it reported by far the most Medicare-reimbursable 4-hour reimbursable time units (Table 25), and would have been the only clinic to receive appreciable reimbursements and a significant financial boost during the data collection period.

Table 25. Medicare-reimbursable time units

	ARMC	CRMC	IFHS	IIMC	Project
4-8 hrs	12	11	3	10	36
8-12 hrs	1	2	2	0	5
12-16 hrs	1	2	0	0	3
16-20 hrs	1	5	1	0	7
20-24 hrs	0	6	1	0	7
>24 hrs	0	12	1	0	13
# Reimbursable Units	21	207	25	10	261

Of the 122 reimbursable encounters, 83 (68%) were Mon Obs, and only 26 (21%) were Transfers; thus a far higher percentage of reimbursable encounters were Mon Obs compared to the overall FESC patient population, and correspondingly lower percentage were Transfers (Figure 41). For specifically Medicare reimbursable encounters, 66% were Mon Obs, 22% Transfers.

Figure 41: Medicare-Medicaid Reimbursable by FESC Type



As with the encounters for the overall project, reimbursable Mon Ob encounters tended to be substantially longer than Transfers (Table 26), and both reimbursable Mon Obs and Transfers were substantially longer than the overall project's. There was also little difference in the time descriptors for Medicare and Medicaid-only reimbursable encounters.

Table 26. Time descriptors for Medicare/aid Eligible by FESC Type

Medicare/ caid Reimbursable Encounters Time Descriptors								
Time descriptor	**Medicare Reimbursable**				**Medicaid-only Reimbursable**			
	Mon Obs	Transfers	Mon Ob to Transfer & Other	All	Mon Obs	Transfers	Mon Ob to Transfer & Other	All
Number of encounters	47	16	8	71	36	10	5	51
Mean length of visit	18.99	8.56	14.22	16.11	16.38	7.75	38.00	16.81
Median length of visit	10.75	5.00	8.25	7.75	9.88	5.63	26.75	8.50
Standard deviation	20.35	7.39	14.31	17.98	14.72	5.30	39.73	18.56
Maximum	99.50	28.00	46.00	99.50	70.50	21.00	99.25	99.25

A noticeably lower percentage of reimbursable encounters began after-hours than for encounters for the overall project, 41% vs. 48%; Medicare-reimbursable encounters were even less frequently after hours (38%) (Figure 42). This pattern was true of all four clinics, particularly ARMC, where only 27% of the Medicare-reimbursable encounters occurred after hours.

Figure 42: Medicare/caid Reimbursable After Hours Encounters (n=122)

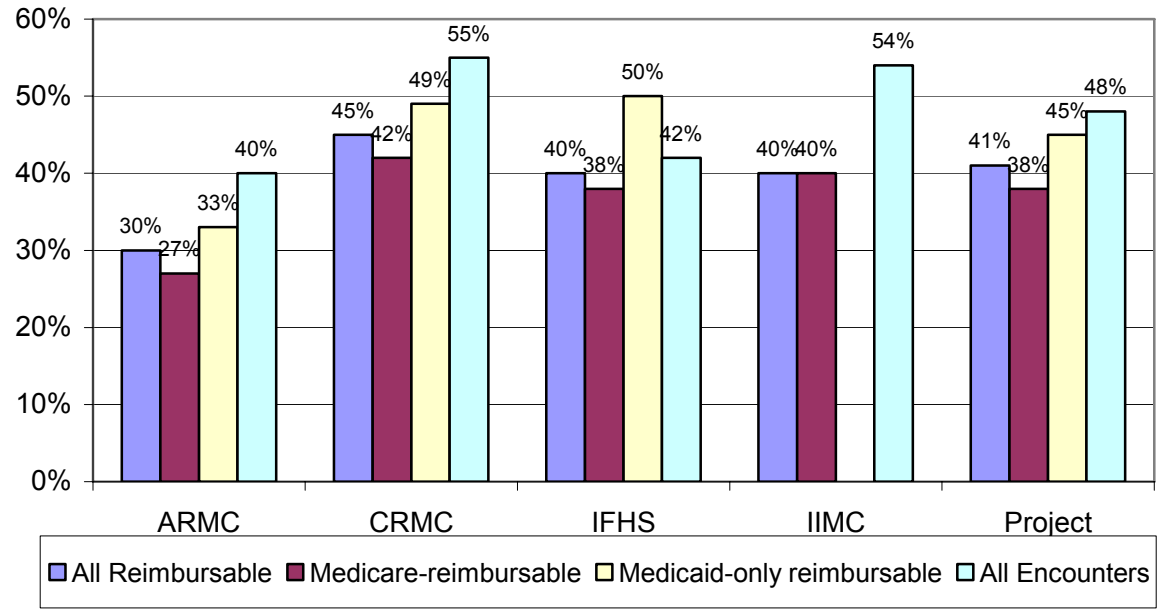


Table 27 looks at after-hours reimbursable encounters by FESC type: both Medicare-reimbursable Mon Obs and Transfers were much less likely to be after hours than encounters for the overall project.

Table 27. After hours encounters for Medicare/aid reimbursable

Medicare/ Medicaid Reimbursable After Hours Encounters By FESC Type								
	Medicare							
	Mon Obs		Transfers		Mon Ob to Transfer & Other		Total	
	number	percent	number	percent	number	percent	number	percent
After Hours	18	38%	4	25%	5	63%	27	38%
During Hours	29	62%	12	75%	3	37%	44	62%
Total	47	100%	16	100%	8	100%	71	100%
	Medicaid							
	Mon Obs		Transfers		Mon Ob to Transfer & Other		Total	
	number	percent	number	percent	number	percent	number	percent
After Hours	16	44%	5	50%	2	40%	23	45%
During Hours	20	56%	5	50%	3	60%	28	55%
Total	36	100%	10	100%	5	100%	51	100%
	Combined Medicare and Medicaid							
	Mon Obs		Transfers		Mon Ob to Transfer & Other		Total	
	number	percent	number	percent	number	percent	number	percent
After Hours	34	41%	9	35%	7	54%	50	41%
During Hours	49	59%	17	65%	6	46%	72	49%
Total	83	100%	26	100%	13	100%	122	100%

The five most frequent chief complaints at time of admission for reimbursable encounters are shown in Figure 43, accounting for 63% of all reimbursable encounter chief complaints. These are the same five most frequent chief complaints as for the overall FESC patient population, though in different rank order (see Figure 13).

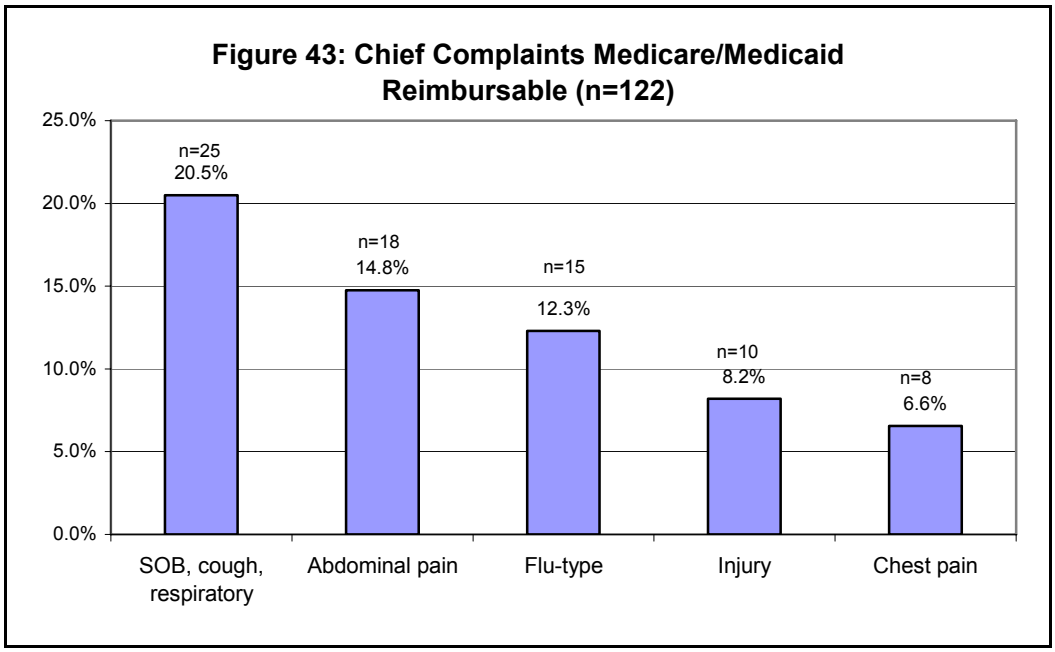


Table 28 presents the five most frequent chief complaints for reimbursable encounters by clinic. The prominence of SOB/cough/respiratory complaints, abdominal pain, and flu-type complaints among the numerous CRMC reimbursable encounters is evident, while injury figures prominently for both IFHS and IIMC.

Table 28. Top 5 chief complaints for Medicare/caid reimbursable encounters – by clinic

ARMC			**CRMC**		
Complaint	n	%	Complaint	n	%
SOB, cough, respiratory	5	18.5%	SOB, cough, respiratory	17	22.7%
Abdominal pain	4	15%	Abdominal pain	12	16.0%
Flu-type	4	14.8%	Flu-type	9	12.0%
Fever	3	11.1%	Chest pain	5	6.7%
Chest pain	2	7.4%	Behavioral/Mental health	4	5.3%
Total	18	66.7%	Total	47	62.7%
IFHS			**IIMC**		
Complaint	n	%	Complaint	n	%
Injury	4	40.0%	Injury	4	40.0%
SOB, cough, respiratory	1	10.0%	SOB, cough, respiratory	1	10.0%
Abdominal pain	1	10.0%	Abdominal pain	1	10.0%
Flu-type	1	10.0%	Flu-type	1	10.0%
Dizzy/syncope/confusion	1	10.0%	Dizzy//syncope/confusion	1	10.0%
Total	8	80.0%	Total	8	80.0%

The five most common discharge diagnoses for the potentially reimbursable encounters are shown in Figure 44. They represent 64% of the diagnoses for this category of FESC encounter. This differs from the overall pattern for the project top five with cardiovascular as the most frequent, and with renal/urinary diagnoses present in place of injury.

