

# **Frontier Extended Stay Clinic Demonstration Volume II Outcome Log Findings**

*Prepared for*  
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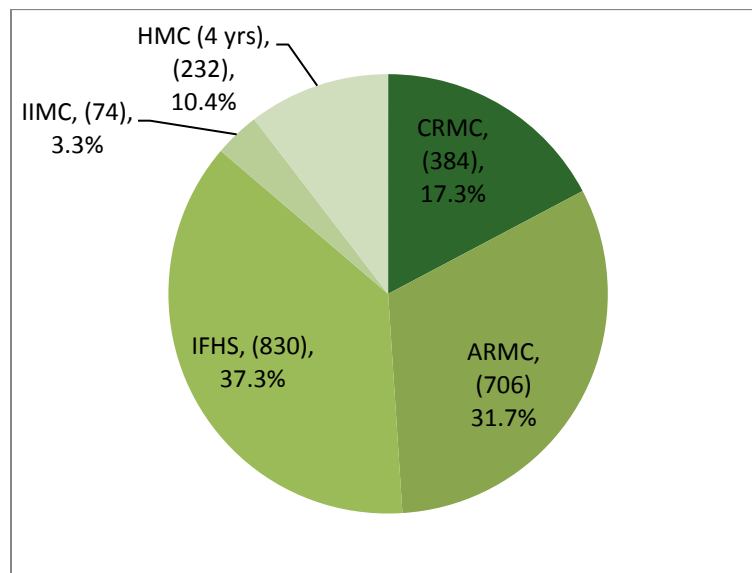
## Introduction

This the second Volume of the Frontier Extended Stay Clinic (FESC) Demonstration report presents the findings from the analysis of the five years of data collected via the Outcome Log of the FESC encounters for the five 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; (4) Inter-Island Medical Center (IIMC) in Friday Harbor, Washington; and (5) Haines Medical Center (HMC) in Haines, Alaska. Aggregated data are presented for the overall project as well as data for each 12-month period by clinic so that clinics may be compared to each other and to the overall project. Data tables for the figures in this section of the report are in Appendix B for Volume II.

### A. FESC Encounters: Extended-Stay Encounters of Four Hours or More

FESC encounters at the five participating clinics were separated into three types—monitoring and observation (Mon Ob), transfer, and other. FESC patient encounters lasted four hours or longer.

**Figure 1. FESC Encounters of Four Hours or More for Five Years**



Over five data years, FESC encounters were distributed among the five participating clinics as follows: IFHS in Unalaska (37.3%, n=830); ARMC in Klawock (31.7%, n=706); CRMC in Glennallen (17.3%, n=384); HMC (four data years) in Haines (10.4%, n=232); and IIMC in Friday Harbor, Washington (3.3%, n=74).

**Table 1. Number and Length for FESC Encounters  
by Year and over Five Years**

<b>Year 1</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	83	108	163	18	NA	372
Mean length (hrs)	7.3	11.7	8.4	4.7	NA	8.9
Median length (hrs)	5.0	7.8	6.3	4.6	NA	6.0
Std. Deviation (hrs)	6.1	8.7	5.7	0.7	NA	7.0
Maximum (hrs)	48.0	45.0	41.5	6.5	NA	48.0
Minimum (hrs)	4.0	4.0	4.0	4.0	NA	4.0
<b>Year 2</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	103	66	117	9	60	355
Mean length (hrs)	7.4	10.0	7.4	5.8	6.9	7.7
Median length (hrs)	5.5	6.6	6.0	5.5	5.9	6.0
Std. Deviation (hrs)	5.3	8.2	4.2	1.3	4.0	5.5
Maximum (hrs)	36.5	44.5	25.5	8.5	24.3	44.5
Minimum (hrs)	4.0	4.0	4.0	4.5	4.0	4.0
<b>Year 3</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	137	85	194	23	60	499
Mean length (hrs)	7.6	12.6	9.9	6.6	8.5	9.4
Median length (hrs)	5.5	8.6	6.9	4.9	6.5	6.3
Std. Deviation (hrs)	5.5	1.1	7.5	4.7	4.7	7.4
Maximum (hrs)	38.5	46.0	50.0	25.1	21.0	50.0
Minimum (hrs)	4.0	4.0	4.0	4.0	4.0	4.0
<b>Year 4</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	197	30	164	11	51	453
Mean length (hrs)	10.3	13.3	13.1	4.9	7.4	11.0
Median length (hrs)	6.6	6.2	15.0	4.7	5.8	7.1
Std. Deviation (hrs)	8.5	12.7	7.4	0.9	3.6	8.2
Maximum (hrs)	47.3	47.6	40.2	6.8	16.3	47.6
Minimum (hrs)	4.0	4.0	4.0	4.0	4.0	4.0
<b>Year 5</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	186	95	192	13	61	547
Mean length (hrs)	8.4	8.4	8.7	4.9	7.4	8.3
Median length (hrs)	5.7	5.4	5.7	4.5	5.4	5.5
Std. Deviation (hrs)	6.5	6.8	7.2	1.0	5.1	6.6
Maximum (hrs)	43.5	35.2	47.3	6.8	29.8	47.3
Minimum (hrs)	4.0	4.0	4.0	4.1	4.0	4.0
<b>Five years</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC (4 yrs)</b>	<b>All</b>
Number of encounters	706	384	830	74	232	2,226
Mean length (hrs)	8.5	10.9	9.6	5.5	7.6	9.1
Median length (hrs)	5.9	6.5	6.5	4.8	6.0	6.0
Std. Deviation (hrs)	6.9	9.0	7.0	2.8	4.4	7.1
Maximum (hrs)	48.0	47.6	50.0	25.1	29.8	50.0
Minimum (hrs)	4.0	4.0	4.0	4.0	4.0	4.0

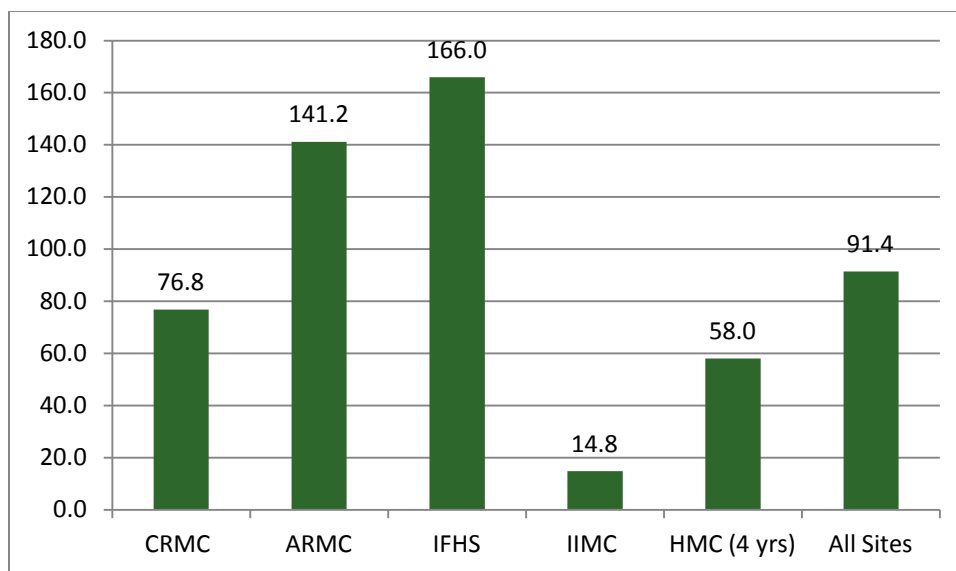
The number of FESC encounters has consistently increased at ARMC over the five data years. Three of the clinics—CRMC, IFHS, and IIMC—declined between year one and two and then increased in year three to exceed the year-one levels; declined in year four, then rose again in year five. HMC had the exact same number of FESC encounters in data years two and three. HMC had a decrease of 17% (nine encounters) in data year four, then rose back to years one and two numbers.

The difference between the aggregated mean and median numbers (1.7) was smallest in year two (7.7 mean, 6.0 median). In year three this difference widened to 3.3 (9.4 mean, 6.3 median), and continued to widen again in year four to 3.9 (11.0 mean, 7.1 median). There was also a steady increase in the standard deviation over the same three years (two to four). In year 5 the difference between the aggregated mean and median declined to 2.8 (8.3 mean, 5.5 median). The wider differences reflected the presence of longer encounters, which were widening the range in the length of FESC encounters.

Five-year totals by clinic demonstrate that four of the five FESC clinic sites had differences between their means and medians of .7 to 4.4 hours: ARMC, 2.6 hours; IFHS, 3.1 hours; IIMC, 0.7 hours; CRMC, 4.4, and HMC, 1.6 hours.

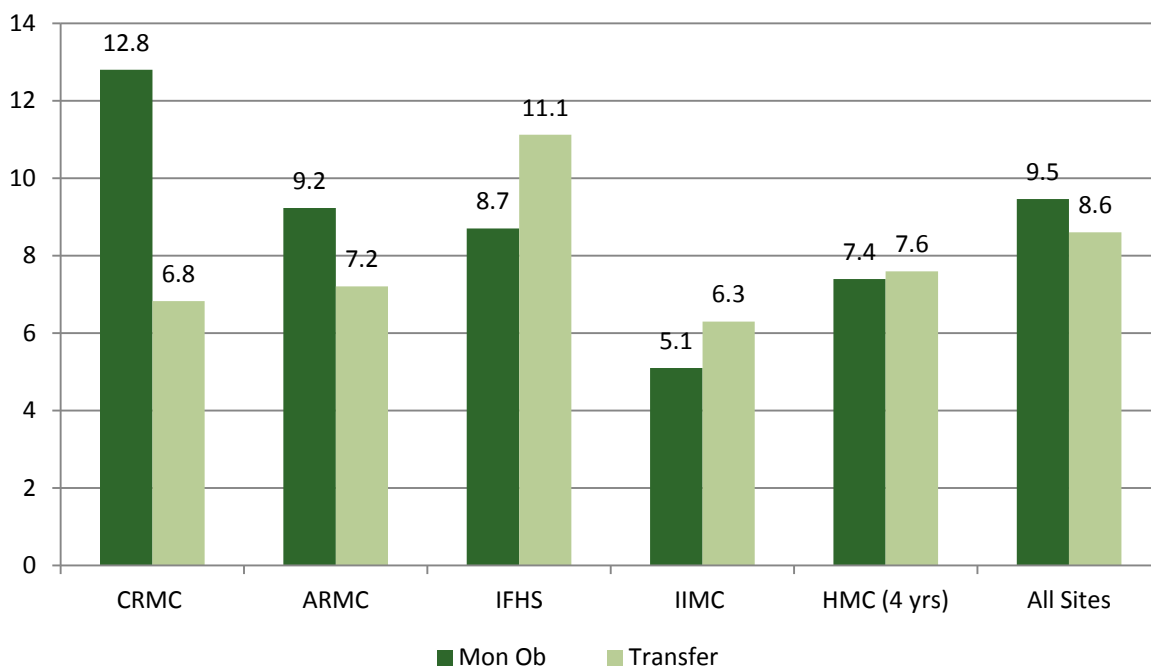
It is important to note that the overall five-year-median encounter was 6.0 hours. In other words, half of the 2,226 encounters were resolved in six hours or less.

**Figure 2. Annual Mean of FESC Encounters per Clinic and over All Clinic Sites**



As Figure 2 shows, the mean number of all FESC encounters by clinic was 91.4 (7.6 encounters per month). Mean annual numbers for individual clinics ranged from 14.8 for IIMC to 166.0 for IFHS, which had the highest total number of FESC encounters of any clinic over the five years at 830.