Figure 44: Diagnosis at Discharge for Medicare/aid Reimbursable

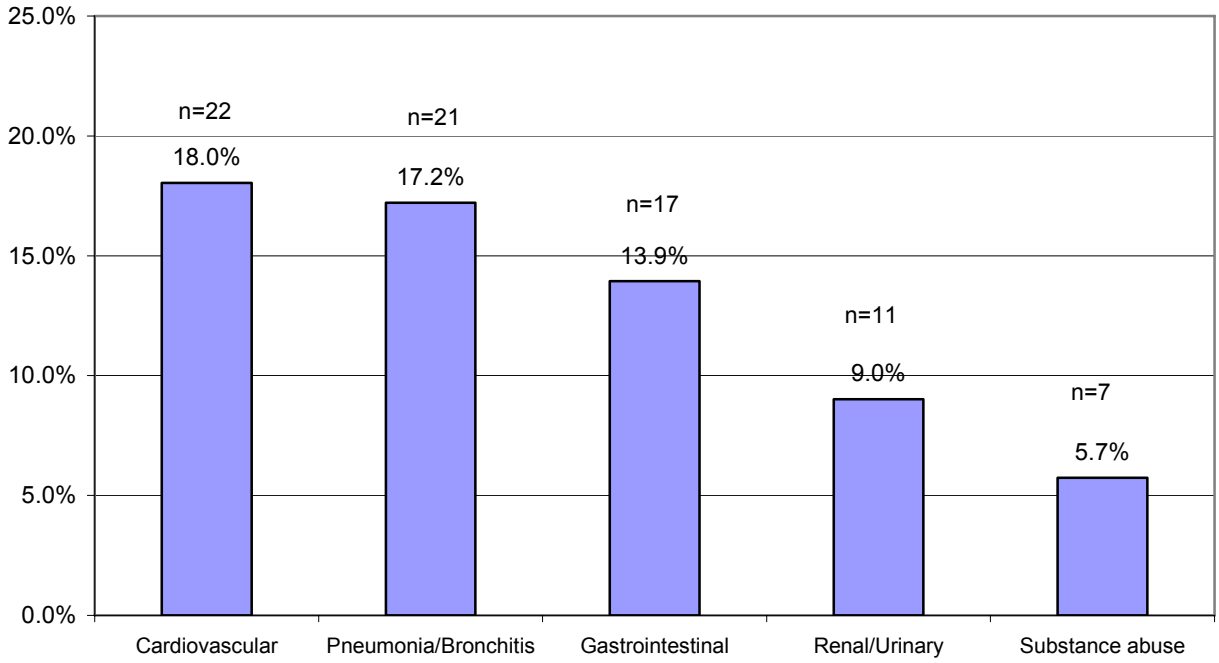


Table 29 presents the five most frequent diagnoses at discharge for reimbursable encounters by clinic. The diagnoses are highly divergent - only cardiovascular diagnoses appear in the top five for all four clinics.

Table 29. Top 5 Diagnoses at Discharge for Medicare/aid reimbursable encounters by clinic

ARMC			**CRMC**		
Diagnosis	n	%	Diagnosis	n	%
Cardiovascular	6	22.2%	Pneumonia/Bronchitis	18	24.0%
Gastrointestinal	5	18.5%	Gastrointestinal	10	13.3%
Pneumonia/Bronchitis	2	7.4%	Cardiovascular	9	12.0%
Renal/Urinary	2	7.4%	Renal/Urinary	7	9.3%
Musculoskeletal	2	7.4%	Substance abuse	6	8.0%
Total	17	63.0%	Total	50	66.7%
IFHS			**IIMC**		
Diagnosis	n	%	Diagnosis	n	%
Cardiovascular	4	40.0%	Cardiovascular	3	30.0%
Gastrointestinal	2	20.0%	Hepatic/ Pancreatic	2	20.0%
Renal/Urinary	2	20.0%	Pneumonia/Bronchitis	1	10.0%
Diabetes-related diagnosis	1	10.0%	Injury	1	10.0%
Brain injury/problem	1	10.0%	Brain injury/problem	1	10.0%
Total	10	100.0%	Total	8	80.0%

The disposition of reimbursable encounters differed somewhat from overall patient disposition, with 49% (n=60) discharged home (vs. 41% overall) and only 30% (n=36) medevaced (vs. 46% overall) (Figure 45). Disposition varied considerably from clinic to clinic, though only IFS had a higher percentage of reimbursable encounters medevaced than its overall patient population (Table 30).

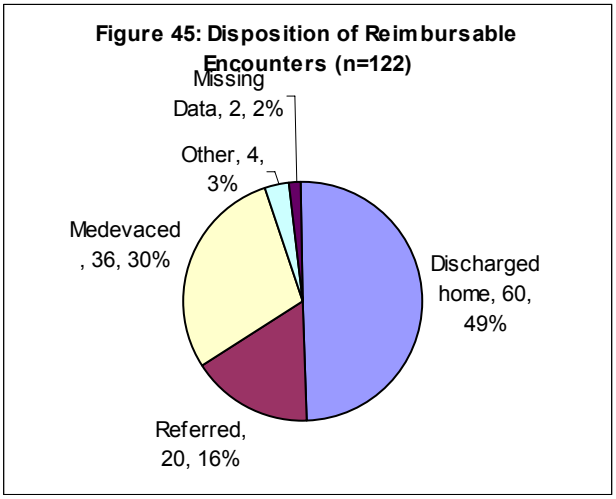


Table 30. Disposition of reimbursable encounters by clinic

Disposition	ARMC		CRMC		IFHS		IIMC	
	n	%	n	%	n	%	n	%
Discharged home	16	59.3%	37	49.3%	3	30.0%	4	40.0%
Referred	3	11.1%	16	21.3%	1	10.0%	0	0.0%
Medevaced	8	29.6%	18	24.0%	6	60.0%	4	40.0%
Other	0	0.0%	3	4.0%	0	0.0%	1	10.0%
Missing Data	0	0.0%	1	1.3%	0	0.0%	1	10.0%
Total	27	100%	75	100%	10	100%	10	100%

The destinations of medevacs for reimbursable encounters was similar to the overall pattern, with Anchorage receiving 64% (n=25) (Table 31):

Table 31. Destinations of medevacs for reimbursable encounters

Destination of Medevacs	ARMC		CRMC		IFHS		IIMC		All	
	n	%	n	%	n	%	n	%	n	%
Anchorage	1	12.5%	19	95.0%	5	83.3%	0	0.0%	25	64.1%
Seattle Metro Area	2	25.0%	0	0.0%	0	0.0%	1	20.0%	3	7.7%
Anacortes	0	0.0%	0	0.0%	0	0.0%	3	60.0%	3	7.7%
Ketchikan	2	25.0%	0	0.0%	0	0.0%	0	0.0%	2	5.1%
Sitka	2	25.0%	0	0.0%	0	0.0%	0	0.0%	2	5.1%
Unspecified	1	12.5%	1	5.0%	1	16.7%	1	20.0%	4	10.3%
Total	8	100%	20	100%	6	100%	5	100%	39	100%

Table 32 lists the equipment/procedures, labs, X-rays, and EKG used in providing services to the potentially CMS/State of Alaska-reimbursable encounters. Pulse oximeters, non-invasive BP monitors, and IVs were each used with at least 71% of the encounters. The most frequent labs were CBCs (60%) and U/A (53%). The most common X-ray used was a CXR (34%), and 21% utilized EKGs.

Table 32. Equipment/ procedures. labs, X-rays, and EKG for Medicare/aid reimbursable encounters (n=122)

Equipment and Procedures			**Labs**		
	number	percent		number	percent
Pulse oximeter	108	89%	CBC	73	60%
Non-invasive BP monitor	103	84%	U/A	64	53%
IV used	90	74%	CMP	24	28%
IV pump	52	43%	CBC with diff	37	30%
O2 used	53	43%	Troponin	32	26%
Cardiac monitor	56	45%	BMP	17	14%
Foley catheter	22	18%	Electrolytes	24	20%
Intubated	1	1%	Amylase	8	7%
Ventilator	1	1%	BUN/Creatinine	18	15%
Chest tube	0	0%	Liver Function	16	13%
Other	2	7%	Sed Rate	3	3%
X-rays/ EKG			PT/PTT	4	3%
	number	percent	ABG	2	2%
CXR	42	34%	HCG	2	2%
EKG	26	21%	CKMB	16	13%
KUB	5	4%	Myoglobin	16	13%
C/S	2	2%	ETOH	1	1%
Skull	0	0%	CK	6	5%
T/S	1	1%	Other labs	53	43%
L/S	0	0%			
Other X-ray	19	16%			

Table 33 disaggregates these data by clinic. As with the overall FESC encounters, equipment/procedures used were very congruent, but labs, X-rays and EKG used were highly divergent due to factors already noted above.

Table 33. Equipment/procedures, labs, X-rays, and EKG for Medicare/aid reimbursable encounters, by clinic

	ARMC (n=27)		CRMC (n=75)		IFHS (n=10)		IIMC (n=10)	
Equipment/Procedures	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Pulse Oximeter	22	81.5%	68	90.7%	10	100.0%	8	80.0%
Non-invasive BP Monitor	22	81.5%	63	84.0%	10	100.0%	8	80.0%
IV placed	24	88.9%	53	70.7%	7	70.0%	6	60.0%
Cardiac Monitor	21	77.8%	27	36.0%	4	40.0%	4	40.0%
O_2	13	48.1%	33	44.0%	5	50.0%	2	20.0%
IV Pump	9	33.3%	43	57.3%	0	0.0%	0	0.0%
Foley Catheter placed	4	14.8%	12	16.0%	5	50.0%	1	10.0%
Intubated	1	3.7%	0	0.0%	0	0.0%	0	0.0%
Ventilator	1	3.7%	0	0.0%	0	0.0%	0	0.0%
Chest Tube Placed	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	2	7.4%	14	18.7%	4	40.0%	0	0.0%
Labs	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	19	70.4%	45	60.0%	9	90%	0	0.0%
U/A	16	59.3%	42	56.0%	5	50%	1	10.0%
CBC with diff	11	40.7%	21	28.0%	1	10%	4	40.0%
CMP	0	0.0%	30	40.0%	3	30%	1	10.0%
Troponin	8	29.6%	15	20.0%	9	90%	0	0.0%
Electrolytes	17	63.0%	5	6.7%	2	20%	0	0.0%
BUN/Creatinine	12	44.4%	3	4.0%	2	20%	1	10.0%
BMP	2	7.4%	9	12.0%	6	60%	0	0.0%
Myoglobin	7	25.9%	0	0.0%	9	90%	0	0.0%
CKMB	7	25.9%	0	0.0%	9	90%	0	0.0%
Liver Function	12	44.4%	2	2.7%	2	20%	0	0.0%
Amylase	1	3.7%	5	6.7%	2	20%	0	0.0%
CK	5	18.5%	0	0.0%	1	10%	0	0.0%
PT/PTT	2	7.4%	2	2.7%	0	0%	0	0.0%
Sed Rate	1	3.7%	2	2.7%	0	0%	0	0.0%
HCG	1	3.7%	1	1.3%	0	0%	0	0.0%
ABG	0	0.0%	1	1.3%	1	10%	0	0.0%
ETOH	0	0.0%	0	0.0%	1	10%	0	0.0%
Other labs	7	25.9%	39	52.0%	5	50%	2	20.0%
X-Rays/EKGs	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CXR	12	44.4%	25	33.3%	5	50.0%	0	0.0%
EKG	1	3.7%	14	18.7%	9	90.0%	2	20.0%
KUB	2	7.4%	3	4.0%	0	0.0%	0	0.0%
C/S	2	7.4%	0	0.0%	0	0.0%	0	0.0%
T/S	1	3.7%	0	0.0%	0	0.0%	0	0.0%
Skull	0	0.0%	0	0.0%	0	0.0%	0	0.0%
L/S	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other X-ray	4	14.8%	9	12.0%	2	20.0%	4	40.0%

VI. Discussion

A persistent theme of the findings is the heterogeneity of the clinics. More often than not, overall project statistics - means, medians, percentages, and frequency distributions - hide the clinics' diversity, which becomes evident when the data are disaggregated by clinic. When we do this we rarely find a "typical" clinic whose data match that of the overall project.