**Figure 3. Annual Mean Length of Encounter by Type**

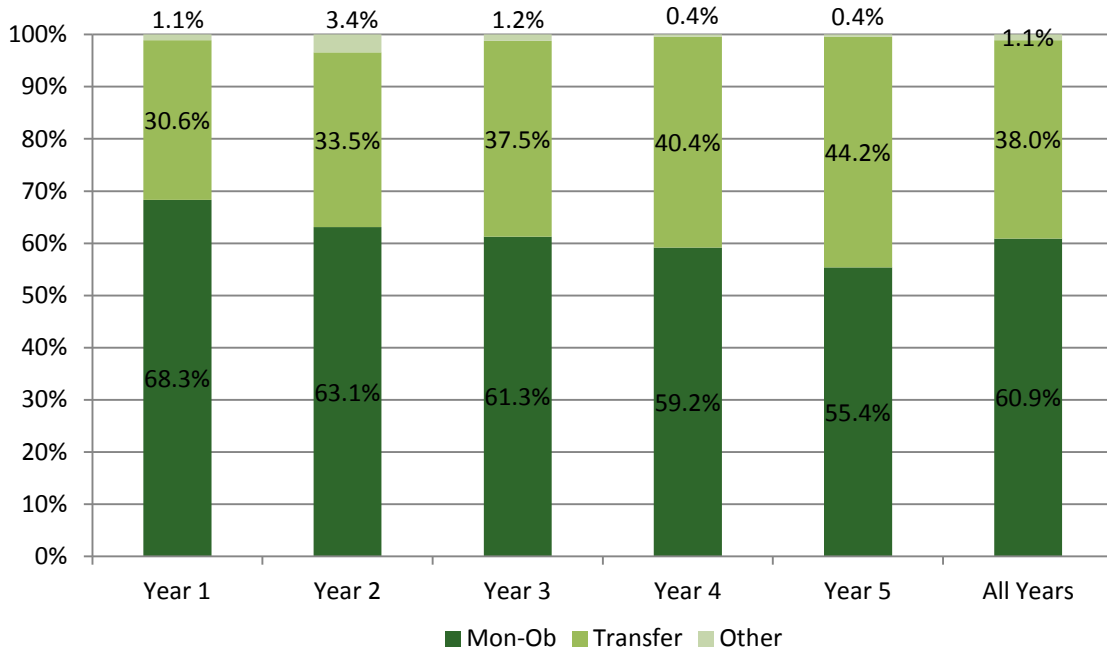


The mean length of monitoring and observation encounters by FESC site ranged from 5.1 hours at IIMC to 12.8 hours at CRMC (Figure 3). Means for transfer encounters ranged from 6.3 hours at IIMC to 11.1 hours at IFHS. Monitoring and observation encounters had both shorter and longer mean hours than transfer encounters (5.1 hours monitoring and observation at IIMC versus 6.3 hours transfer encounters at IIMC as the shortest; and 12.8 hours monitoring and observation at CRMC versus 11.1 hours transfer encounters at IFHS as the longest).

CRMC has the largest difference in means between monitoring and observation and transfer encounters, with the mean hours for monitoring and observation encounters (12.8 hours) almost double the mean for transfer encounters (6.8 hours). HMC had the least difference between these two types of encounters at .2 hours (7.6 hours for transfer vs. 7.4 hours for monitoring and observation encounters).

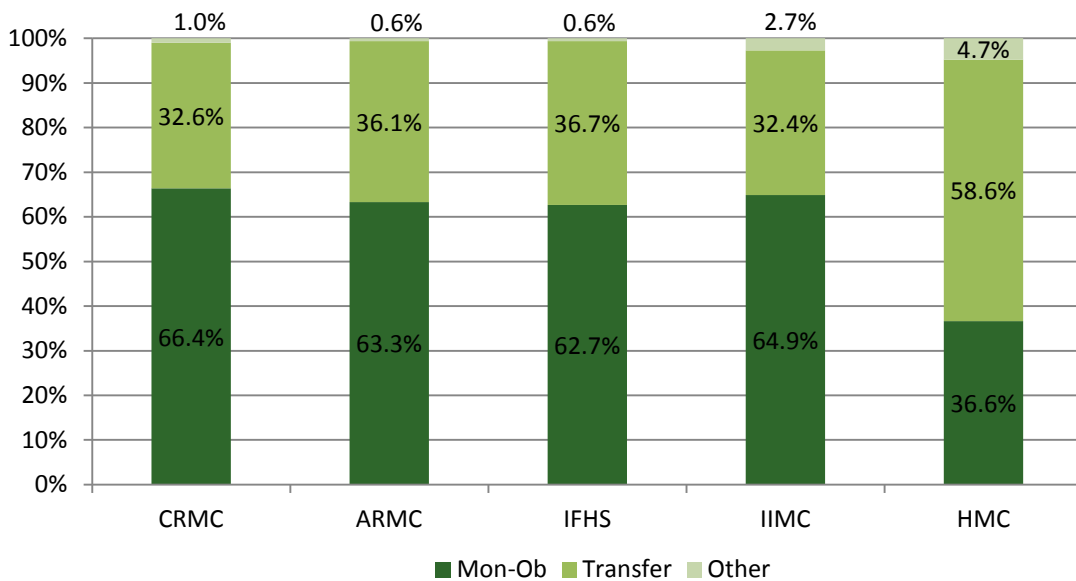
The mean length of monitoring and observation encounters was longer than transfer encounters at CRMC and ARMC. IFHS, IIMC, and HMC had a greater mean length of transfer encounters than monitoring and observation encounters.

**Figure 4. Percentage of FESC Encounters by Type and Data Year**



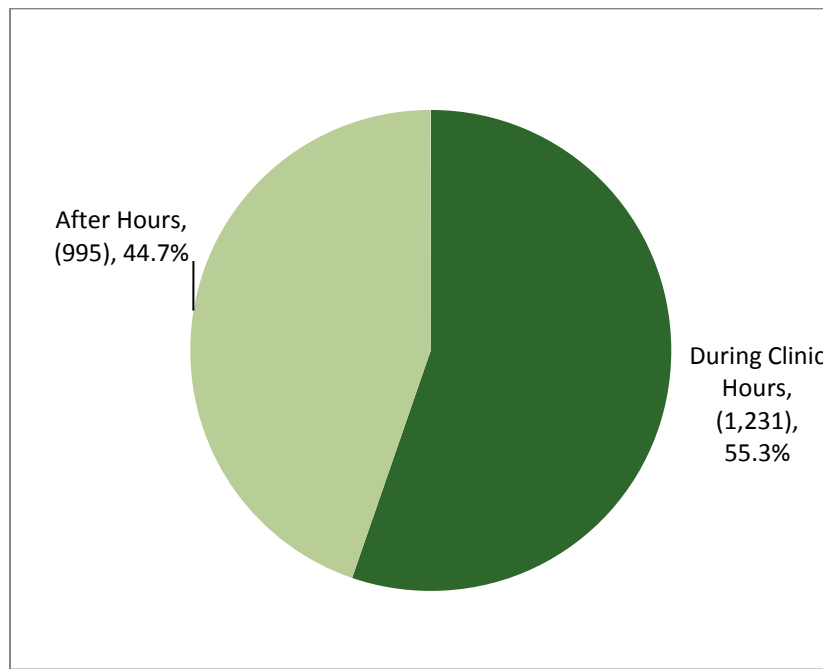
The percentage of monitoring and observation encounters has decreased each year over the five years of the demonstration from 68.3% in year one to 55.4% in year five while the percentage of transfers has increased from 30.6% in year one to 44.2% in year five. However, cumulatively over five years, 60.9% (n=1,355) of FESC encounters were designated monitoring and observation and 38.0% (n=845) of the 2,226 FESC encounters were designated transfers. A marginal percentage (1.1%, n=26) were designated “Other.”

**Figure 5. Percentage of FESC Encounters by Type and Clinic over Five Years**



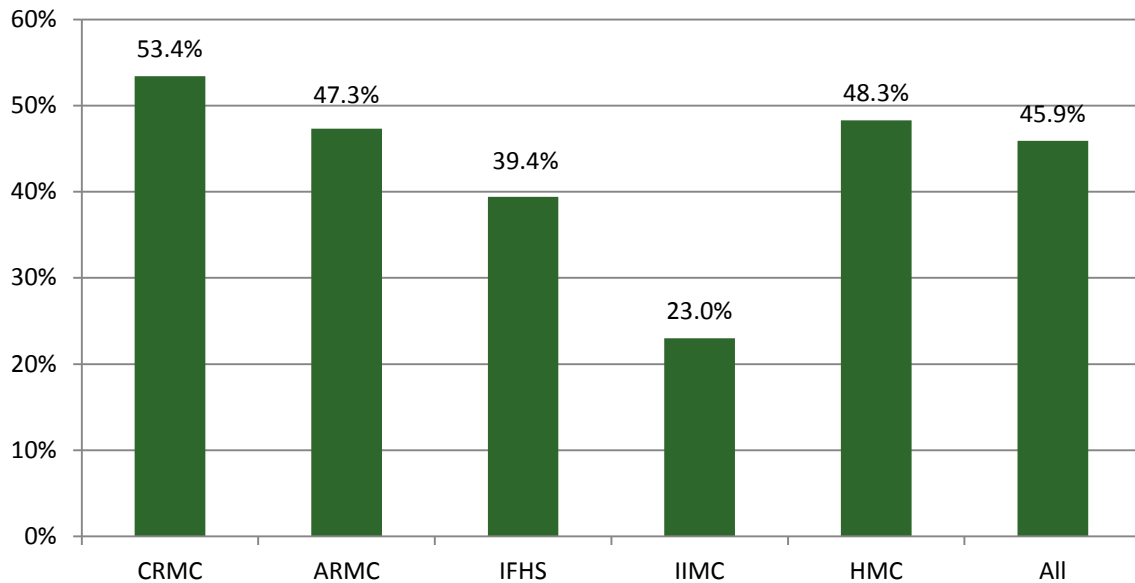
The percent of FESC encounters by type at CRMC, ARMC, IFHS, and IIMC are within five percentage points of each other with monitoring and observation exceeding transfers. Monitoring and observation encounters were 66.4%, 63.3%, 62.7%, and 64.9%, respectively, with transfers at 32.6%, 36.1%, 36.7%, and 32.4%, respectively. HMC had a different mix of encounters with the percent of transfers exceeding monitoring and observation encounters (58.6% transfers vs. 36.6% monitoring and observation).

**Figure 6. Percent and Number of FESC Encounters by Clinic Operating Hours for Five Years**



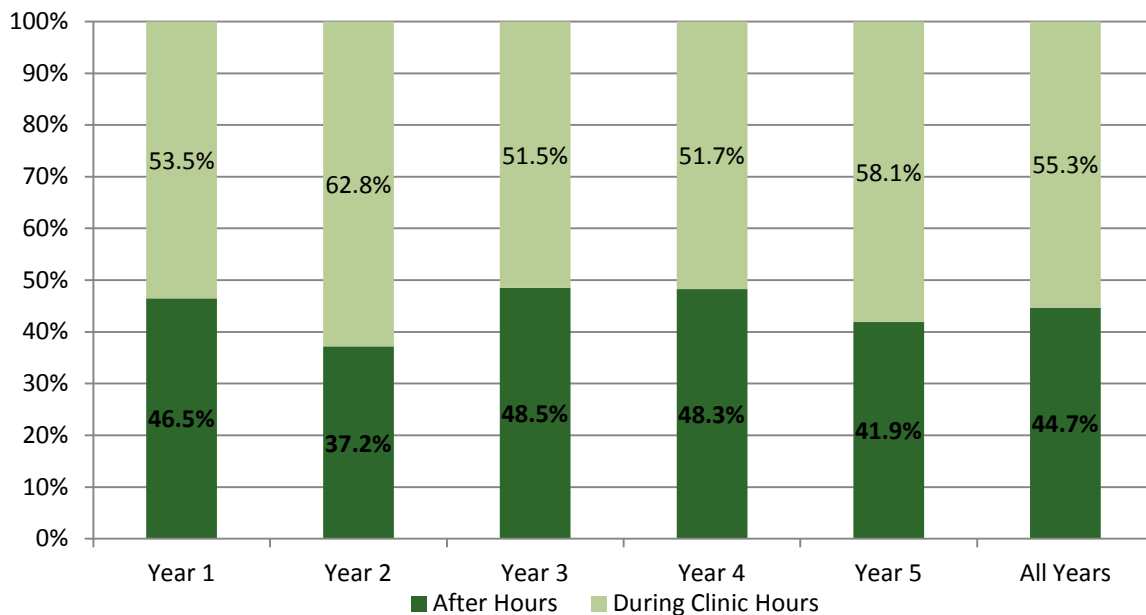
Nearly half of FESC encounters (44.7%, n=995) began outside of normal clinic operating hours. Some long encounters that began during normal clinic hours extended into after-hours, so these numbers tend to under-report the workload falling to after-hours staff. Normal clinic hours vary by FESC site. A table listing operating hours for each clinic is in Appendix A.

**Figure 7. Percentage of After-Hours FESC Encounters by Clinic over Five Years**



The cumulative five-year percentage of after-hours encounters shows some variability between the clinics. IIMC in Friday Harbor, Washington, had the lowest percentage of after-hours visits (23.0%) and CRMC had the greatest percentage at 53.4%.

**Figure 8. Percentage of Encounters During and After Clinic Operating Hours by Data Year**



Looking at the year-by-year trend of FESC encounters we see the after-hours encounters declined from year one (46.5%) to year two (37.2%), then increased in year three (48.5%) to slightly above the year-one level. The after-hours FESC encounters continued at 48.3% in year four and then declined in year five to 41.9%.

**Table 2. After-Hours Encounter by Type**

Encounter Type	After Hours (n=995)		All (n=2,226)	
	Number	Percent	Number	Percent
Monitoring/Observation	574	57.7%	1,355	60.9%
Transfer	408	41.0%	845	38.0%
Other	13	1.3%	26	1.1%

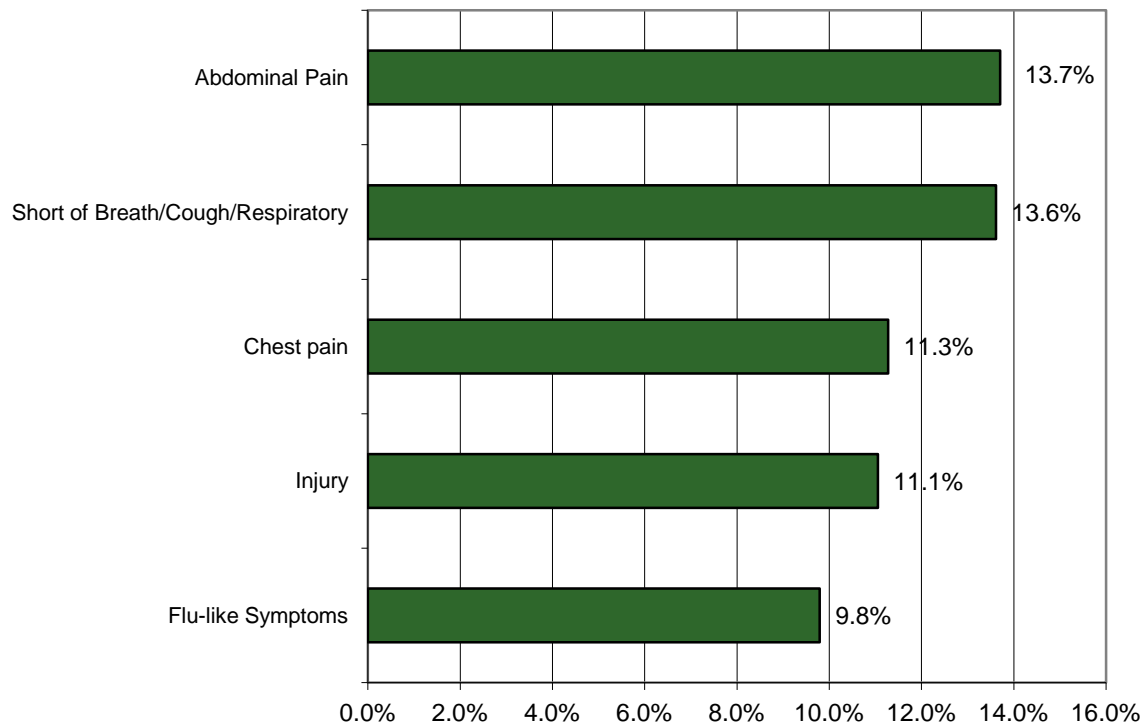
Over half (57.7%, n=574) of FESC encounters that occurred after clinic operating hours were monitoring and observation, and 41.0% (n=408) were transfer.

**Table 3. Percentage of After-Hours Encounters by Clinic and Encounter Type over Five Years (n=2122)**

Encounter Type	ARMC		CRMC		IFHS		IIMC (4 Years)		HMC	
	All FESC Encounters (n=706)	After Hrs (n=334)	All FESC Encounters (n=384)	After Hrs (n=205)	All FESC Encounters (n=830)	After Hrs (n=327)	All FESC Encounters (n=74)	After Hrs (n=17)	All FESC Encounters (n=232)	After Hrs (n=112)
Monitoring/Observation	63.3%	60.2%	66.4%	66.8%	62.7%	58.1%	64.9%	58.8%	36.6%	32.1%
Transfer	36.1%	39.2%	32.6%	32.2%	36.7%	41.3%	32.4%	29.4%	58.6%	63.4%
Other	0.6%	0.6%	1.0%	1.0%	0.6%	0.6%	2.7%	11.8%	4.7%	4.5%

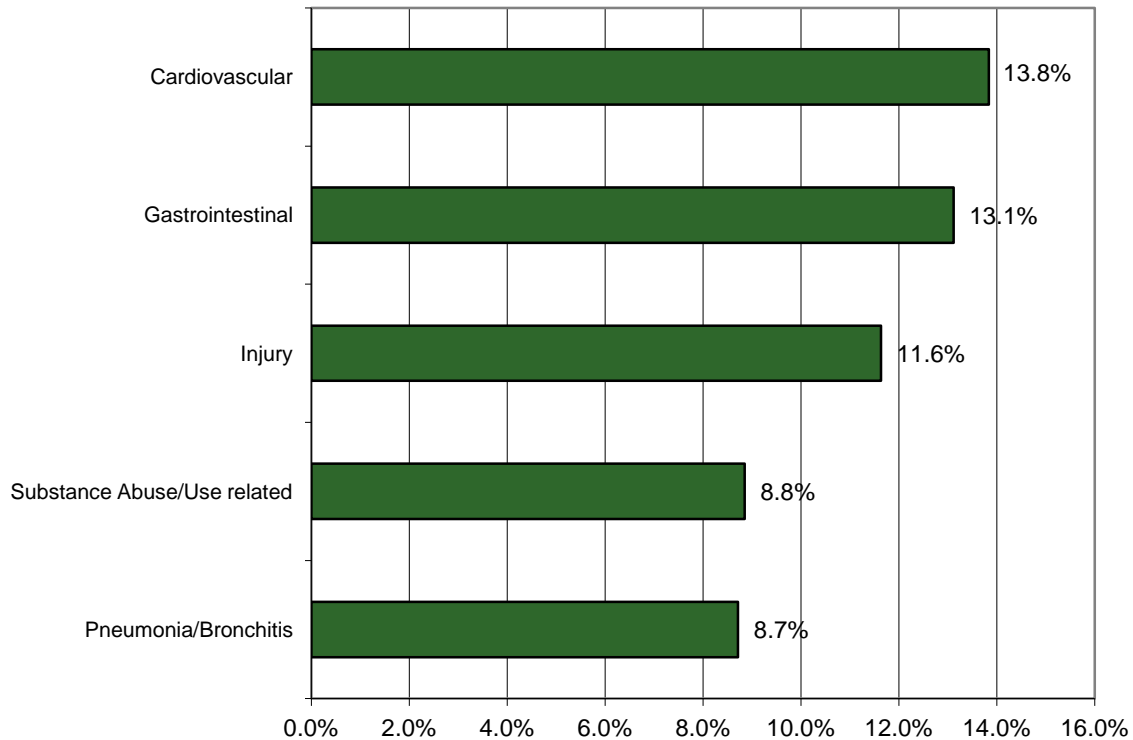
Looking at after-hour encounters by type and clinic, we see the percentage of monitoring and observation and transfer encounters occurring after hours for each clinic throughout the ORHP demonstration did not vary much from the pattern of all FESC encounters by clinic.

**Figure 9. Percentage of FESC Encounters by Five Most-Frequent Chief Complaints over Five Years**



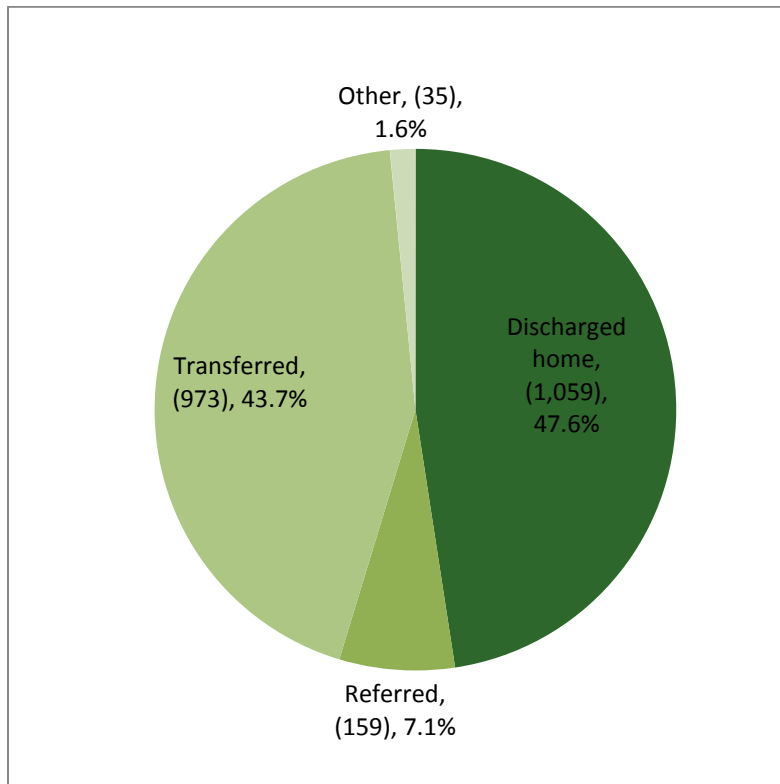
The five most frequently reported chief complaints were 59.4% of the total over five years. Abdominal pain (13.7%, n=305) figured prominently as the leading chief complaint. The other four most frequently reported complaints were: shortness of breath/cough/respiratory symptoms (13.6%, n=303); chest pain (11.3%, n=251); injury (11.1%, n=246); and flu-type symptoms, nausea, diarrhea, vomiting, etc. (9.8%, n=218). Other chief complaints reported less frequently included dizziness/syncope/confusion (6.3%, n=140); behavioral/mental health complaints (5.5, n=123); and fever (3.7%, n=82). See table in Appendix B for other less frequently reported chief complaints.

**Figure 10. Percentage of FESC Encounters by Five Most-Frequent Discharge Diagnoses over Five Years**



The five most-common diagnoses at discharge for FESC patients represent 56.2% of all diagnoses. Cardiovascular diagnoses topped the list (13.8%, n=308), along with gastrointestinal (13.1%, n=292); the third is injury (11.6%, n=259). Rounding out the top five, substance abuse (8.8%, n=197) and pneumonia/bronchitis (8.7%, n=194). Other less-frequent diagnoses at discharge included renal/urinary (6.3%, n=140), respiratory (6.2%, n=139), and neurologic injury/problem (3.5%, n=77). See table in Appendix B for other less frequently reported discharge diagnosis.

**Figure 11. Discharge Disposition of FESC Encounters over Five Years**



Over five years, 47.6% of FESC encounters (n=1,059) were discharged home. Another 43.7% of the encounters (n=973) were transferred. A little more the seven percent (7.1%) (n=159) were referred to another health facility for non-urgent follow up. The small “Other” category (1.6%, n=35) included a variety of dispositions, such as patients who refused to be transferred; patients who arranged their own transportation for transfer; patients referred to long-term care facilities, prisons, and women’s shelters; aborted medevac flights; deceased patients; and patients for whom there were no data.