This diversity can be seen in Table 34, which presents key divergent variables for each clinic and for the overall project:

Table 34. Key divergent variables

Variable	ARMC	CRMC	IFHS	IIMC	Project
% Mon Obs	66%	67%	50%	22%	51%
Mon Ob mean length (hrs)	4.19	17.07	5.83	3.14	8.69
% Discharged home	54%	49%	42%	17%	41%
% Transfers	30%	26%	48%	68%	43%
Transfer mean length (hrs)	4.00	4.00	8.64	1.42	4.27
% Medevaced	32%	31%	49%	74%	46%
Principle destination(s)	Sitka Ketchikan	Anchorage	Anchorage	Bellingham Anacortes	Anchorage
% Medicare/Medicaid eligible	36%	46%	7%	55%	36%
% Medicare/aid reimbursable	13%	37%	5%	5%	15%

Clinics were highly divergent in their ratio of Mon Obs to Transfers, in their patient disposition (percentage of patients medevaced or discharged home), length of Mon Ob and of Transfer encounters, destination of medevacs, percentage eligible for Medicare and/or Medicaid; and percentage of Medicare/Medicaid reimbursable encounters. Looking at all of these key variables, no clinic was "typical."

Other strong differences noted in the findings include the distribution of encounters over time (especially percentage of encounters under 4 hours or over 24 hours in length); frequency distribution of chief complaints and diagnoses at discharge; utilization of paid escorts for medevacs; and utilization pattern of labs, X-rays, and EKG.

Nevertheless, the clinics shared much common ground, which is captured in Table 35:

Table 35. Key convergent variables

Variable	ARMC	CRMC	IFHS	IIMC	Project
Number of encounters	202	201	198	189	198 (avg.)
% After hours encounters	40%	55%	42%	54%	48%
Median Transfer length	3.50	3.75	5.50	1.25	2.75
% Mon Obs discharged home	80%	74%	83%	74%	78%
Top 3 diagnoses at discharge	Injury	Gastro	Cardio	Injury	Injury
	Gastro	Pneum	Injury	Cardio	Cardio
	Cardio	Cardio	Gastro	Gastro	Gastro

Clinics were highly convergent in number of encounters, percentage of encounters commencing after hours, percentage of Mon Obs discharged home, and diagnoses at discharge. When looking at median Transfer lengths, which reduce the "statistical noise" of long outliers such as those caused by prolonged weather delays, we see all clinics were able to diagnose, classify, and transfer patients rather quickly, with median times ranging from 1.25 to 5.50 hours. Note also that with a medevac plane now on the ground in Unalaska, IFHS's Transfer lengths will dramatically shorten, as patients will no longer have to wait four or more hours for a plane to arrive from Anchorage. Thus, Transfer median lengths will converge further.

Other convergent variables noted include chief complaints at time of admission (e.g., abdominal pain and injury); distribution of after hours encounters by FESC type (differing little from during hours encounters); percentages of Mon Obs referred for non-urgent follow-up care; and use of equipment and procedures.

The following "thumb-nail sketches" capture the uniqueness of each clinic:

> ARMC - Short FESC encounters of all types; Mon Obs only slightly longer than Transfers; few Transfers and rapid medevacs; multiple medevac destinations; high percentage of FESC patients discharged home; many Medicare and Medicaid eligible patients, but few Medicaid/Medicare-reimbursable encounters due to encounter brevity.
>
> CRMC – Very long Mon Ob encounters, much longer than Transfers; few Transfers and rapid medevacs, only to Anchorage; high percentage of FESC patients discharged home; many Medicare and Medicaid eligible patients, and many Medicare and Medicaid reimbursable encounters due to many long encounters.
>
> IFHS – Medium to long encounters of all FESC types, with Transfers longer than Mon Obs; a median number of Transfers, and otherwise rapid medevacs prolonged by distance/weather/lack of daylight; medevacs only to Anchorage; median percentage of FESC patients discharged home; very few Medicare and Medicaid eligible patients and therefore very few Medicaid/Medicare reimbursable encounters.
>
> IIMC – Extremely short encounters of all types; Mon Obs almost as brief as Transfers; many Transfers and very rapid medevacs, many with escorts; multiple and proximate medevac destinations; few FESC patients discharged home; many Medicare and Medicaid eligible patients but very few Medicare/Medicaid reimbursable encounters due to encounter brevity.

Looking to the immediate future and the possible participation of the FESC clinics in a CMS demonstration project that would reimburse them for Medicare-eligible FESC

encounters of four or more hours in length, only CRMC reported during the data collection period enough Medicare-reimbursable encounters and reimbursable time units to receive a significant financial boost from these reimbursements.

An analysis of the causes of this clinic diversity is beyond the scope of this report, as hypotheses that can be inferred from the quantitative data and clinic profiles would have to be confirmed by further qualitative data from clinic staff and providers. But each clinic is clearly a distinct amalgam of geographic location; weather and climate; transportation resources and challenges; material, managerial, financial, and human resources; and community and culture which all converge to influence the patient behavior and expectations and provider practices and decisions that produce these distinctive clinic data sets.

Thus, a key conclusion we can draw is to apply extreme caution when using overall FESC project data for drafting either policy or best practices, since these data hide critical distinctions and likely are not generalizable. Policies and best practices must take into account multiple yet-to-be confirmed antecedent causes unique to each clinic.

Appendix A: FESC Outcome Log Paper Form

1. Patient Number:

2. Date/Time **In**: _____/_____/_____ _____:_____ am pm [Do not use military time]

3. Chief complaint:

4. Date/Time **Out**: _____/_____/_____ _____:_____ am pm

5. Diagnosis at discharge:

6. Select FESC type:
____Encounter began and ended as Monitoring/Observation FESC
____Began as Monitoring/Observation FESC, ended as Unavoidable FESC
____Encounter began and ended as Unavoidable FESC
____ Encounter began as Unavoidable FESC, patient recovered while waiting for transport
____Other: Specify_____

7. Please provide additional explanation of why the patient was designated as a FESC patient. Please be specific.

8. How did the availability of a FESC option affect the care given (e.g. help or hinder the quality of care)?

9. Personnel Involvement

Provide staff (MD, RN) and time with patient in 15 minute increments.

	Direct time with patient (hr/min)	Indirect time with patient (hr/min)
Personnel 1:		
Personnel 2:		
Personnel 3:		
Personnel 4:		
Personnel 5:		
Personnel 6:		

10. How many times was ambulance used? _____

11. Disposition of patient:

_____Discharged home (not referred)

_____Referred to another health facility for non-emergent follow up (not an emergency transfer)

_____Medevaced or transferred on commercial jet after FESC stay

_____Option 1

_____Option 2

_____Option 3

_____Option 4

____Other: Specify_____

12. Was a paid escort used? Yes No (choose one)

13. Why was the person Medevaced?

_____This encounter began as a Monitoring/Observation FESC but the patient's condition deteriorated

_____This encounter began as a Monitoring/Observation FESC but the patient failed to improve

_____This was an unavoidable FESC and transport was necessary due to presenting condition

_____This was an unavoidable FESC and we medevaced the patient just to be on the safe side

_____ Other: Specify_____

14. Circle which Equipment and/ or Procedures were used/ performed

Non-invasive BP monitor	IV, hours used_____
Pulse Oximeter	Cardiac monitor
Foley placed	IV Pump
Chest tube placed	Ventilator
Intubated	O2, hours used_____

What other equipment or procedures were used or performed:

15. Indicate how many times each lab was done

CBC _____	ETOH_____
CBC with diff _____	U/A_____
Electrolytes _____	HCG_____
BUN/Creat _____	Amylase_____
Liver Function_____	CK_____
CKMB_____	Myoglobin_____
Troponin_____	Sed rate_____
PT/PTT_____	ABG_____
BMP_____	CMP_____

Other Labs:

16. Indicate how many times each x-ray was done

CXR_____	KUB_____
C/S_____	T/S_____
L/S_____	Skull_____
EKG_____	

Other x-rays:

18. What additional equipment or supplies were needed to meet standard of care?

19. a. Describe the clinical outcome of the FESC encounter. Include any unanticipated results.

b. If the patient was medevac'ed or referred elsewhere, where were they referred? What did the referral facility diagnose? Include any unanticipated results.

Financial/ Coding Information

24. ICD-9 Codes:

25. Cost of ambulance:

26. Total billed:

27. Payor(s):

28. Percent paid:

29. Appeal needed to get payment? Yes No

30. If not 100% paid, what was not covered?

31. Any other relevant financial information?

Appendix B – Data Tables

ALL ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
Time Descriptors										
Number of FESC Encounter	202		201		198		189		790	
Mean Length of Visit (All Encounters)	4.18		13.89		7.38		1.92		6.91	
Median Length of Visit (All Encounters)	3.50		6.00		5.13		1.50		3.75	
Standard Deviation	2.82		17.70		6.29		1.21		10.58	
Maximum Visit Length	24.25		99.50		41.50		6.50		99.50	
Minimum Visit	1.00		0.50		1.25		0.25		0.25	
Time Distribution	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<2 hrs	3	1.5%	4	2.0%	6	3.0%	107	56.6%	120	15.2%
=2<4 hrs	121	59.9%	57	28.4%	53	26.8%	66	34.9%	297	37.6%
=4<8 hrs	63	31.2%	56	27.9%	85	42.9%	16	8.5%	220	27.8%
=8<12 hrs	9	4.5%	16	8.0%	22	11.1%	0	0.0%	47	5.9%
=12<16 hrs	4	2.0%	9	4.5%	9	4.5%	0	0.0%	22	2.8%
=16<20 hrs	1	0.5%	14	7.0%	12	6.1%	0	0.0%	27	3.4%
=20<24 hrs	0	0.0%	10	5.0%	5	2.5%	0	0.0%	15	1.9%
=24<28 hrs	1	0.5%	11	5.5%	3	1.5%	0	0.0%	15	1.9%
=28<32 hrs	0	0.0%	4	2.0%	2	1.0%	0	0.0%	6	0.8%
=32<36 hrs	0	0.0%	1	0.5%	0	0.0%	0	0.0%	1	0.1%
=36<40 hrs	0	0.0%	3	1.5%	0	0.0%	0	0.0%	3	0.4%
=40<44 hrs	0	0.0%	1	0.5%	1	0.5%	0	0.0%	2	0.3%
=44<48 hrs	0	0.0%	1	0.5%	0	0.0%	0	0.0%	1	0.1%
=48<52 hrs	0	0.0%	3	1.5%	0	0.0%	0	0.0%	3	0.4%
=52<56 hrs	0	0.0%	1	0.5%	0	0.0%	0	0.0%	1	0.1%
=56<60 hrs	0	0.0%	1	0.5%	0	0.0%	0	0.0%	1	0.1%
=64<68 hrs	0	0.0%	2	1.0%	0	0.0%	0	0.0%	2	0.3%
=68<72 hrs	0	0.0%	4	2.0%	0	0.0%	0	0.0%	4	0.5%
=72<76 hrs	0	0.0%	1	0.5%	0	0.0%	0	0.0%	1	0.1%
=96<100 hrs	0	0.0%	2	1.0%	0	0.0%	0	0.0%	2	0.3%
FESC Type	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Mon Obs	133	65.8%	133	66.2%	98	49.5%	42	22.2%	406	51.4%
Began Mon Ob, Ended Transfer	10	5.0%	12	6.0%	14	7.1%	26	13.8%	62	7.8%
Transfer	56	27.7%	53	26.4%	84	42.4%	119	63.0%	312	39.5%
Other	3	1.5%	3	1.5%	2	1.0%	2	1.1%	10	1.3%

ALL ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
After Hours Encounters	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
After Clinic Hours	80	39.6%	110	54.7%	83	41.9%	102	54.0%	375	47.5%
During Clinic Hours	122	60.4%	91	45.3%	115	58.1%	87	46.0%	415	52.5%
After Hours Encounters by FESC Type	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Mon Ob	50	62.5%	73	66.4%	37	44.6%	20	19.6%	180	48.0%
Began Mon Ob, Ended Transfer	5	6.3%	8	7.3%	4	4.8%	13	12.7%	30	8.0%
Transfer	24	30.0%	28	25.5%	40	48.2%	69	67.6%	161	42.9%
Other	1	1.3%	1	0.9%	2	2.4%	0	0.0%	4	1.1%
Chief Complaint at Time of Admission	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Abdominal pain	28	13.9%	25	12.4%	25	12.6%	36	19.0%	114	14.4%
Injury	23	11.4%	23	11.4%	23	11.6%	32	16.9%	101	12.8%
SOB, cough, respiratory	19	9.4%	29	14.4%	27	13.6%	18	9.5%	93	11.8%
Chest pain	21	10.4%	19	9.5%	28	14.1%	17	9.0%	85	10.8%
Vomiting/nausea/diarrhea/flu type	17	8.4%	31	15.4%	9	4.5%	7	3.7%	64	8.1%
Dizzy/unresponsive/syncope/confusion	13	6.4%	9	4.5%	13	6.6%	20	10.6%	55	7.0%
Behavioral/Mental health	9	4.5%	4	2.0%	15	7.6%	7	3.7%	35	4.4%
Pregnancy related	7	3.5%	6	3.0%	5	2.5%	7	3.7%	25	3.2%
Fever	4	2.0%	5	2.5%	14	7.1%	0	0.0%	23	2.9%
Pain in limb(s)	7	3.5%	2	1.0%	5	2.5%	7	3.7%	21	2.7%
Headache	5	2.5%	8	4.0%	6	3.0%	1	0.5%	20	2.5%
Seizure	5	2.5%	4	2.0%	6	3.0%	5	2.6%	20	2.5%
Back pain	5	2.5%	6	3.0%	4	2.0%	2	1.1%	17	2.2%
Flank pain	6	3.0%	3	1.5%	1	0.5%	3	1.6%	13	1.6%
Blood in cough/vomit	2	1.0%	3	1.5%	3	1.5%	1	0.5%	9	1.1%
Blood in stool	2	1.0%	3	1.5%	1	0.5%	1	0.5%	7	0.9%
Other	29	14.4%	21	10.4%	13	6.6%	25	13.2%	88	11.1%

ALL ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
Diagnosis at Discharge	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Injury	27	13.4%	23	11.4%	28	14.1%	37	19.6%	115	14.6%
Cardiovascular	24	11.9%	25	12.4%	30	15.2%	34	18.0%	113	14.3%
Gastrointestinal	24	11.9%	33	16.4%	25	12.6%	14	7.4%	96	12.2%
Pneumonia/Bronchitis	11	5.4%	26	12.9%	19	9.6%	7	3.7%	63	8.0%
Substance abuse	11	5.4%	16	8.0%	17	8.6%	5	2.6%	49	6.2%
Renal/Urinary	16	7.9%	14	7.0%	13	6.6%	3	1.6%	46	5.8%
Brain injury/problem	6	3.0%	9	4.5%	9	4.5%	12	6.3%	36	4.6%
Respiratory	7	3.5%	11	5.5%	9	4.5%	8	4.2%	35	4.4%
Hepatic/ Pancreatic/ Gallbladder/ Appendix	6	3.0%	4	2.0%	7	3.5%	12	6.3%	29	3.7%
Pregnancy related	7	3.5%	9	4.5%	2	1.0%	9	4.8%	27	3.4%
Flu/Flu-like illness	5	2.5%	6	3.0%	9	4.5%	6	3.2%	26	3.3%
Infection not associated w/ another cat	13	6.4%	4	2.0%	3	1.5%	6	3.2%	26	3.3%
Diabetes-related diagnosis	6	3.0%	5	2.5%	6	3.0%	1	0.5%	18	2.3%
Musculoskeletal	8	4.0%	3	1.5%	4	2.0%	2	1.1%	17	2.2%
Behavioral/Mental health	6	3.0%	1	0.5%	7	3.5%	3	1.6%	17	2.2%
Dehydration	5	2.5%	4	2.0%	3	1.5%	2	1.1%	14	1.8%
Cancer	0	0.0%	0	0.0%	0	0.0%	11	5.8%	11	1.4%
Allergic reaction	3	1.5%	3	1.5%	0	0.0%	3	1.6%	9	1.1%
Other	17	8.4%	4	2.0%	7	3.5%	14	7.4%	42	5.3%
No data	0	0.0%	1	0.5%	0	0.0%	0	0.0%	1	0.1%
Disposition of Patients	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Discharged home	108	53.5%	98	48.8%	83	41.9%	32	16.9%	321	40.6%
Referred	28	13.9%	32	15.9%	15	7.6%	10	5.3%	85	10.8%
Medevaced	64	31.7%	63	31.3%	97	49.0%	140	74.1%	364	46.1%
Other	2	1.0%	8	4.0%	2	1.0%	4	2.1%	16	2.0%
No data	0	0.0%	0	0.0%	1	0.5%	3	1.6%	4	0.5%

ALL ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
Destination of Medevacs	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anchorage	4	6.1%	62	95.4%	83	84.7%	0	0.0%	149	39.8%
Bellingham	0	0.0%	0	0.0%	0	0.0%	56	38.6%	56	15.0%
Anacortes	0	0.0%	0	0.0%	0	0.0%	42	29.0%	42	11.2%
Seattle Metro Area	7	10.6%	0	0.0%	0	0.0%	25	17.2%	32	8.6%
Sitka	20	30.3%	0	0.0%	0	0.0%	0	0.0%	20	5.3%
Ketchikan	19	28.8%	0	0.0%	0	0.0%	0	0.0%	19	5.1%
Mt. Vernon	0	0.0%	0	0.0%	0	0.0%	11	7.6%	11	2.9%
Unspecified	16	24.2%	3	4.6%	15	15.3%	11	7.6%	45	12.0%
Used Paid Escort	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
	2	3.1%	0	0.0%	20	20.4%	33	22.8%	55	14.7%
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Non-invasive BP Monitor	162	80.2%	168	83.6%	160	80.8%	141	74.6%	631	79.9%
Pulse Oximeter	130	64.4%	177	88.1%	161	81.3%	128	67.7%	596	75.4%
IV placed	148	73.3%	138	68.7%	153	77.3%	142	75.1%	581	73.5%
Cardiac Monitor	110	54.5%	79	39.3%	61	30.8%	92	48.7%	342	43.3%
O_2	61	30.2%	80	39.8%	67	33.8%	61	32.3%	269	34.1%
IV Pump	47	23.3%	112	55.7%	16	8.1%	1	0.5%	176	22.3%
Foley Catheter placed	10	5.0%	30	14.9%	19	9.6%	2	1.1%	61	7.7%
Intubated	1	0.5%	0	0.0%	6	3.0%	1	0.5%	8	1.0%
Ventilator	1	0.5%	0	0.0%	3	1.5%	0	0.0%	4	0.5%
Chest Tube placed	0	0.0%	0	0.0%	1	0.5%	0	0.0%	1	0.1%
Other **	19	9.4%	36	17.9%	38	19.2%	15	7.9%	108**	13.7%

** Includes nebulizer (n=47, 5.9%), NG tube (n=12, 1.5%), fetal heart monitor (n=7, 0.9%), suctioning (n=6, 0.7%), and lumbar puncture (n=3, 0.4%).

ALL ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	116	57.4%	98	48.8%	174	87.9%	0	0.0%	388	49.1%
U/A	99	49.0%	96	47.8%	83	41.9%	20	10.6%	298	37.7%
CBC with diff	60	29.7%	36	17.9%	7	3.5%	70	37.0%	173	21.9%
Troponin	34	16.8%	38	18.9%	70	35.4%	21	11.1%	163	20.6%
BMP	9	4.5%	18	9.0%	116	58.6%	4	2.1%	147	18.6%
Electrolytes	85	42.1%	8	4.0%	32	16.2%	3	1.6%	128	16.2%
Myoglobin	33	16.3%	4	2.0%	69	34.8%	21	11.1%	127	16.1%
CKMB	34	16.8%	0	0.0%	70	35.4%	20	10.6%	124	15.7%
CMP	6	3.0%	60	29.9%	39	19.7%	9	4.8%	114	14.4%
BUN/Creatinine	65	32.2%	8	4.0%	32	16.2%	3	1.6%	108	13.7%
Liver Function	53	26.2%	7	3.5%	37	18.7%	0	0.0%	97	12.3%
ETOH	19	9.4%	5	2.5%	26	13.1%	1	0.5%	51	6.5%
Amylase	6	3.0%	12	6.0%	23	11.6%	1	0.5%	42	5.3%
CK	21	10.4%	0	0.0%	9	4.5%	0	0.0%	30	3.8%
PT/PTT	15	7.4%	5	2.5%	3	1.5%	6	3.2%	29	3.7%
HCG	14	6.9%	2	1.0%	11	5.6%	0	0.0%	27	3.4%
ABG	0	0.0%	2	1.0%	17	8.6%	0	0.0%	19	2.4%
Sed Rate	3	1.5%	3	1.5%	8	4.0%	2	1.1%	16	2.0%
Other labs	61	30.2%	90	44.8%	84	42.4%	13	6.9%	248	31.4%
X-Rays/EKGs Done	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CXR	48	23.8%	49	24.4%	69	34.8%	8	4.2%	174	22.0%
EKG	13	6.4%	36	17.9%	77	38.9%	45	23.8%	171	21.6%
KUB	25	12.4%	6	3.0%	24	12.1%	11	5.8%	66	8.4%
C/S	7	3.5%	1	0.5%	11	5.6%	2	1.1%	21	2.7%
Skull	1	0.5%	2	1.0%	4	2.0%	0	0.0%	7	0.9%
L/S	0	0.0%	2	1.0%	5	2.5%	0	0.0%	7	0.9%
T/S	1	0.5%	1	0.5%	4	2.0%	0	0.0%	6	0.8%
Other X-ray	30	14.9%	22	10.9%	24	12.1%	33	17.5%	109	13.8%