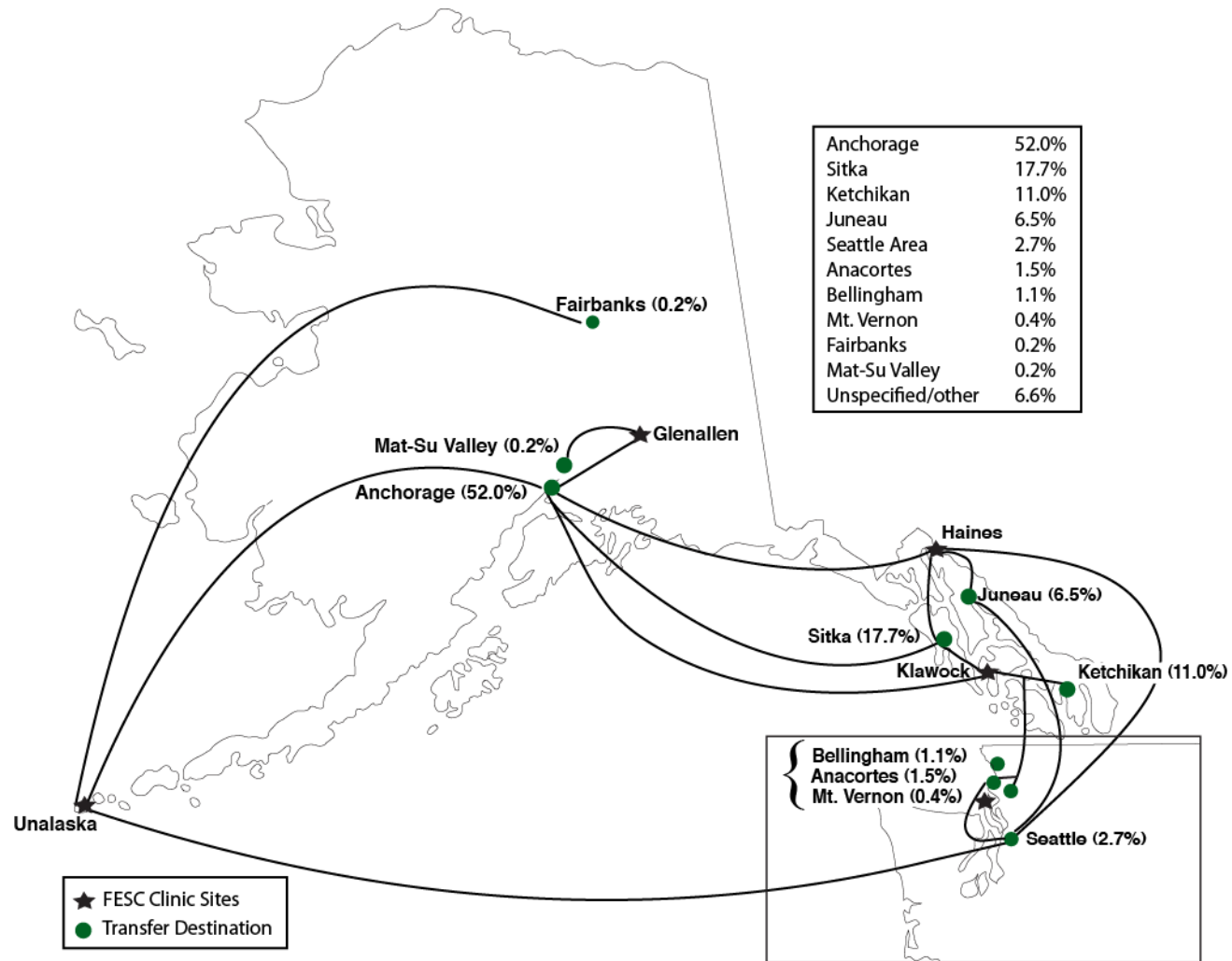
**Table 4. Transfer Destination by FESC Clinic Site over Five Years**

Destination	ARMC (n=300)		CRMC (n=137)		IFHS (n= 346)		IIMC (n=30)		HMC (n=157) (4 Years)		All FESC Sites (n=970)	
	n	%	n	%	n	%	n	%	n	%	n	%
Anacortes, Bellingham, Mt Vernon, WA	3	1.0%					27	90.0%			30	3.0%
Anchorage, AK	24	8.0%	128	93.4%	325	93.9%			27	17.2%	504	52.0%
Fairbanks, AK			1	0.7%	1	0.3%					2	0.2%
Juneau, AK	1	0.3%							62	39.5%	63	6.5%
Ketchikan, AK	107	35.7%									107	11.0%
Seattle area, WA	11	3.7%			4	1.2%	2	6.7%	9	5.7%	26	2.7%
Sitka, AK	137	45.7%							35	22.9%	172	17.7%
Mat-Su Valley, AK			2	1.5%							2	0.2%
Unspecified/Other	17	5.7%	6	4.4%	16	4.6%	1	3.3%	24	15.3%	64	6.6%
<b>TOTAL</b>	<b>300</b>	<b>100.0%</b>	<b>137</b>	<b>100.0%</b>	<b>346</b>	<b>100.0%</b>	<b>30</b>	<b>100.0%</b>	<b>157</b>	<b>100.0%</b>	<b>970</b>	<b>100.0%</b>

The distribution of transfer destinations for each clinic is driven by its location, geography, availability of receiving facilities, transportation resources, and weather. ARMC had the widest geographical range of destination options—from Anchorage in the north to Seattle in the south—as well as the proximate destinations of Sitka and Ketchikan. ARMC transported primarily to Sitka and Ketchikan; CRMC and IFHS transported to Anchorage; HMC transported to Juneau; and IIMC transported to nearby Anacortes and Bellingham.

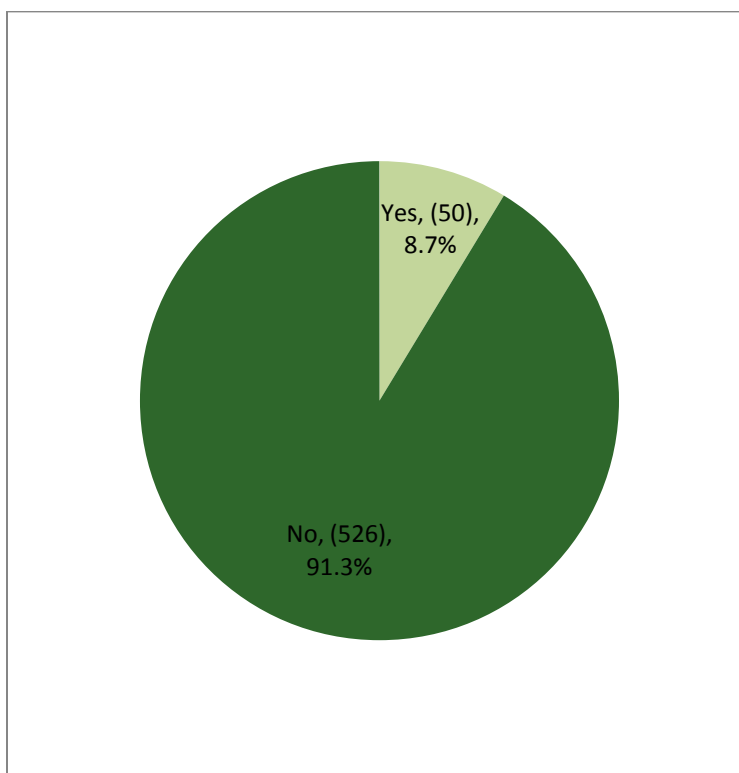
Over five years a little more than half of the transfers were sent to Anchorage (52.0%, n=502). Sitka was the destination second most frequent destination for transfers at 17.7 (n=172), primarily receiving encounters from ARMC in Klawock (n=137) and HMC in Haines (n=35).

**Figure 12. Most Frequent Transfer Destination by Percentage of Transfers by Clinic**



This map shows the most frequent transfer destination for each FESC site and the percent of total transfers by destination.

**Figure 13. Percentage of FESC Transfer Encounters Using Paid Escort over Five Years\***



\*There were 845 transfer encounters. Of these 269 were missing data on the use of paid escorts.

Escorts are required with more critical patients or patients needing non-medical support (e.g., advocates to negotiate cultural barriers) to assist with transport to a higher-level facility. Paid escorts increase transportation cost and, thus, the cost of overall care. The large majority of transfers for which we have data (91.3, n= 526) did not use paid escorts, often because the transferring company provided an attendant. Only 8.7% of the responding transfer encounters (n=50) over five years utilized paid escorts.

## B. Monitoring and Observation Encounters

This subsection examines the data for 1,268 monitoring and observation encounters that were at least four hours in length. Monitoring and observation and those that conclude in a manner other than transfer.

There are several organizations with slightly different, yet comparable definitions of a monitoring and observation encounter at FESC facilities.

Per the State of Alaska Department of Health and Social Services regulations:

“The clinic may provide care and services for an extended stay for monitoring and observation . . . if there is a reasonable expectation that the patient will show significant improvement within 24 hours and that care will be completed within 48 hours.”<sup>1</sup>

Per CMS Conditions of Participation (COP):

Prudent clinical judgment determines that a patient with an illness or injury who needs monitoring and observation may be treated and discharged within 48 hours of arrival at the clinic.<sup>2</sup>

Any stay of four hours or longer, including those that occur at other times than night, and that also meets these criteria can be considered FESC stays.

Per CMS Transmittal 66:

Extended stays up to 48 hours are permitted for patients who do not meet CMS inpatient hospital admission criteria but who need monitoring and observation for a limited period of time. According to the rules, there can be no more than four patients under this criterion at any one time at any single facility.<sup>3</sup>

Additionally, other encounters conclude when patient expired; patient refused medevac; patient left clinic against medical advice; patient stabilized before transfer to long-term care facility, women’s shelter, or incarceration; patient transport denied by the receiving hospital; or patient declined medevac and used his/her own transportation.

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<sup>1</sup> State of Alaska Department of Health and Social Services, *Regulations Applicable to FESC Facilities*, effective December 2, 2006, accessed on September 22, 2010, [http://www.alaskafesc.org/\\_pages/current\\_activities.php](http://www.alaskafesc.org/_pages/current_activities.php)

<sup>2</sup> CMS, Medicare Demonstration, Details for Frontier Extended Stay Clinic Demonstration, Request for Proposal [PDF], <http://www.cms.gov/demoprojectsevalrpts/md/itemdetail.asp?itemid=CMS1198957>, accessed August 26, 2011

<sup>3</sup> CMS Transmittal 66 (Change Request 6452 11/09/2010).

**Table 5. Number and Length of Monitoring and Observation Encounters by Year and Over Five Years**

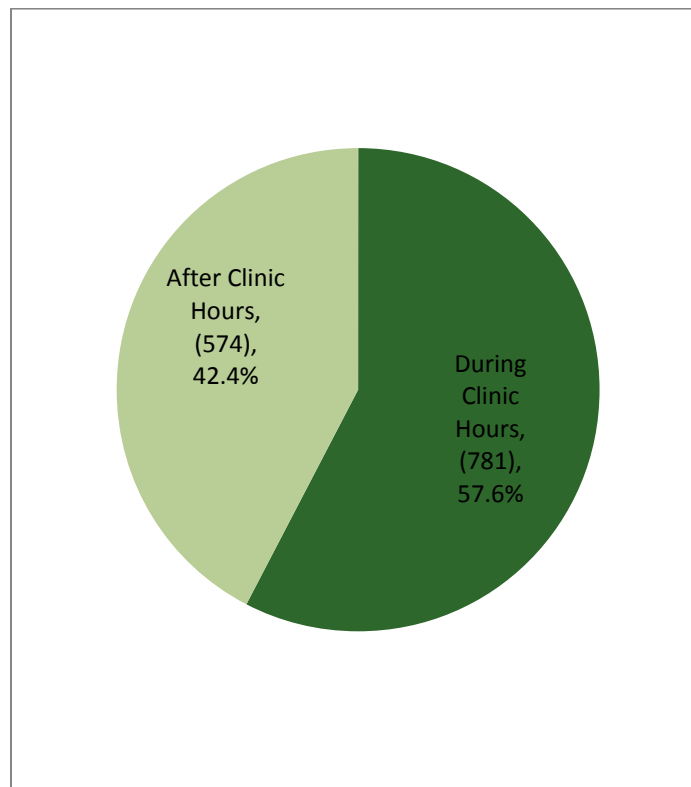
<b>Year 1</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	67	71	104	12	NA	254
Mean length (hrs)	7.7	14.9	7.6	5.0	NA	9.5
Median length (hrs)	5.0	14.0	6.0	5.0	NA	6.3
Std. Deviation (hrs)	6.7	9.0	4.6	0.7	NA	7.4
Maximum (hrs)	48.0	45.0	26.3	6.5	NA	48.0
<b>Year 2</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	61	45	83	7	28	224
Mean length (hrs)	8.0	11.7	7.1	5.5	6.4	8.2
Median length (hrs)	6.0	7.8	5.8	5.5	5.6	6.0
Std. Deviation (hrs)	6.0	9.1	3.8	0.8	3.2	6.0
Maximum (hrs)	36.5	44.5	22.5	6.5	18.0	44.5
<b>Year 3</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	80	61	135	10	20	306
Mean length (hrs)	7.6	13.5	8.5	5.2	8.3	9.1
Median length (hrs)	5.5	10.3	5.9	4.9	6.8	6.3
Std. Deviation (hrs)	5.4	9.6	5.5	1.0	4.9	6.8
Maximum (hrs)	33.5	41.8	32.2	7.0	20.8	41.8
<b>Year 4</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	129	19	94	9	17	268
Mean length (hrs)	11.6	16.5	12.0	4.9	7.3	11.6
Median length (hrs)	7.2	12.4	12.8	4.7	5.5	7.2
Std. Deviation (hrs)	9.7	14.5	7.0	0.9	3.9	9.0
Maximum (hrs)	47.3	47.6	29.4	6.8	16.3	47.6
<b>Year 5</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	110	59	104	10	20	303
Mean length (hrs)	9.2	9.5	8.6	5.1	8.1	8.8
Median length (hrs)	6.0	5.5	5.5	4.7	6.9	5.5
Std. Deviation (hrs)	7.4	7.8	7.4	1.0	4.5	7.2
Maximum (hrs)	43.5	35.2	47.3	6.8	19.3	47.3
<b>Five Years</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC (4 yrs)</b>	<b>All</b>
Number of encounters	447	255	520	48	85	1,355
Mean length (hrs)	9.2	12.8	8.7	5.1	7.4	9.5
Median length (hrs)	6.0	9.8	6.0	5.0	6.0	6.3
Std. Deviation (hrs)	7.7	9.6	6.1	0.9	4.1	7.4
Maximum (hrs)	48.0	47.6	47.3	7.0	20.8	48.0

Overall, monitoring and observation encounters decreased in year two (year one n=254 and year two n=224) but rebounded in year three (n=306) to exceed the number in year one (Table 5). The total number of monitoring and observation encounters declined in year four (n=268) and rose again in five (n=303). The mean and median for all clinics over five years was 9.5 and 6.3 hours, respectively. The higher mean reflects the longer encounter outliers. The longest monitoring and observation encounters occurred in year one at ARMC (48 hours) with lengths close to this at ARMC and CRMC in year

four (47.3 hours and 47.6 hours, respectively) and at IFHS in year five at 47.3 hours. The overall standard deviation of 7.4 hours reflects the wide range of lengths of monitoring and observation encounters among the clinics. The standard deviation has lengthened from year two to four—6.0 in year two, 6.8 in year three, and 9.0 in year four; it declined in year five to 7.2.

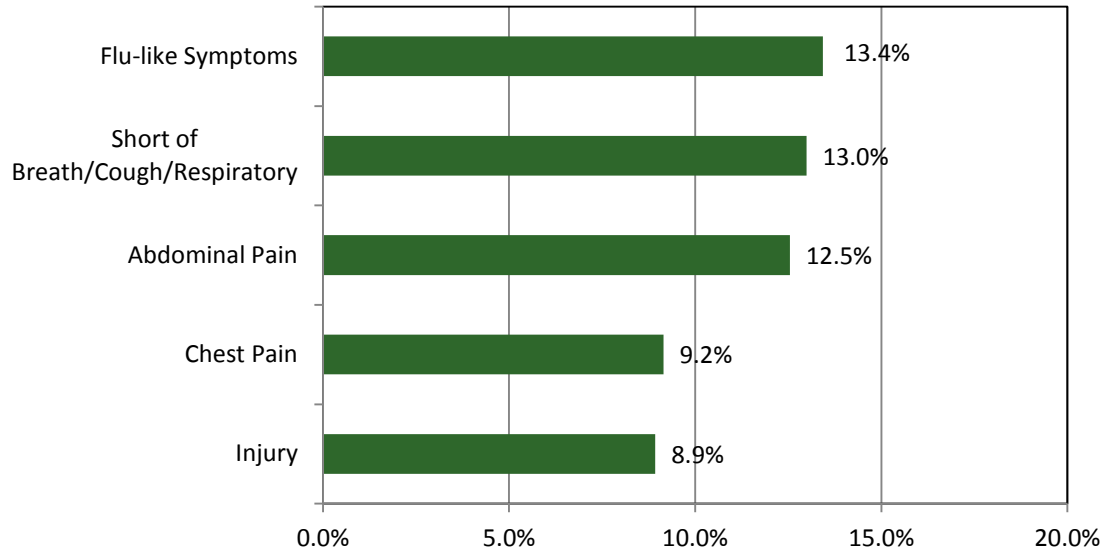
Standing out among the five year figures for individual clinics was IIMC with the shortest mean of 5.1 hours, and median of 5 hours. The closeness of the mean and median relative to the other FESC clinics is due to the diversity and frequency of the transport options available for transfers at this FESC site.

**Figure 14. Percentage of Monitoring and Observation Encounters During and After Clinic Hours over Five Years (n=1,355)**



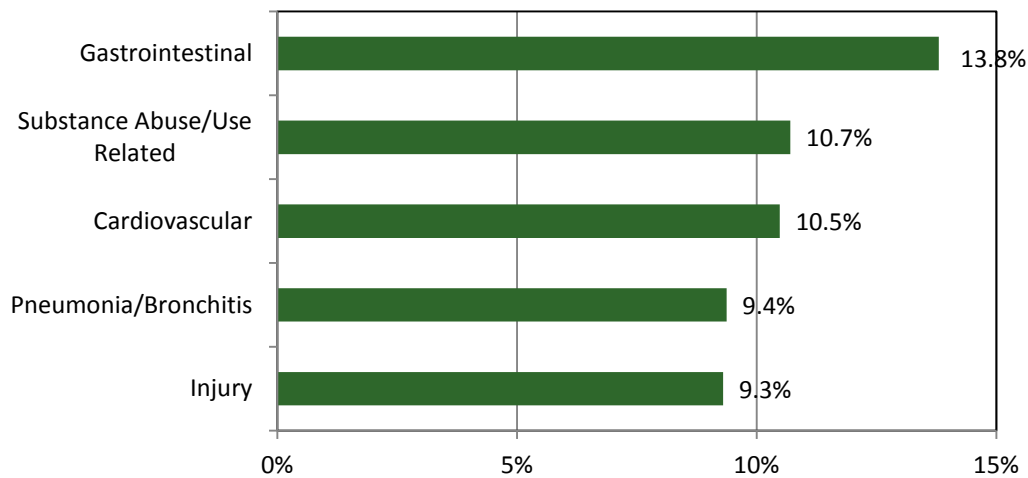
More than two-fifths (42.4%, n=574) of monitoring and observation encounters began after clinic operating hours.

**Figure 15. Percentage of Monitoring and Observation Encounters by Five Most-Frequent Chief Complaints over Five Years (n=1,355)**



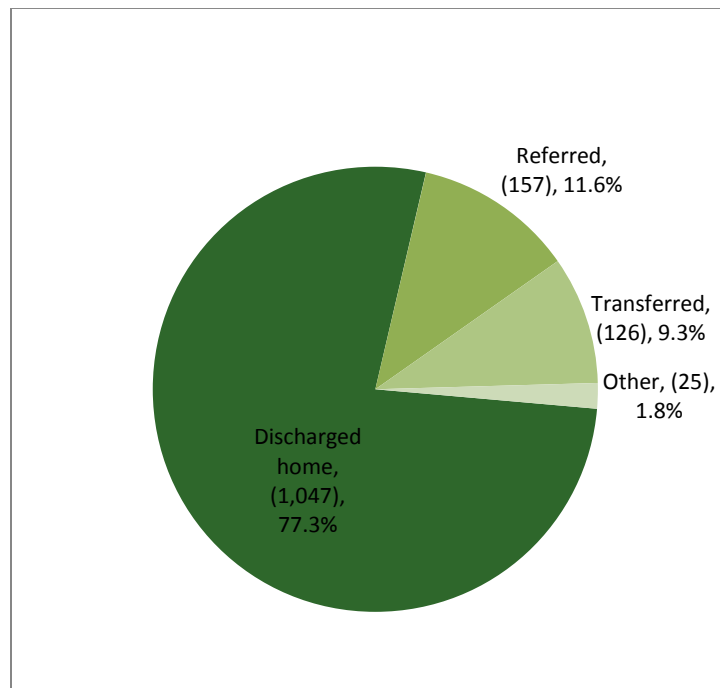
The five most frequent chief complaints were reported for 57.0% of all monitoring and observation encounters. Flu-like symptoms (13.4%, n=182) were the most frequent chief complaint. Shortness of breath (13.0%, n=176) was second, and abdominal pain was third at (12.5%, n=170). Other chief complaints rounding out the top five were chest pain (9.2%, n=124) and injury (8.9%, n=121). Other less-frequent chief complaints included behavioral/mental health complaints (6.5%, n=88), unresponsive/syncope/confusion (5.8%, n=78), and fever (4.2%, n=57).

**Figure 16. Monitoring and Observation Encounters by Five Most-Frequent Discharge Diagnoses over Five Years (n=1,355)**



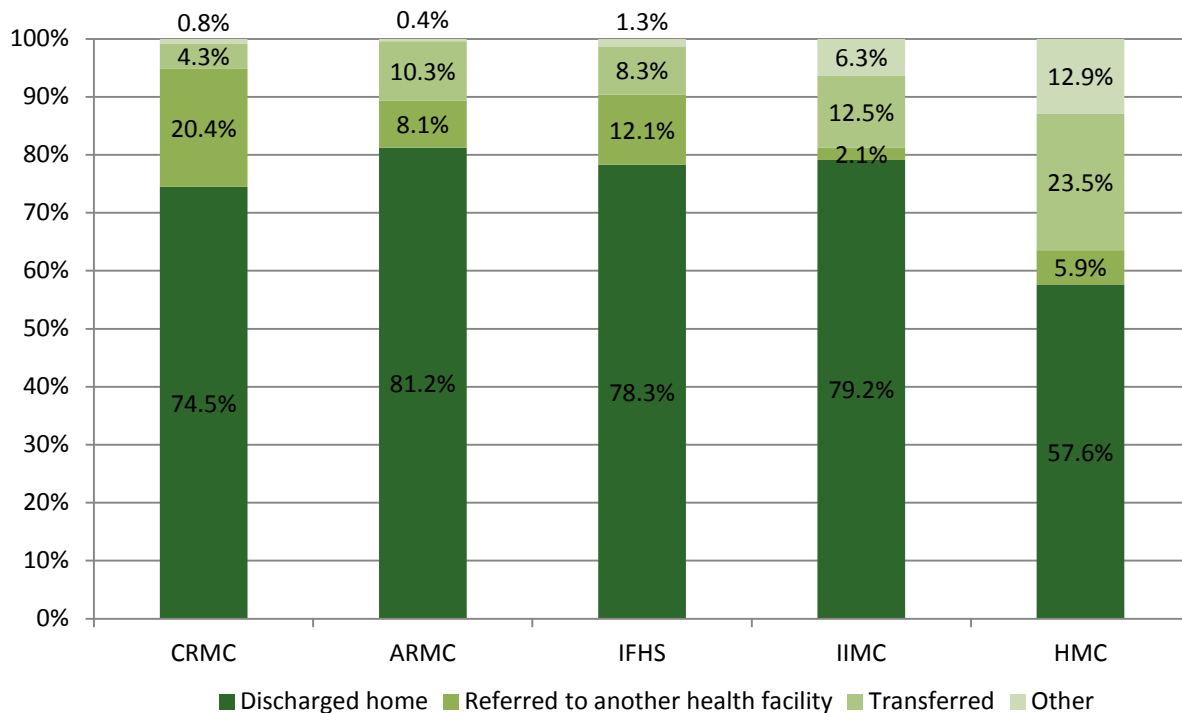
The five most common discharge diagnoses for monitoring and observation encounters represented 53.7% of all monitoring and observation discharge diagnoses. Gastrointestinal diagnoses were by far the most frequent (13.8%, n=187), followed by substance abuse (10.7%, n=145), cardiovascular (10.5%, n=142), pneumonia/bronchitis (9.4%, n=127), and injury (9.3%, n=126). Other less-frequent diagnoses at discharge included renal/urinary diagnoses (7.6%, n=103), respiratory diagnoses (6.0%, n=81), and flu/flu-like illness (3.8%, n=51).

**Figure 17. Discharge Disposition of Monitoring and Observation Encounters over Five Years (n=1,355)**



The large majority of monitoring and observation encounters (77.3%, n=1,047) were discharged and 11.6% (n=157) were referred to another health facility for non-urgent follow-up care. Thus, 88.9% (1,204 of 1,355) of monitoring and observation encounters—those treated in-clinic and in-community—avoided immediate transfer to another health facility. Occasionally, monitoring and observation patients failed to improve as expected, or unexpectedly worsened, requiring a transfer. This occurred with 126 encounters, or 9.3% of all monitoring and observation encounters.

**Figure 18. Discharge Disposition of Monitoring and Observation by Clinic over Five Years**



The breakdown of discharge dispositions is similar among four of the five clinics—CRMC, ARMC, IFHS, and IIMC. HMC was the exception, reporting only 57.6%, the lowest percentage, of patients discharged home from monitoring and observation encounters. The percentages of monitoring and observation encounters that were referred to other facilities had a wide range from only 2.1% (IIMC) to 20.4% (CRMC). Similarly, the percentages that were transferred varied considerably—from only 4.3% (CRMC) to 23.5% (HMC).