MON OB ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
Time Descriptors										
Number of Mon Ob Encounters	133		133		98		42		406	
Mean Length of Mon Ob Visit	4.19		17.07		5.83		3.14		8.69	
Median Length of Visit (All Encounters)	3.50		10.25		4.50		2.75		4.25	
Standard Deviation	2.98		18.47		4.18		1.14		12.38	
Maximum Visit Length	24.25		99.50		25.75		6.50		99.50	
Time Distribution	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
=2<4 hrs	81	60.9%	31	23.3%	32	32.7%	33	78.6%	177	43.6%
=4<8 hrs	43	32.3%	27	20.3%	51	52.0%	9	21.4%	130	32.0%
=8<12 hrs	6	4.5%	13	9.8%	9	9.2%	0	0.0%	28	6.9%
=12<16 hrs	1	0.8%	8	6.0%	3	3.1%	0	0.0%	12	3.0%
=16<20 hrs	1	0.8%	14	10.5%	1	1.0%	0	0.0%	16	3.9%
=20<24 hrs	0	0.0%	9	6.8%	0	0.0%	0	0.0%	9	2.2%
=24<28 hrs	1	0.8%	10	7.5%	2	2.0%	0	0.0%	13	3.2%
=28<32 hrs	0	0.0%	4	3.0%	0	0.0%	0	0.0%	4	1.0%
=32<36 hrs	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.2%
=36<40 hrs	0	0.0%	3	2.3%	0	0.0%	0	0.0%	3	0.7%
=40<44 hrs	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.2%
=48<52 hrs	0	0.0%	3	2.3%	0	0.0%	0	0.0%	3	0.7%
=56<60 hrs	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.2%
=64<68 hrs	0	0.0%	2	1.5%	0	0.0%	0	0.0%	2	0.5%
=68<72 hrs	0	0.0%	4	3.0%	0	0.0%	0	0.0%	4	1.0%
=72<76 hrs	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.2%
=96<100 hrs	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.2%
After Hours Encounters	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
After Clinic Hours	50	37.6%	73	54.9%	37	37.8%	20	47.6%	180	44%
During Clinic Hours	83	62.4%	60	45.1%	61	62.2%	22	52.4%	226	56%

MON OB ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Chief Complaint at Time of Admission	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Flu-like symptoms	17	12.8%	27	20.3%	9	9.2%	5	11.9%	58	14.3%
Abdominal pain	21	15.8%	19	14.3%	6	6.1%	8	19.0%	54	13.3%
SOB, cough, respiratory	11	8.3%	22	16.5%	12	12.2%	4	9.5%	49	12.1%
Chest pain	14	10.5%	8	6.0%	12	12.2%	1	2.4%	35	8.6%
Injury	14	10.5%	9	6.8%	9	9.2%	2	4.8%	34	8.4%
Dizzy/unresponsive/syncope/confusion	9	6.8%	3	2.3%	9	9.2%	6	14.3%	27	6.7%
Fever	4	3.0%	4	3.0%	10	10.2%	0	0.0%	18	4.4%
Behavioral/Mental health	6	4.5%	1	0.8%	9	9.2%	1	2.4%	17	4.2%
Back pain	4	3.0%	6	4.5%	2	2.0%	0	0.0%	12	3.0%
Flank pain	5	3.8%	3	2.3%	1	1.0%	3	7.1%	12	3.0%
Headache	2	1.5%	5	3.8%	4	4.1%	0	0.0%	11	2.7%
Seizure	2	1.5%	4	3.0%	3	3.1%	1	2.4%	10	2.5%
Pain in limb(s)	4	3.0%	1	0.8%	1	1.0%	0	0.0%	6	1.5%
Pregnancy related	0	0.0%	3	2.3%	2	2.0%	0	0.0%	5	1.2%
Blood in stool	1	0.8%	1	0.8%	1	1.0%	0	0.0%	3	0.7%
Blood in cough/vomit	1	0.8%	2	1.5%	0	0.0%	0	0.0%	3	0.7%
Other	18	13.5%	15	11.3%	8	8.2%	11	26.2%	52	12.8%

MON OB ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Diagnosis at Discharge	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Gastrointestinal	20	15.0%	27	20.3%	13	13.3%	4	9.5%	64	15.8%
Injury	17	12.8%	10	7.5%	10	10.2%	8	19.0%	45	11.1%
Cardiovascular	11	8.3%	11	8.3%	10	10.2%	7	16.7%	39	9.6%
Substance abuse	7	5.3%	12	9.0%	16	16.3%	1	2.4%	36	8.9%
Pneumonia/Bronchitis	5	3.8%	19	14.3%	7	7.1%	2	4.8%	33	8.1%
Renal/Urinary	14	10.5%	10	7.5%	7	7.1%	2	4.8%	33	8.1%
Respiratory	5	3.8%	9	6.8%	4	4.1%	3	7.1%	21	5.2%
Flu/Flu-like illness	4	3.0%	5	3.8%	8	8.2%	0	0.0%	17	4.2%
Diabetes-related diagnosis	6	4.5%	5	3.8%	6	6.1%	0	0.0%	17	4.2%
Musculoskeletal	7	5.3%	3	2.3%	4	4.1%	2	4.8%	16	3.9%
Brain injury/problem	3	2.3%	7	5.3%	3	3.1%	2	4.8%	15	3.7%
Infection	11	8.3%	1	0.8%	1	1.0%	2	4.8%	15	3.7%
Dehydration	3	2.3%	3	2.3%	3	3.1%	1	2.4%	10	2.5%
Hepatic/ Pancreatic/ Gallbladder/ Appendix	4	3.0%	1	0.8%	0	0.0%	3	7.1%	8	2.0%
Behavioral/Mental health	4	3.0%	1	0.8%	3	3.1%	0	0.0%	8	2.0%
Allergic reaction	2	1.5%	3	2.3%	0	0.0%	1	2.4%	6	1.5%
Pregnancy related	0	0.0%	3	2.3%	0	0.0%	0	0.0%	3	0.7%
Cancer	0	0.0%	0	0.0%	0	0.0%	2	4.8%	2	0.5%
Other	10	7.5%	2	1.5%	3	3.1%	2	4.8%	17	4.2%
No data	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.2%
Disposition of Mon Obs	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Discharged home	106	79.7%	98	73.7%	81	82.7%	31	73.8%	316	77.8%
Referred	27	20.3%	32	24.1%	15	15.3%	7	16.7%	81	20.0%
Other	0	0.0%	2	1.5%	2	2.0%	3	7.1%	7	1.7%
No data	0	0.0%	1	0.8%	0	0.0%	1	2.4%	2	0.5%

MON OB ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Non-invasive BP Monitor	99	74.4%	107	80.5%	76	77.6%	31	73.8%	313	77.1%
IV placed	90	67.7%	89	66.9%	77	78.6%	31	73.8%	287	70.7%
Pulse Oximeter	73	54.9%	115	86.5%	73	74.5%	25	59.5%	286	70.4%
Cardiac Monitor	68	51.1%	40	30.1%	26	26.5%	14	33.3%	148	36.5%
O_2	32	24.1%	40	30.1%	23	23.5%	9	21.4%	104	25.6%
IV Pump	25	18.8%	68	51.1%	2	2.0%	0	0.0%	95	23.4%
Foley Catheter placed	2	1.5%	9	6.8%	3	3.1%	1	2.4%	15	3.7%
Intubated	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Ventilator	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Chest Tube placed	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	13	9.8%	20	15.0%	11	11.2%	2	4.8%	46	11.3%
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	78	58.6%	60	45.1%	86	88%	0	0.0%	224	55.2%
U/A	71	53.4%	66	49.6%	38	38.8%	10	23.8%	185	45.6%
Electrolytes	65	48.9%	8	6.0%	16	16.3%	0	0.0%	89	21.9%
CBC with diff	48	36.1%	20	15.0%	2	2.0%	16	38.1%	86	21.2%
BMP	6	4.5%	14	10.5%	60	61.2%	1	2.4%	81	20.0%
BUN/Creatinine	49	36.8%	8	6.0%	16	16.3%	1	2.4%	74	18.2%
Troponin	23	17.3%	20	15.0%	28	28.6%	2	4.8%	73	18.0%
CMP	3	2.3%	34	25.6%	16	16.3%	4	9.5%	57	14.0%
Liver Function	35	26.3%	6	4.5%	16	16.3%	0	0.0%	57	14.0%
Myoglobin	23	17.3%	2	1.5%	27	27.6%	2	4.8%	54	13.3%
CKMB	23	17.3%	0	0.0%	28	28.6%	2	4.8%	53	13.1%
ETOH	11	8.3%	1	0.8%	19	19.4%	0	0.0%	31	7.6%
Amylase	4	3.0%	8	6.0%	9	9.2%	1	2.4%	22	5.4%
CK	15	11.3%	0	0.0%	2	2.0%	0	0.0%	17	4.2%
HCG	9	6.8%	2	1.5%	3	3.1%	0	0.0%	14	3.4%
PT/PTT	6	4.5%	2	1.5%	2	2.0%	2	4.8%	12	3.0%
Sed Rate	2	1.5%	2	1.5%	2	2.0%	0	0.0%	6	1.5%
ABG	0	0.0%	0	0.0%	2	2.0%	0	0.0%	2	0.5%
Other labs	37	27.8%	60	45.1%	47	48.0%	8	19.0%	152	37.4%

MON OB ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
X-Rays/EKGs Done	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CXR	31	23.3%	34	25.6%	30	15.2%	1	2.4%	96	23.6%
EKG	8	6.0%	16	12.0%	35	17.7%	8	19.0%	67	16.5%
KUB	18	13.5%	5	3.8%	9	4.5%	3	7.1%	35	8.6%
C/S	1	0.8%	0	0.0%	3	1.5%	1	2.4%	5	1.2%
Skull	1	0.8%	2	1.5%	0	0.0%	0	0.0%	3	0.7%
L/S	0	0.0%	0	0.0%	2	1.0%	0	0.0%	2	0.5%
T/S	0	0.0%	0	0.0%	1	0.5%	0	0.0%	1	0.2%
Other Xray	21	15.8%	15	11.3%	9	4.5%	2	4.8%	47	11.6%