## C. Transfer Encounters

This subsection examines the data for 845 transfer encounters. A transfer encounter occurs when a patient is transferred to another facility, an acute-care hospital, or critical-access hospital (CAH). Wait time can be as little as 1/4 hour or as long as 3 days because of adverse weather conditions or other circumstances which limit or prevent such direct transportation.

**Table 6. Number and Length of Transfer Encounters by Year and Over Five Years**

<b>Year 1</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	16	36	56	6	NA	114
Mean length (hrs)	5.9	5.5	10.0	4.0	NA	7.7
Median length (hrs)	5.5	4.3	6.9	4.0	NA	5.4
Std. Deviation (hrs)	2.1	3.7	7.2	0.0	NA	6.0
Maximum (hrs)	12.3	25.5	41.5	4.0	NA	41.5
<b>Year 2</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	39	20	34	1	25	119
Mean length (hrs)	6.5	5.6	8.0	8.5	7.3	7.0
Median length (hrs)	5.0	4.8	6.5	8.5	6.3	5.8
Std. Deviation (hrs)	4.1	1.7	5.1	**	4.8	4.3
Maximum (hrs)	22.0	9.5	25.5	8.5	24.3	25.5
<b>Year 3</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	57	23	57	12	38	187
Mean length (hrs)	7.4	10.0	13.4	8.0	8.3	9.8
Median length (hrs)	5.5	6.0	9.0	5.2	6.3	6.5
Std. Deviation (hrs)	5.7	11.0	10.1	6.2	4.5	8.2
Maximum (hrs)	38.5	46.0	50.0	25.1	21.0	50.0
<b>Year 4</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	67	10	70	2	34	183
Mean length (hrs)	7.7	7.7	14.5	5.2	7.5	10.2
Median length (hrs)	5.9	5.8	15.5	5.2	6.0	7.0
Std. Deviation (hrs)	4.9	6.4	7.8	1.2	3.5	6.9
Maximum (hrs)	29.3	25.8	14.5	6.1	15.6	40.2
<b>Year 5</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	76	36	88	3	39	242
Mean length (hrs)	7.2	6.6	8.9	4.4	7.1	7.7
Median length (hrs)	5.5	5.4	5.9	4.4	5.2	5.4
Std. Deviation (hrs)	4.9	4.1	7.1	0.2	5.4	5.8
Maximum (hrs)	29.1	23.3	43.5	4.5	29.8	43.5
<b>Five Years</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC (4 yrs)</b>	<b>All</b>
Number of encounters	255	125	305	24	136	845
Mean length (hrs)	7.2	6.8	11.1	6.3	7.6	8.6
Median length (hrs)	5.5	5.0	7.5	4.4	6.0	6.0
Std. Deviation (hrs)	4.9	6.0	8.1	4.7	4.6	6.6
Maximum (hrs)	38.5	46.0	50.0	25.1	29.8	50.0

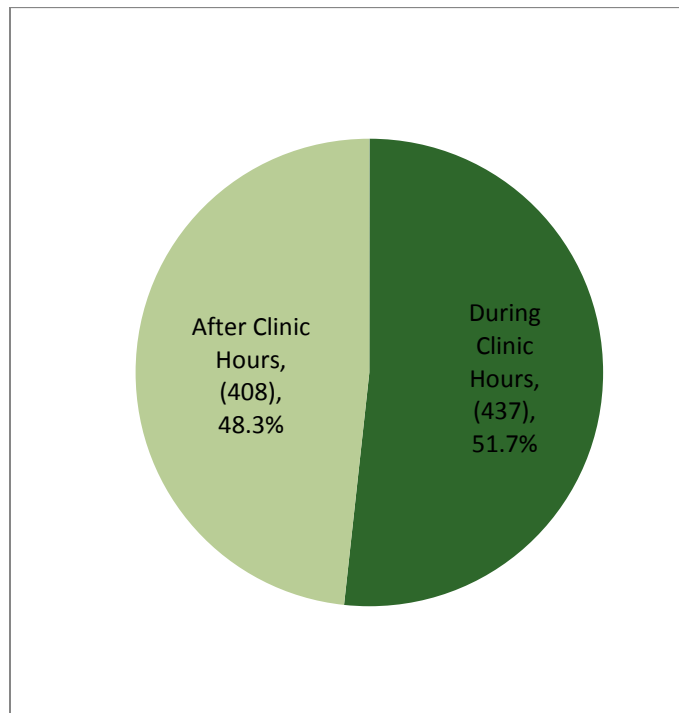
\*\*insufficient data to generate standard deviation

These transfers made up 38.0% (845 of 2,226) of all FESC encounters over five data years. Transfer encounters had a mean length of 8.6 hours and a median length of 6.0 hours (Table 6). The longest overall mean (11.1 hours) and median (7.5 hours) times for transfer encounters were recorded by IFHS in Unalaska, where bad-weather delays affected patient transport. Air travel is Unalaska's only method of patient transfer to tertiary-care facilities. The other four FESC locations have more methods of transport—with some combination of air, water, and roadways.

The overall mean length of transfers range from 6.8 at CRMC to 11.1 at IFHS. The median length of transfers range from 4.4 IIMC to 7.5 IFHS. IFHS in Unalaska reported the longest mean (11.1 hours) and median (7.5 hours) transfer encounters due to occasional transfer delays caused by bad weather, limited daylight, and unavailability of transport (i.e., waiting for planes to arrive from Anchorage).

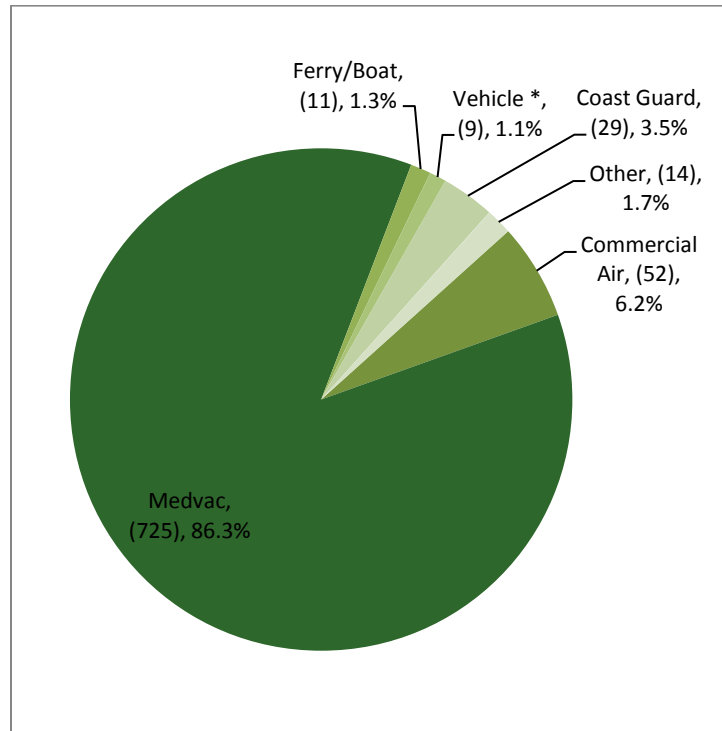
The differences between the means and medians increased over the first three data years then declined to the year difference in year five—difference in year one was 2.3 (7.7-5.4); year two, 2.8 (7.0-5.8); year three, 3.3 (9.8-6.5); year four, 3.2 (10.2-7.0), and year five 2.3 (7.7-5.4).

**Figure 19. Percentage of During- and After-Hours Transfer Encounters over Five Years (n=845)**



A little less than half of the transfer encounters (48.3%, n=408) began outside of normal clinic operating hours.

**Figure 20. Percentage of Transfer by Type of Transportation over Five Years (n=840)\*\***



\* ambulance or private vehicle

\*\* 5 transfer encounters missing data

**Table 7. Number and Percentage of Transfers by Type of Transportation over Five Years**

	Transfers only	
	Number	Percent
Commercial Air	52	6.2%
Medevac	725	86.3%
Ferry/Boat	11	1.3%
Vehicle*	9	1.1%
Coast Guard	29	3.5%
Other	14	1.7%
<b>Sub - Total</b>	<b>840</b>	<b>100.0%</b>
Missing	5	
<b>Total Transfer Encounters</b>	<b>845</b>	

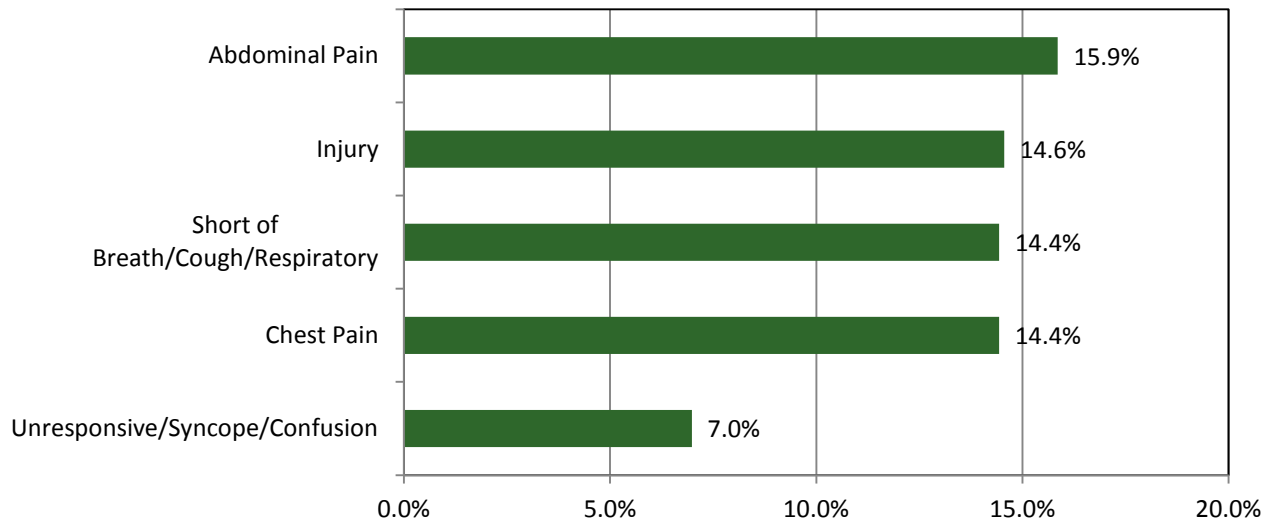
Medevacs were the most likely form of transport for transfer of patients at 86.3%. Basically, this reflects the urgent and emergent nature of transfer encounters.

**Table 8. Factors Affecting Medevacs (n=538)**

Factors Affecting Medevacs	Yes		No		Total
	Number	Percent	Number	Percent	Number
Weather	57	10.6%	481	89.4%	538
Darkness	42	7.8%	496	92.2%	538
Unavailability of Preferred Transport	29	5.4%	509	94.6%	538
Expense	2	0.4%	536	99.6%	538

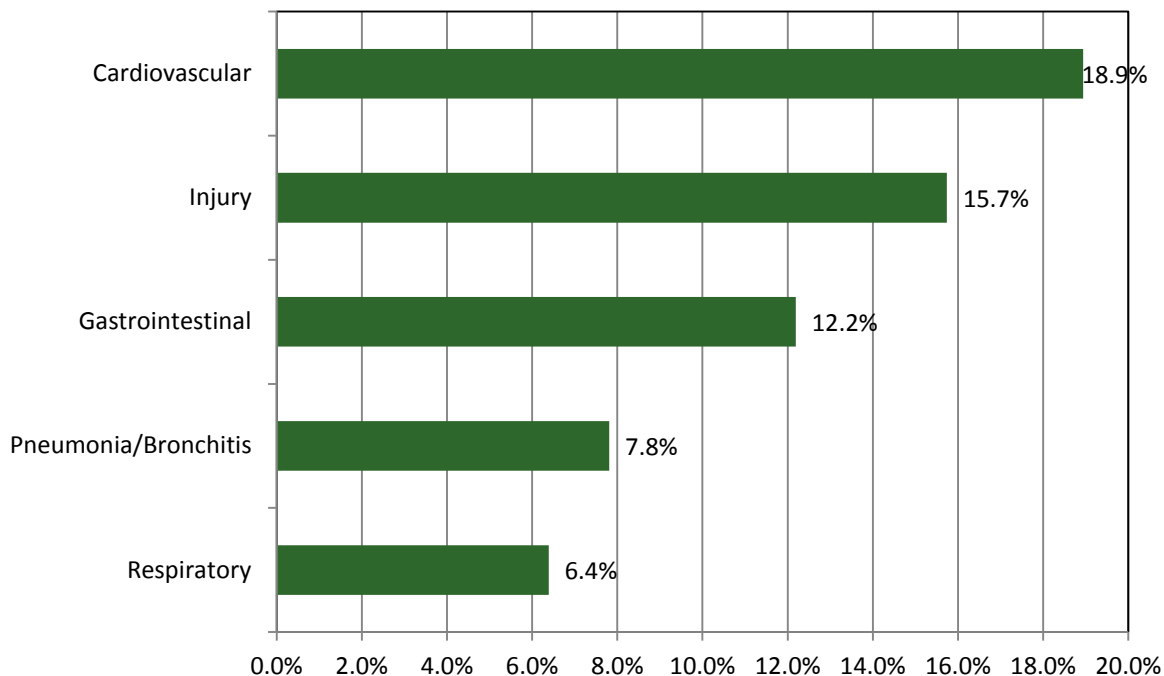
Midway into data year three a question on the factors affecting medevacs was added to the FESC outcome log. Of the medevacs reported during this two-and-a-half-year period (mid-year three through year five), 57 medevacs reported weather; 42 stated darkness; 29 listed unavailability of preferred transportation method. Only two stated that expenses affected a medevac.

**Figure 21. Percentage of Five Most-Frequent Chief Complaints of Transfer Encounters Over Five Years (n=845)**



The top five chief complaints at time of admission for transfers represented 66.3% of all chief complaints for transfer-encounters. Abdominal pain (15.9%, n=134) was the leading chief complaint for transfer patients, followed closely by injury (14.6%, n=123). Short of breath/cough/respiratory symptoms was third (14.4%, n=122), then chest pain (14.4%, n=122), and unresponsive/syncope/ confusion (7.0%, n=59). Other less-frequent chief transfer complaints included behavioral/mental health (3.9%, n=33), flu-like symptoms (3.9%, n=33), and fever (3.0%, n=25).

**Figure 22. Percentage of Five Most Frequent Discharge Diagnoses of Transfer Encounters over Five Years**



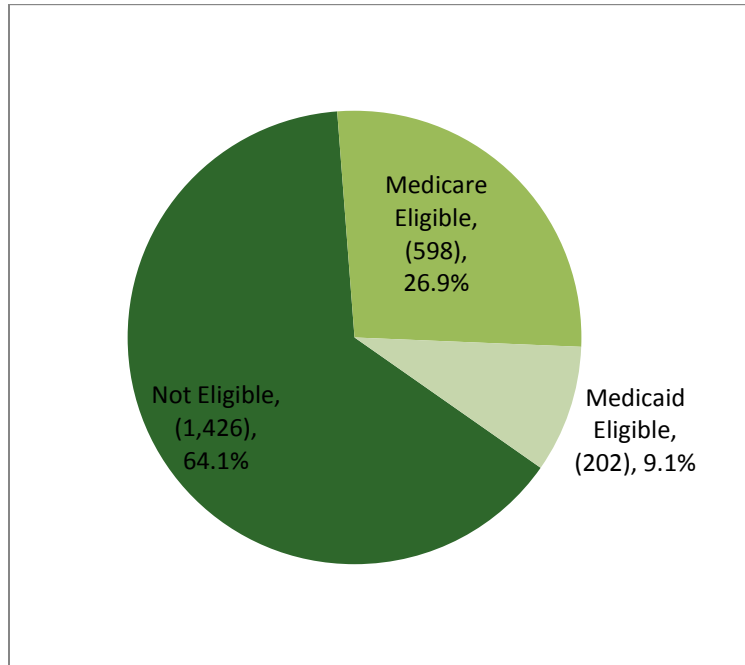
The five most frequent diagnoses at discharge for transfer encounters, represented 61.1% of transfer discharge diagnoses. Cardiovascular (18.9%, n=160), injury (15.7%, n=133), and gastrointestinal (12.2%, n=103) led the list of most frequent discharge diagnoses for transfers. These three categories made up almost half at (46.9%) of all transfer-encounter discharge diagnoses over five years. Pneumonia/Bronchitis (7.8%, n=66), and respiratory diagnoses (6.4%, n=54) complete the top five discharge diagnoses. Other less-frequent discharge diagnoses for transfers included substance abuse/use-related (5.7%, n=48), hepatic/pancreatic/gallbladder/appendix (5.3%, n=45), and neurologic (brain) injury/problem (5.0%, n=42).

#### **D. Encounters with Medicare or Medicaid as Primary Payer by Clinic**

This subsection examines FESC encounters that were potentially eligible for Medicare or Medicaid payment. These encounters are (1) eligibility for Medicare or Medicaid as primary payer and (2) four or more hours in length.

Encounters for Medicare-eligible patients under four hours in length would not be eligible for the FESC payment under the CMS Demonstration.

**Figure 23. Percentage of FESC Encounters Eligible for Medicare or Medicaid Payment over Five Years**



Encounters by patients who have Medicare as their primary payer comprise 26.9% (n=598) of FESC encounters. An additional 9.1% (n=202) patients listed Medicaid as their primary payer.

**Table 9. Number and Length of FESC Encounters with Medicare as Primary Payer by Clinic over Five Years**

<b>Year 1</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	25	31	7	7	NA	70
Mean length (hrs)	9.1	11.6	8.4	4.6	NA	9.7
Median length (hrs)	6.0	7.5	7.3	4.5	NA	6.0
Std. Deviation (hrs)	9.3	9.2	5.1	0.6	NA	8.6
Maximum (hrs)	48.0	45.0	19.5	5.5	NA	48.0
<b>Year 2</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	32	26	9	5	20	92
Mean length (hrs)	8.3	12.9	10.1	6.2	6.6	9.3
Median length (hrs)	5.3	7.3	6.5	6.0	6.0	6.0
Std. Deviation (hrs)	7.8	10.1	6.6	1.5	3.4	7.8
Maximum (hrs)	36.5	44.5	22.5	8.5	18.0	44.5
<b>Year 3</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	53	22	45	9	24	153
Mean length (hrs)	8.4	13.8	9.5	5.7	9.3	9.5
Median length (hrs)	5.5	9.2	6.8	4.5	6.7	6.3
Std. Deviation (hrs)	7.2	11.4	6.7	2.7	5.5	7.6
Maximum (hrs)	38.5	41.3	36.8	12.5	21.0	41.3
<b>Year 4</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	84	8	19	7	26	144
Mean length (hrs)	11.2	7.6	12.7	4.7	8.0	10.3
Median length (hrs)	7.3	5.5	15.3	4.3	6.6	7.0
Std. Deviation (hrs)	8.8	5.7	7.7	1.0	3.9	7.8
Maximum (hrs)	44.7	21.2	33.3	6.8	16.3	44.7
<b>Year 5</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	56	22	25	5	31	139
Mean length (hrs)	9.1	11.0	11.0	4.8	8.9	9.5
Median length (hrs)	5.7	5.7	5.1	4.3	6.1	5.8
Std. Deviation (hrs)	7.2	9.3	10.5	1.1	6.5	8.0
Maximum (hrs)	43.5	30.5	43.5	6.8	29.8	43.5
<b>Five Years</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	250	109	105	33	101	598
Mean length (hrs)	9.6	12.0	10.4	5.2	8.3	9.7
Median length (hrs)	6.0	7.3	6.8	4.5	6.3	6.3
Std. Deviation (hrs)	8.1	9.7	7.8	1.7	5.1	7.9
Maximum (hrs)	48.0	45.0	43.5	12.5	29.8	48.0

The longer length of encounters with Medicare as primary payer contributed to a mean of 9.7 hours and a median of 6.3 hours. During the first three years of the project, CRMC in Glennallen had the longest mean (13.8 hours) and median (9.2 hours) for encounters with Medicare as primary payer. In year four IFHS had the longest mean (12.7 hours) and median (15.3 hours). In year five CRMC and IFHS had the same mean at 11.0 hours with the longest median at HMC (6.1 hours).

Over five years, IIMC in Friday Harbor had the shortest year-to-year and overall mean (5.2 hours) and median (4.5 hours) due, in part, to where the clinic is located and the frequency and availability of varied transportation methods to move patients to facilities with higher levels care.

**Table 10. Number and Length of Medicare-Reimbursable Encounters by Type**

	<b>Monitoring/ Observation</b>	<b>Transfer</b>	<b>Other</b>	<b>All</b>
Number of encounters	323	264	11	598
Mean length of visit	11.0	8.2	9.1	9.7
Median length of visit	7.0	5.8	6.8	6.3
Standard deviation	8.7	6.5	6.1	7.9
Maximum	48.0	43.5	20.5	48.0

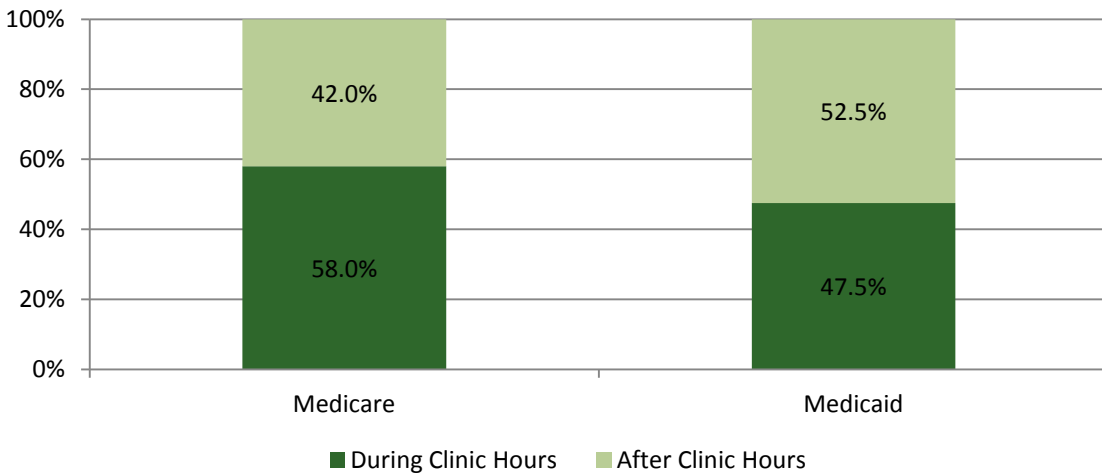
Looking at encounters with Medicare as primary payer, monitoring and observation encounters (mean 11.0 hours, median 7.0 hours) were longer than both transfer encounters (mean 8.2 hours, median 5.8 hours) and other extended-stay encounters (mean 9.1 hours, median 6.8 hours).

**Table 11. Number and Length of Medicaid-Reimbursable Encounters by Type**

	<b>Monitoring/ Observation</b>	<b>Transfer</b>	<b>Other</b>	<b>All</b>
Number of encounters	121	79	2	202
Mean length of visit	10.7	7.6	6.2	9.5
Median length of visit	7.0	5.0	6.2	6.1
Standard deviation	8.0	5.3	1.7	7.2
Maximum	36.5	26.6	7.3	36.5

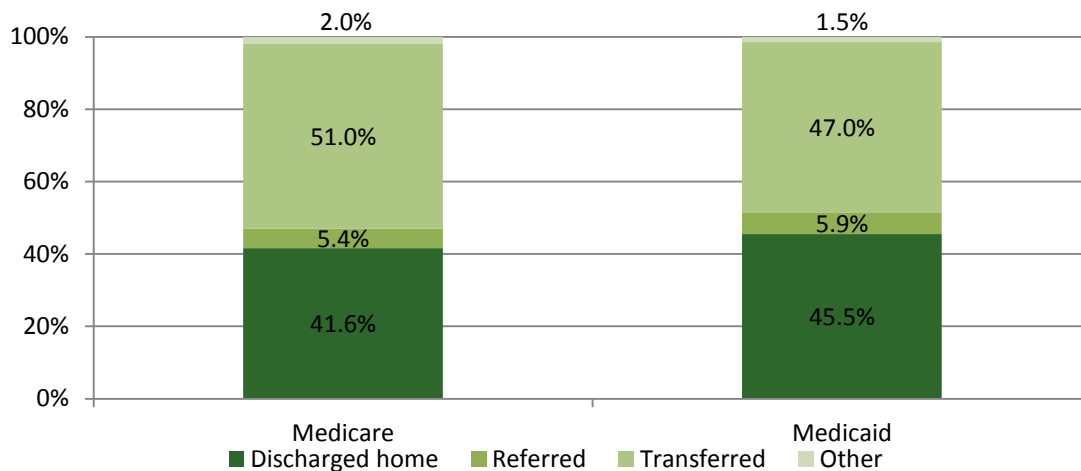
Monitoring and observation encounters with Medicaid as the primary payer have mean and median lengths that are longer than transfer and other encounters. Monitoring and observation encounters mean length is 10.7 hours with a median length 7.0 hours, compared to transfer encounters with a mean length of 7.6 hours and median length of 5.0 hours and other extended stay encounters with a mean and median length of 6.2 hours.