TRANSFER ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
Time Descriptors										
Number of Transfer Encounters	56		53		84		119		312	
Mean Length of Transfer Visit	4.00		4.00		8.64		1.42		4.27	
Median Length of Transfer Visit	3.50		3.75		5.50		1.25		2.75	
Standard Deviation	2.24		1.40		7.77		0.87		5.09	
Maximum Transfer Visit Length	12.25		8.50		41.50		4.00		41.50	
Minimum Transfer Visit Length	1.00		0.50		1.25		0.25		0.25	
Time Distribution	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
<2 hrs	1	1.8%	2	3.8%	6	7.1%	92	77.3%	101	32.4%
=2<4 hrs	35	62.5%	25	47.2%	20	23.8%	22	18.5%	102	32.7%
=4<8 hrs	17	30.4%	25	47.2%	28	33.3%	5	4.2%	75	24.0%
=8<12 hrs	1	1.8%	1	1.9%	8	9.5%	0	0.0%	10	3.2%
=12<16 hrs	2	3.6%	0	0.0%	6	7.1%	0	0.0%	8	2.6%
=16<20 hrs	0	0.0%	0	0.0%	10	11.9%	0	0.0%	10	3.2%
=20<24 hrs	0	0.0%	0	0.0%	2	2.4%	0	0.0%	2	0.6%
=24<28 hrs	0	0.0%	0	0.0%	1	1.2%	0	0.0%	1	0.3%
=28<32 hrs	0	0.0%	0	0.0%	2	2.4%	0	0.0%	2	0.6%
=32<36 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=36<40 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=40<44 hrs	0	0.0%	0	0.0%	1	1.2%	0	0.0%	1	0.3%
After Hours Encounters	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
After Clinic Hours	24	42.9%	28	53%	40	48%	69	58.0%	161	51.6%
During Clinic Hours	32	57.1%	25	47%	44	52%	50	42.0%	151	48.4%

TRANSFER ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Chief Complaint at Time of Admission	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Injury	8	14.3%	13	24.5%	14	16.7%	22	18.5%	57	18.3%
Abdominal pain	4	7.1%	5	9.4%	15	17.9%	23	19.3%	47	15.1%
Chest pain	6	10.7%	7	13.2%	14	16.7%	14	11.8%	41	13.1%
SOB, cough, respiratory	6	10.7%	6	11.3%	10	11.9%	13	10.9%	35	11.2%
Dizzy/unresponsive/syncope/confusion	3	5.4%	4	7.5%	4	4.8%	11	9.2%	22	7.1%
Pregnancy related	5	8.9%	3	5.7%	2	2.4%	7	5.9%	17	5.4%
Behavioral/Mental health	3	5.4%	2	3.8%	5	6.0%	6	5.0%	16	5.1%
Pain in limb(s)	3	5.4%	1	1.9%	4	4.8%	6	5.0%	14	4.5%
Seizure	3	5.4%	0	0.0%	3	3.6%	4	3.4%	10	3.2%
Headache	2	3.6%	2	3.8%	2	2.4%	1	0.8%	7	2.2%
Blood in cough/vomit	1	1.8%	1	1.9%	3	3.6%	0	0.0%	5	1.6%
Back pain	1	1.8%	0	0.0%	2	2.4%	1	0.8%	4	1.3%
Flu-like symptoms	0	0.0%	2	3.8%	0	0.0%	1	0.8%	3	1.0%
Blood in stool	0	0.0%	2	3.8%	0	0.0%	0	0.0%	2	0.6%
Fever	0	0.0%	0	0.0%	1	1.2%	0	0.0%	1	0.3%
Flank pain	1	1.8%	0	0.0%	0	0.0%	0	0.0%	1	0.3%
Other	10	17.9%	5	9.4%	5	6.0%	10	8.4%	30	9.6%

TRANSFER ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Diagnosis at Discharge	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Injury	9	16.1%	12	22.6%	18	21.4%	26	21.8%	65	20.8%
Cardiovascular	12	21.4%	8	15.1%	17	20.2%	21	17.6%	58	18.6%
Gastrointestinal	1	1.8%	5	9.4%	10	11.9%	6	5.0%	22	7.1%
Pneumonia/Bronchitis	5	8.9%	2	3.8%	9	10.7%	5	4.2%	21	6.7%
Pregnancy related	5	8.9%	6	11.3%	2	2.4%	8	6.7%	21	6.7%
Brain injury/problem	3	5.4%	2	3.8%	6	7.1%	8	6.7%	19	6.1%
Hepatic/ Pancreatic/ Gallbladder/ Appendix	2	3.6%	3	5.7%	6	7.1%	6	5.0%	17	5.4%
Renal/Urinary	2	3.6%	4	7.5%	5	6.0%	1	0.8%	12	3.8%
Substance abuse/use related	2	3.6%	4	7.5%	1	1.2%	3	2.5%	10	3.2%
Respiratory	2	3.6%	2	3.8%	2	2.4%	4	3.4%	10	3.2%
Flu/Flu-like illness	1	1.8%	1	1.9%	0	0.0%	6	5.0%	8	2.6%
Behavioral/Mental health	2	3.6%	0	0.0%	4	4.8%	1	0.8%	7	2.2%
Infection not associated w/ another cat	1	1.8%	2	3.8%	1	1.2%	2	1.7%	6	1.9%
Cancer	0	0.0%	0	0.0%	0	0.0%	6	5.0%	6	1.9%
Dehydration	2	3.6%	0	0.0%	0	0.0%	1	0.8%	3	1.0%
Allergic reaction	0	0.0%	0	0.0%	0	0.0%	2	1.7%	2	0.6%
Diabetes-related diagnosis	0	0.0%	0	0.0%	0	0.0%	1	0.8%	1	0.3%
Musculoskeletal	1	1.8%	0	0.0%	0	0.0%	0	0.0%	1	0.3%
Other	6	10.7%	2	3.8%	3	3.6%	12	10.1%	23	7.4%
Destination of Transfers	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anchorage	4	7.1%	51	96.2%	71	84.5%	0	0.0%	126	40.4%
Bellingham	0	0.0%	0	0.0%	0	0.0%	47	39.5%	47	15.1%
Anacortes	0	0.0%	0	0.0%	0	0.0%	34	28.6%	34	10.9%
Seattle Metro Area	7	12.5%	0	0.0%	0	0.0%	24	20.2%	31	9.9%
Ketchikan	17	30.4%	0	0.0%	0	0.0%	0	0.0%	17	5.4%
Sitka	15	26.8%	0	0.0%	0	0.0%	0	0.0%	15	4.8%
Mt. Vernon	0	0.0%	0	0.0%	0	0.0%	10	8.4%	10	3.2%
Unspecified	13	23.2%	2	3.8%	13	15.5%	4	3.4%	32	10.3%
Used Paid Escort	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
	2	3.6%	0	0.0%	15	17.9%	26	21.8%	43	13.8%

TRANSFER ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Non-invasive BP Monitor	50	89.3%	48	90.6%	70	83.3%	89	74.8%	257	82.4%
Pulse Oximeter	46	82.1%	49	92.5%	73	86.9%	85	71.4%	253	81.1%
IV placed	46	82.1%	40	75.5%	62	73.8%	93	78.2%	241	77.2%
Cardiac Monitor	32	57.1%	33	62.3%	30	35.7%	68	57.1%	163	52.2%
O_2	25	44.6%	31	58.5%	37	44.0%	47	39.5%	140	44.9%
IV Pump	19	33.9%	37	69.8%	12	14.3%	1	0.8%	69	22.1%
Foley Catheter placed	8	14.3%	19	35.8%	14	16.7%	1	0.8%	42	13.5%
Intubated	1	1.8%	0	0.0%	6	7.1%	1	0.8%	8	2.6%
Ventilator	1	1.8%	0	0.0%	3	3.6%	0	0.0%	4	1.3%
Chest Tube placed	0	0.0%	0	0.0%	1	1.2%	0	0.0%	1	0.3%
Other	5	8.9%	13	24.5%	17	20.2%	13	10.9%	48	15.4%
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	31	55.4%	34	64.2%	73	86.9%	0	0.0%	138	44.2%
U/A	22	39.3%	24	45.3%	36	42.9%	9	7.6%	91	29.2%
Troponin	10	17.9%	13	24.5%	35	41.7%	17	14.3%	75	24.0%
CBC with diff	9	16.1%	7	13.2%	4	4.8%	42	35.3%	62	19.9%
Myoglobin	9	16.1%	0	0.0%	35	41.7%	17	14.3%	61	19.6%
CKMB	10	17.9%	0	0.0%	35	41.7%	16	13.4%	61	19.6%
BMP	2	3.6%	3	5.7%	48	57.1%	2	1.7%	55	17.6%
CMP	3	5.4%	20	37.7%	15	17.9%	3	2.5%	41	13.1%
Liver Function	15	26.8%	1	1.9%	18	21.4%	0	0.0%	34	10.9%
Electrolytes	14	25.0%	0	0.0%	14	16.7%	3	2.5%	31	9.9%
BUN/Creatinine	12	21.4%	0	0.0%	14	16.7%	2	1.7%	28	9.0%
ETOH	5	8.9%	3	5.7%	7	8.3%	1	0.8%	16	5.1%
Amylase	2	3.6%	3	5.7%	11	13.1%	0	0.0%	16	5.1%
PT/PTT	8	14.3%	3	5.7%	1	1.2%	2	1.7%	14	4.5%
ABG	0	0.0%	1	1.9%	11	13.1%	0	0.0%	12	3.8%
CK	5	8.9%	0	0.0%	6	7.1%	0	0.0%	11	3.5%
HCG	4	7.1%	0	0.0%	5	6.0%	0	0.0%	9	2.9%
Sed Rate	1	1.8%	0	0.0%	3	3.6%	1	0.8%	5	1.6%
Other labs	19	33.9%	24	45.3%	28	33.3%	4	3.4%	75	24.0%

TRANSFER ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
X-Rays/EKGs Done	**n**	**%**	**n**	**%**			**n**	**%**	**n**	**%**
EKG	5	8.9%	16	30.2%	36	42.9%	31	26.1%	88	28.2%
CXR	15	26.8%	11	20.8%	30	35.7%	5	4.2%	61	19.6%
KUB	6	10.7%	1	1.9%	15	17.9%	6	5.0%	28	9.0%
C/S	3	5.4%	1	1.9%	8	9.5%	1	0.8%	13	4.0%
L/S	0	0.0%	2	3.8%	3	3.6%	0	0.0%	5	2.0%
T/S	1	1.8%	1	1.9%	3	3.6%	0	0.0%	5	2.0%
Skull	0	0.0%	0	0.0%	4	4.8%	0	0.0%	4	1.0%
Other Xray	8	14.3%	6	11.3%	15	17.9%	25	21.0%	54	17.0%

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		All	
Eligibility	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All FESC patients eligible for Medicare &/or Medicaid	73	36.1%	93	46.3%	13	6.6%	104	55.0%	283	35.8%
All FESC patients eligible for Medicaid only	37	18.3%	46	22.9%	4	2.0%	1	0.5%	88	11.1%
All FESC patients eligible for Medicare	36	17.8%	47	23.4%	9	4.5%	103	54.5%	195	24.7%
FESC patients eligible for Medicare &/or Medicaid ; encounter =>4 hrs	27	13.4%	75	37.3%	10	5.1%	10	5.3%	122	15.4%
FESC Patients eligible for Medicaid only; encounter =>4 hrs	12	5.9%	37	18.4%	2	1.0%	0	0.0%	51	6.5%
FESC patients eligible for Medicare; encounter =>4 hrs	15	7.4%	38	18.9%	8	4.0%	10	5.3%	71	9.0%

REIMBURSABLE ENCOUNTERS OF 4 OR MORE HOURS	ARMC	CRMC	IFHS	IIMC	All
Time Descriptors					
Medicare and/or Medicaid					
Number of Encounters	27	75	10	10	122
Mean Length of Visit	6.51	21.95	13.30	4.55	16.40
Median Length of Visit	5.00	16.25	8.25	4.63	8.13
Standard Deviation	3.39	20.97	7.97	0.52	18.16
Maximum Visit Length	18.25	99.5	28.00	5.25	99.50
Medicare					
Number of Encounters	15	38	8	10	71
Mean Length of Visit	6.75	23.47	13.12	4.55	16.11
Median Length of Visit	5.00	19.75	8.25	4.63	7.75
Standard Deviation	3.97	21.54	8.21	0.52	17.98
Maximum Visit Length	18.25	99.50	28.00	5.25	99.50
Medicaid-only					
Number of Encounters	12	37	2	0	51
Mean Length of Visit	6.21	20.40	14.00	0.00	16.81
Median Length of Visit	4.75	11.75	14.00	0.00	8.50
Standard Deviation	2.63	20.56	9.90	0.00	18.56
Maximum Length of Visit	12.25	99.25	21.00	0.00	99.25

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC	CRMC	IFHS	IIMC	ALL

Time Distribution	n	%	n	%	n	%	n	%	n	%
=4<8 hrs	20	74.1%	23	30.7%	4	40.0%	10	100.0%	57	46.7%
=8<12 hrs	4	14.8%	9	12.0%	2	20.0%	0	0.0%	15	12.3%
=12<16 hrs	2	7.4%	4	5.3%	0	0.0%	0	0.0%	6	4.9%
=16<20 hrs	1	3.7%	7	9.3%	1	10.0%	0	0.0%	9	7.4%
=20<24 hrs	0	0.0%	8	10.7%	2	20.0%	0	0.0%	10	8.2%
=24<28 hrs	0	0.0%	8	10.7%	0	0.0%	0	0.0%	8	6.6%
=28<32 hrs	0	0.0%	3	4.0%	1	10.0%	0	0.0%	4	3.3%
=32<36 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=36<40 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=40<44 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=44<48 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=48<52 hrs	0	0.0%	2	2.7%	0	0.0%	0	0.0%	2	1.6%
=52<56 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=56<60 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=60<64 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=64<68 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=68<72 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=72<76 hrs	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
=76<80 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=80<84 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=84<88 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=88<92 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=92<96 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=96<100 hrs	0	0.0%	2	2.7%	0	0.0%	0	0.0%	2	1.6%

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
FESC Type	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Medicare and/or Medicaid										
Mon Obs	19	70.4%	55	73.3%	4	40.0%	5	50.0%	83	68.0%
Began Mon Ob, Ended Transfer	1	3.7%	7	9.3%	1	10.0%	2	20.0%	11	9.0%
Transfer	6	22.2%	12	16.0%	5	50.0%	3	30.0%	26	21.3%
Other	1	3.7%	1	1.3%	0	0.0%	0	0.0%	2	1.6%
Medicare										
Mon Obs	11	73.3%	27	71.1%	4	50.0%	5	50.0%	47	66.2%
Began Mon Ob, Ended Transfer	0	0.0%	4	10.5%	1	12.5%	2	20.0%	7	9.9%
Transfer	3	20.0%	7	18.4%	3	37.5%	3	30.0%	16	22.5%
Other	1	6.7%	0	0.0%	0	0.0%	0	0.0%	1	1.4%
Medicaid-only										
Mon Obs	8	66.7%	28	75.7%	0	0.0%	0.0	0.0%	36	70.6%
Began Mon Ob, Ended Transfer	1	8.3%	3	8.1%	0	0.0%	0.0	0.0%	4	7.8%
Transfer	3	25.0%	5	13.5%	2	100.0%	0.0	0.0%	10	19.6%
Other	0	0.0%	1	2.7%	0	0.0%	0.0	0.0%	1	2.0%
After Hours Encounters	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Medicare &/or Medicaid	8	29.6%	34	45.3%	4	40.0%	4	40.0%	50	41.0%
Medicare	4	26.7%	16	42.1%	3	37.5%	4	40.0%	27	38.0%
Medicaid-only	4	33.3%	18	48.6%	1	50.0%	0	-	23	45.1%

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Chief Complaint at Time of Admission	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
SOB, cough, respiratory	5	18.5%	17	22.7%	2	20.0%	1	10.0%	25	20.5%
Abdominal pain	4	15%	12	16.0%	1	10.0%	1	10.0%	18	14.8%
Flu-type	4	14.8%	9	12.0%	1	10.0%	1	10.0%	15	12.3%
Injury	1	3.7%	3	4.0%	2	20.0%	4	40.0%	10	8.2%
Chest pain	2	7.4%	5	6.7%	1	10.0%	0	0.0%	8	6.6%
Dizzy/unresponsive/syncope/confusion	1	3.7%	3	4.0%	1	10.0%	1	10.0%	6	4.9%
Behavioral/Mental health	2	7.4%	4	5.3%	0	0.0%	0	0.0%	6	4.9%
Fever	3	11.1%	2	2.7%	0	0.0%	0	0.0%	5	4.1%
Back pain	1	3.7%	3	4.0%	0	0.0%	0	0.0%	4	3.3%
Headache	0	0.0%	2	2.7%	0	0.0%	0	0.0%	2	1.6%
Pregnancy related	0	0.0%	2	2.7%	0	0.0%	0	0.0%	2	1.6%
Blood in cough/vomit	0	0.0%	1	1.3%	1	10.0%	0	0.0%	2	1.6%
Seizure	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
Pain in limb(s)	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
Blood in stool	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
Flank pain	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
Other	3	11.1%	9	12.0%	1	10.0%	2	20.0%	15	12.3%

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Diagnosis at Discharge	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Cardiovascular	6	22.2%	9	12.0%	4	40.0%	3	30.0%	22	18.0%
Pneumonia/Bronchitis	2	7.4%	18	24.0%	0	0.0%	1	10.0%	21	17.2%
Gastrointestinal	5	18.5%	10	13.3%	2	20.0%	0	0.0%	17	13.9%
Renal/Urinary	2	7.4%	7	9.3%	2	20.0%	0	0.0%	11	9.0%
Substance abuse/use related	0	0.0%	6	8.0%	0	0.0%	1	10.0%	7	5.7%
Respiratory	1	3.7%	4	5.3%	0	0.0%	0	0.0%	5	4.1%
Hepatic/ Pancreatic/ Gallbladder/ Appendix	1	3.7%	2	2.7%	0	0.0%	2	20.0%	5	4.1%
Diabetes-related diagnosis	0	0.0%	4	5.3%	1	10.0%	0	0.0%	5	4.1%
Injury	1	3.7%	2	2.7%	0	0.0%	1	10.0%	4	3.3%
Brain injury/problem	0	0.0%	2	2.7%	1	10.0%	1	10.0%	4	3.3%
Pregnancy related	0	0.0%	3	4.0%	0	0.0%	0	0.0%	3	2.5%
Infection not associated w/ another cat	2	7.4%	1	1.3%	0	0.0%	0	0.0%	3	2.5%
Dehydration	1	3.7%	2	2.7%	0	0.0%	0	0.0%	3	2.5%
Musculoskeletal	2	7.4%	0	0.0%	0	0.0%	0	0.0%	2	1.6%
Allergic reaction	1	3.7%	1	1.3%	0	0.0%	0	0.0%	2	1.6%
Flu/Flu-like illness	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
Behavioral/Mental health	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
Cancer	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	1	3.7%	3	4.0%	0	0.0%	1	10.0%	5	4.1%
Missing Data	0	0.0%	1	1.3%	0	0.0%	0	0.0%	1	0.8%
Disposition of Patients	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Discharged home	16	59.3%	37	49.3%	3	30.0%	4	40.0%	60	49.2%
Referred	3	11.1%	16	21.3%	1	10.0%	0	0.0%	20	16.4%
Medevaced	8	29.6%	18	24.0%	6	60.0%	4	40.0%	36	29.5%
Other	0	0.0%	3	4.0%	0	0.0%	1	10.0%	4	3.3%
Missing Data	0	0.0%	1	1.3%	0	0.0%	1	10.0%	2	1.6%

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Destination of Medevacs	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Anchorage	1	12.5%	19	95.0%	5	83.3%	0	0.0%	25	64.1%
Seattle Metro Area	2	25.0%	0	0.0%	0	0.0%	1	20.0%	3	7.7%
Anacortes	0	0.0%	0	0.0%	0	0.0%	3	60.0%	3	7.7%
Ketchikan	2	25.0%	0	0.0%	0	0.0%	0	0.0%	2	5.1%
Sitka	2	25.0%	0	0.0%	0	0.0%	0	0.0%	2	5.1%
Bellingham	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Mt. Vernon	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Unspecified	1	12.5%	1	5.0%	1	16.7%	1	20.0%	4	10.3%
Used Paid Escort	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
	1	12.5%	0	0.0%	1	16.7%	3	75.0%	5	12.8%
Equipment/Procedures Used	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Pulse Oximeter	22	81.5%	68	90.7%	10	100.0%	8	80.0%	108	88.5%
Non-invasive BP Monitor	22	81.5%	63	84.0%	10	100.0%	8	80.0%	103	84.4%
IV placed	24	88.9%	53	70.7%	7	70.0%	6	60.0%	90	73.8%
Cardiac Monitor	21	77.8%	27	36.0%	4	40.0%	4	40.0%	56	45.9%
O_2	13	48.1%	33	44.0%	5	50.0%	2	20.0%	53	43.4%
IV Pump	9	33.3%	43	57.3%	0	0.0%	0	0.0%	52	42.6%
Foley Catheter placed	4	14.8%	12	16.0%	5	50.0%	1	10.0%	22	18.0%
Intubated	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
Ventilator	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
Chest Tube Placed	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	2	7.4%	14	18.7%	4	40.0%	0	0.0%	20	16.4%

MEDICARE/MEDICAID REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Labs Performed	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CBC	19	70.4%	45	60.0%	9	90%	0	0.0%	73	59.8%
U/A	16	59.3%	42	56.0%	5	50%	1	10.0%	64	52.5%
CBC with diff	11	40.7%	21	28.0%	1	10%	4	40.0%	37	30.3%
CMP	0	0.0%	30	40.0%	3	30%	1	10.0%	34	27.9%
Troponin	8	29.6%	15	20.0%	9	90%	0	0.0%	32	26.2%
Electrolytes	17	63.0%	5	6.7%	2	20%	0	0.0%	24	19.7%
BUN/Creatinine	12	44.4%	3	4.0%	2	20%	1	10.0%	18	14.8%
BMP	2	7.4%	9	12.0%	6	60%	0	0.0%	17	13.9%
Myoglobin	7	25.9%	0	0.0%	9	90%	0	0.0%	16	13.1%
CKMB	7	25.9%	0	0.0%	9	90%	0	0.0%	16	13.1%
Liver Function	12	44.4%	2	2.7%	2	20%	0	0.0%	16	13.1%
Amylase	1	3.7%	5	6.7%	2	20%	0	0.0%	8	6.6%
CK	5	18.5%	0	0.0%	1	10%	0	0.0%	6	4.9%
PT/PTT	2	7.4%	2	2.7%	0	0%	0	0.0%	4	3.3%
Sed Rate	1	3.7%	2	2.7%	0	0%	0	0.0%	3	2.5%
HCG	1	3.7%	1	1.3%	0	0%	0	0.0%	2	1.6%
ABG	0	0.0%	1	1.3%	1	10%	0	0.0%	2	1.6%
ETOH	0	0.0%	0	0.0%	1	10%	0	0.0%	1	0.8%
Other labs	7	25.9%	39	52.0%	5	50%	2	20.0%	53	43%
X-Rays/EKGs	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
CXR	12	44.4%	25	33.3%	5	50.0%	0	0.0%	42	34.4%
EKG	1	3.7%	14	18.7%	9	90.0%	2	20.0%	26	21.3%
KUB	2	7.4%	3	4.0%	0	0.0%	0	0.0%	5	4.1%
C/S	2	7.4%	0	0.0%	0	0.0%	0	0.0%	2	1.6%
T/S	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	0.8%
Skull	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
L/S	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other Xray	4	14.8%	9	12.0%	2	20.0%	4	40.0%	19	15.6%

MEDICARE REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Time Descriptors										
Number of Encounters	15		38		8		10		71	
Mean Length of Visit	6.75		23.47		13.13		4.55		16.11	
Median Length of Visit	5.00		19.75		8.25		4.63		7.75	
Standard Deviation	3.97		21.54		8.21		0.52		17.98	
Maximum Visit Length	18.25		99.50		28.00		5.25		99.50	
Time Distribution	n	%	n	%	n	%	n	%	n	%
=4<8 hrs	12	80.0%	11	28.9%	3	37.5%	10	100.0%	36	50.7%
=8<12 hrs	1	6.7%	2	5.3%	2	25.0%	0	0.0%	5	7.0%
=12<16 hrs	1	6.7%	2	5.3%	0	0.0%	0	0.0%	3	4.2%
=16<20 hrs	1	6.7%	5	13.2%	1	12.5%	0	0.0%	7	9.9%
=20<24 hrs	0	0.0%	6	15.8%	1	12.5%	0	0.0%	7	9.9%
=24<28 hrs	0	0.0%	4	10.5%	0	0.0%	0	0.0%	4	5.6%
=28<32 hrs	0	0.0%	1	2.6%	1	12.5%	0	0.0%	2	2.8%
=32<36 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=36<40 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=40<44 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
=44<48 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
=48<52 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
=52<56 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=56<60 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
=60<64 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=64<68 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
=68<72 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=72<76 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
=76<80 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=80<84 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=84<88 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=88<92 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=92<96 hrs	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
=96<100 hrs	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%

MEDICARE REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
FESC Type	n	%	n	%	n	%	n	%	n	%
Mon Obs	11	73.3%	27	71%	4	50.0%	5	50.0%	47	66.2%
Began Mon Ob, Ended Transfer	0	0.0%	4	11%	1	12.5%	2	20.0%	7	9.9%
Transfer	3	20.0%	7	18%	3	37.5%	3	30.0%	16	22.5%
Other	1	6.7%	0	0%	0	0.0%	0	0.0%	1	1.4%
After Hours Encounters	n	%	n	%	n	%	n	%	n	%
After Clinic Hours	4	26.7%	16	42.1%	3	37.5%	4	40.0%	27	38.0%
Chief Complaint at Time of Admission	n	%	n	%	n	%	n	%	n	%
SOB, cough, respiratory	3	20.0%	11	28.9%	2	25.0%	1	10.0%	17	23.9%
Abdominal pain	2	13.3%	5	13.2%	1	12.5%	1	10.0%	9	12.7%
Chest pain	2	13.3%	5	13.2%	1	12.5%	0	0.0%	8	11.3%
Injury	0	0.0%	1	2.6%	1	12.5%	4	40.0%	6	8.5%
Dizzy/unresponsive/syncope/confusion	1	6.7%	2	5.3%	1	12.5%	1	10.0%	5	7.0%
Flu-type symptoms	2	13.3%	0	0.0%	1	12.5%	1	10.0%	4	5.6%
Behavioral/Mental health	1	6.7%	2	5.3%	0	0.0%	0	0.0%	3	4.2%
Fever	1	6.7%	1	2.6%	0	0.0%	0	0.0%	2	2.8%
Seizure	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
Back pain	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
Pain in limb(s)	1	6.7%	0	0.0%	0	0.0%	0	0.0%	1	1.4%
Blood in stool	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
Blood in cough/vomit	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
Flank pain	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
Headache	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Pregnancy related	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	2	13.3%	6	15.8%	1	12.5%	2	20.0%	11	15.5%

MEDICARE REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Diagnosis at Discharge	n	%	n	%	n	%	n	%	n	%
Cardiovascular	4	26.7%	9	23.7%	3	37.5%	3	30.0%	19	26.8%
Pneumonia/Bronchitis	1	6.7%	13	34.2%	0	0.0%	1	10.0%	15	21.1%
Gastrointestinal	3	20.0%	4	10.5%	1	12.5%	0	0.0%	8	11.3%
Renal/Urinary	2	13.3%	4	10.5%	2	25.0%	0	0.0%	8	11.3%
Hepatic/ Pancreatic/ Gallbladder/ Appendix	1	6.7%	2	5.3%	0	0.0%	2	20.0%	5	7.0%
Brain injury/problem	0	0.0%	1	2.6%	1	12.5%	1	10.0%	3	4.2%
Injury	0	0.0%	1	2.6%	0	0.0%	1	10.0%	2	2.8%
Dehydration	1	6.7%	1	2.6%	0	0.0%	0	0.0%	2	2.8%
Substance abuse/use related	0	0.0%	0	0.0%	0	0.0%	1	10.0%	1	1.4%
Respiratory	0	0.0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
Diabetes-related diagnosis	0	0.0%	0	0.0%	1	12.5%	0	0.0%	1	1.4%
Musculoskeletal	1	6.7%	0	0.0%	0	0.0%	0	0.0%	1	1.4%
Allergic reaction	1	6.7%	0	0.0%	0	0.0%	0	0.0%	1	1.4%
Pregnancy related	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Flu/Flu-like illness	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Infection not associated w/ another cat	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Behavioral/Mental health	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Cancer	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	1	6.7%	2	5.3%	0	0.0%	1	10.0%	4	5.6%
Disposition of Patients	n	%	n	%	n	%	n	%	n	%
Discharged home	9	60.0%	16	42.1%	3	37.5%	4	40.0%	32	45.1%
Referred	2	13.3%	10	26.3%	1	12.5%	0	0.0%	13	18.3%
Medevaced	4	26.7%	10	26.3%	4	50.0%	4	40.0%	22	31.0%
Other	0	0.0%	2	5.3%	0	0.0%	1	10.0%	3	4.2%
Missing Data	0	0.0%	0	0.0%	0	0.0%	1	10.0%	1	1.4%

MEDICARE REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Destination of Medevacs	n	%	n	%	n	%	n	%	n	%
Anchorage	1	25.0%	11	100%	3	75%	0	0.0%	15	62.5%
Seattle Metro Area	2	50.0%	0	0.0%	0	0.0%	1	20.0%	3	12.5%
Anacortes	0	0.0%	0	0.0%	0	0.0%	3	60.0%	3	12.5%
Sitka	1	25.0%	0	0.0%	0	0.0%	0	0.0%	1	4.2%
Ketchikan	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Bellingham	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Mt. Vernon	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Unspecified	0	0.0%	0	0.0%	1	25.0%	1	20.0%	2	8.3%
Used Paid Escort	n	%	n	%	n	%	n	%	n	%
	1	25.0%	0	0.0%	1	25.0%	3	75.0%	5	22.7%
Equipment/Procedures Used	n	%	n	%	n	%	n	%	n	%
Pulse Oximeter	12	80.0%	35	92.1%	8	100.0%	8	80.0%	63	88.7%
Non-invasive BP Monitor	12	80.0%	33	86.8%	8	100.0%	8	80.0%	61	85.9%
IV placed	14	93.3%	27	71.1%	5	62.5%	6	60.0%	52	73.2%
Cardiac Monitor	14	93.3%	19	50.0%	3	37.5%	4	40.0%	40	56.3%
O_2	9	60.0%	21	55.3%	4	50.0%	2	20.0%	36	50.7%
IV Pump	8	53.3%	23	60.5%	0	0.0%	0	0.0%	31	43.7%
Foley Catheter placed	2	13.3%	6	15.8%	4	50.0%	1	10.0%	13	18.3%
Intubated	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Ventilator	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Chest Tube placed	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	1	6.7%	10	26.3%	3	37.5%	0	0.0%	14	19.7%

MEDICARE REIMBURSABLE ENCOUNTERS	ARMC		CRMC		IFHS		IIMC		ALL	
Labs Performed	n	%	n	%	n	%	n	%	n	%
CBC	12	80%	20	52.6%	7	87.5%	0	0.0%	39	55%
U/A	9	60%	16	42.1%	4	50.0%	1	10.0%	30	42.3%
Troponin	7	47%	13	34.2%	7	87.5%	0	0.0%	27	38.0%
CBC with diff	7	47%	12	31.6%	1	12.5%	4	40.0%	24	33.8%
CMP	0	0%	17	44.7%	2	25.0%	1	10.0%	20	28.2%
Electrolytes	11	73%	2	5.3%	2	25.0%	0	0.0%	15	21.1%
Myoglobin	7	47%	0	0.0%	7	87.5%	0	0.0%	14	19.7%
BUN/Creatinine	10	67%	1	2.6%	2	25.0%	1	10.0%	14	19.7%
CKMB	6	40%	0	0.0%	7	87.5%	0	0.0%	13	18.3%
Liver Function	9	60%	1	2.6%	1	12.5%	0	0.0%	11	15.5%
BMP	1	7%	2	5.3%	4	50.0%	0	0.0%	7	9.9%
CK	5	33%	0	0.0%	0	0.0%	0	0.0%	5	7.0%
Amylase	1	7%	2	5.3%	1	12.5%	0	0.0%	4	5.6%
PT/PTT	2	13%	1	2.6%	0	0.0%	0	0.0%	3	4.2%
ABG	0	0%	1	2.6%	1	12.5%	0	0.0%	2	2.8%
Sed Rate	0	0%	1	2.6%	0	0.0%	0	0.0%	1	1.4%
ETOH	0	0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
HCG	0	0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other labs	4	27%	16	42.1%	4	50.0%	2	20.0%	26	36.6%
X-Rays/EKGs Done	n	%	n	%	n	%	n	%	n	%
CXR	6	40.0%	16	42.1%	4	50.0%	0	0.0%	26	36.6%
EKG	1	6.7%	12	31.6%	7	87.5%	2	20.0%	22	31.0%
KUB	1	6.7%	1	2.6%	0	0.0%	0	0.0%	2	2.8%
C/S	1	6.7%	0	0.0%	0	0.0%	0	0.0%	1	1.4%
Skull	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
L/S	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
T/S	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other Xray	2	13.3%	5	13.2%	1	12.5%	4	40.0%	12	16.9%