**Figure 24. FESC Encounters with Medicare and Medicaid as Primary Payer During and After Clinic Hours over Five Years (n=579)**



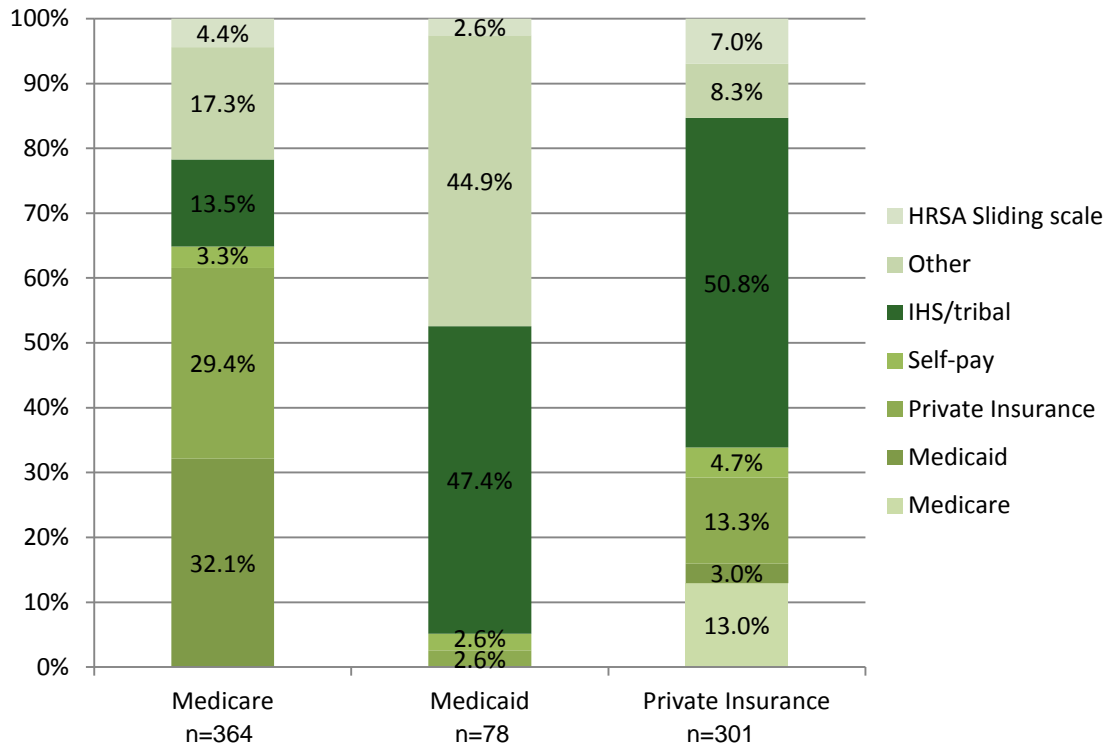
Almost 10% fewer encounters with Medicare as primary payer occurred after normal clinic operating hours (42.0%, n=251) compared to 52.5% (n=106) for encounters with Medicaid as primary payer.

**Figure 25. Discharge Disposition of FESC Encounters with Medicare or Medicaid as Primary Payer over Five Years**



The disposition of FESC encounters with Medicare as primary payer differed somewhat from those with Medicaid as primary payer. A lower percentage of Medicare-payer patients were discharged at 41.6% (n=249), compared to Medicaid-payer patients at 45.5% (n=92). A higher percentage of those who were eligible for Medicare were transferred—51.0% (n=305)—compared with 47.0% (n=95) Medicaid-payer patients.

**Figure 26. Percent of Secondary Payer Coverage when Medicare, Medicaid, or Private Insurance is Primary Payer**



When Medicare is the primary payer, self-pay followed closely by Medicaid is the likely secondary payer. When Medicaid or private insurance is the primary payer, the most frequent secondary payer is Indian Health Service or a tribal health organization.

### E. Under Four-Hour Encounters

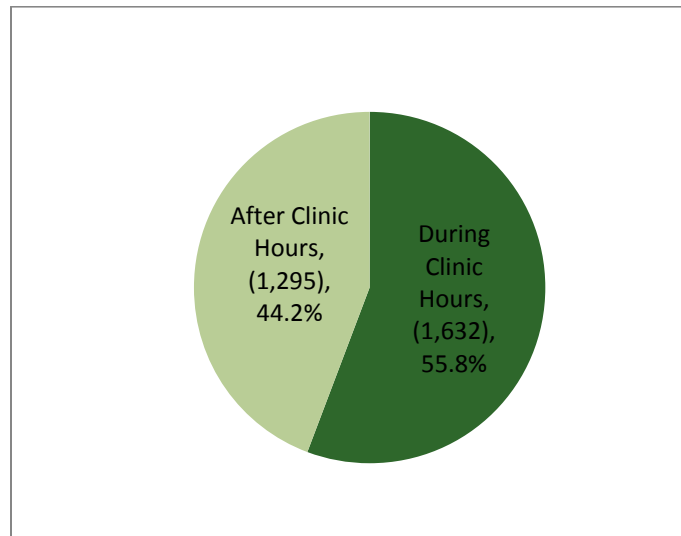
There were 2,927 encounters of less than four hours in length over five years. The criteria that a FESC encounter must meet for potential CMS reimbursement are (1) eligibility for Medicare and (2) an encounter that is four or more hours in length. Encounters with Medicare as the primary payer that are under four hours would not be eligible for Medicare payment. These encounters made up 56.8% of all encounters (5,150) at the FESC clinics (2,226 encounters of four hours or more plus 2,927 encounters of less than four hours).

**Table 12. Number and Length of Less-Than-Four-Hour Encounters by Year and Over Five Years**

<b>Year 1</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	125	75	76	182	NA	458
Mean length (hrs)	2.7	2.8	2.8	1.7	NA	2.3
Median length (hrs)	2.5	2.8	3.0	1.5	NA	2.5
Std. Deviation (hrs)	0.7	0.7	0.7	0.9	NA	0.9
Maximum (hrs)	3.8	3.8	3.8	3.8	NA	3.8
Minimum (hrs)	0.3	0.8	1.0	0.3	NA	0.3
<b>Year 2</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	70	59	120	217	90	556
Mean length (hrs)	2.7	2.9	2.6	1.6	2.8	2.3
Median length (hrs)	2.6	3.0	2.8	1.5	2.9	2.5
Std. Deviation (hrs)	0.7	0.6	0.7	0.8	0.7	0.9
Maximum (hrs)	3.5	3.8	3.8	3.8	3.8	3.8
Minimum (hrs)	0.3	1.3	0.3	0.3	0.3	0.3
<b>Year 3</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	104	58	105	235	118	620
Mean length (hrs)	2.9	2.8	3.0	1.6	2.5	2.4
Median length (hrs)	3.0	2.9	3.0	1.5	2.7	2.5
Std. Deviation (hrs)	0.6	0.7	0.6	0.8	0.9	0.9
Maximum (hrs)	3.8	4.0	3.9	3.8	3.9	4.0
Minimum (hrs)	1.3	1.3	1.5	0.3	0.3	0.3
<b>Year 4</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	51	52	89	225	70	487
Mean length (hrs)	2.8	2.8	2.9	1.5	2.6	2.2
Median length (hrs)	2.6	2.9	3.0	1.3	2.7	2.3
Std. Deviation (hrs)	0.6	0.7	0.7	0.8	0.9	1.0
Maximum (hrs)	3.8	4.0	4.0	3.6	3.9	4.0
Minimum (hrs)	2.0	0.9	1.0	0.3	0.6	0.3
<b>Year 5</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC</b>	<b>All</b>
Number of encounters	227	115	234	151	79	806
Mean length (hrs)	2.8	2.8	2.8	1.7	2.5	2.6
Median length (hrs)	2.8	2.8	2.8	1.6	2.7	2.6
Std. Deviation (hrs)	0.6	0.6	0.6	0.8	0.9	0.8
Maximum (hrs)	4.0	4.0	4.0	3.8	3.8	4.0
Minimum (hrs)	1.0	1.4	0.8	0.4	0.4	0.4
<b>Five years</b>	<b>ARMC</b>	<b>CRMC</b>	<b>IFHS</b>	<b>IIMC</b>	<b>HMC (4 yrs)</b>	<b>All</b>
Number of encounters	577	359	624	1010	357	2,927
Mean length (hrs)	2.8	2.8	2.8	1.6	2.6	2.4
Median length (hrs)	2.8	2.8	2.8	1.5	2.8	2.5
Std. Deviation (hrs)	0.6	0.7	0.6	0.8	0.8	0.9
Maximum (hrs)	4.0	4.0	4.0	3.8	3.9	4.0
Minimum (hrs)	0.3	0.8	0.3	0.3	0.3	0.3

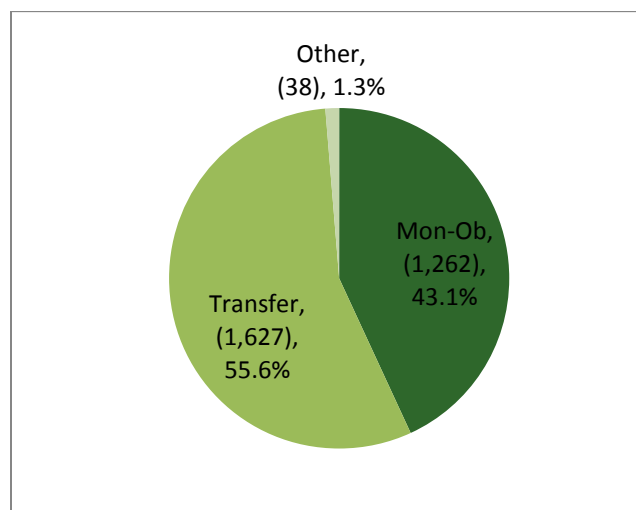
The mean and median for under four hour encounters for all clinics for five years were within six minutes (mean 2.4 hours and median 2.5 hours). This difference was based on a range with a standard deviation of .9 hours—with a minimum of .25 hours and a maximum of 4.0 hours.

**Figure 27. Percentage of Less-than-Four-Hour Encounters During and After Clinic Operating Hours over Five Years (n=2,927)**



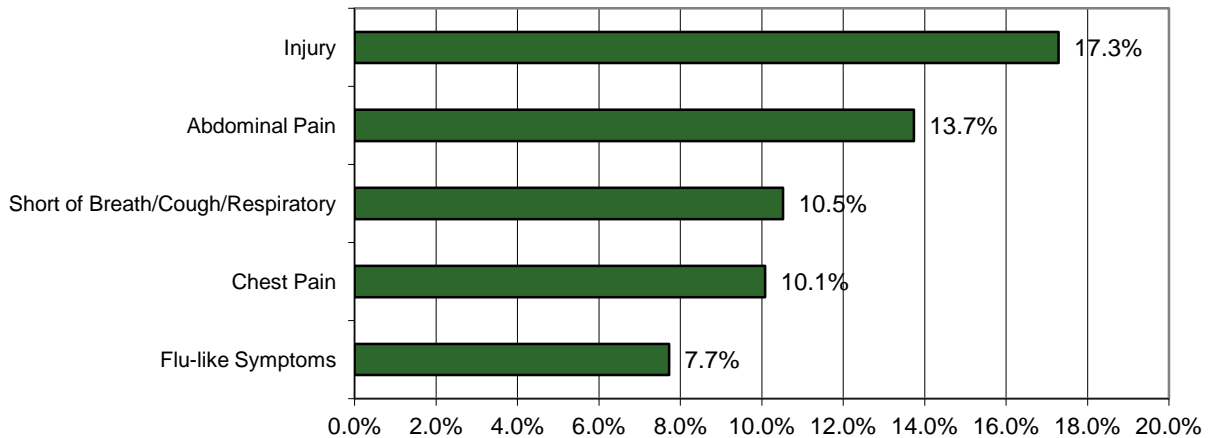
Over five years, 44.20% of encounters lasting less than four hours occurred after normal clinic operating hours.

**Figure 28. Percentage of Less-than-Four-Hour Encounters by Type over Five Years (n=2,927)**



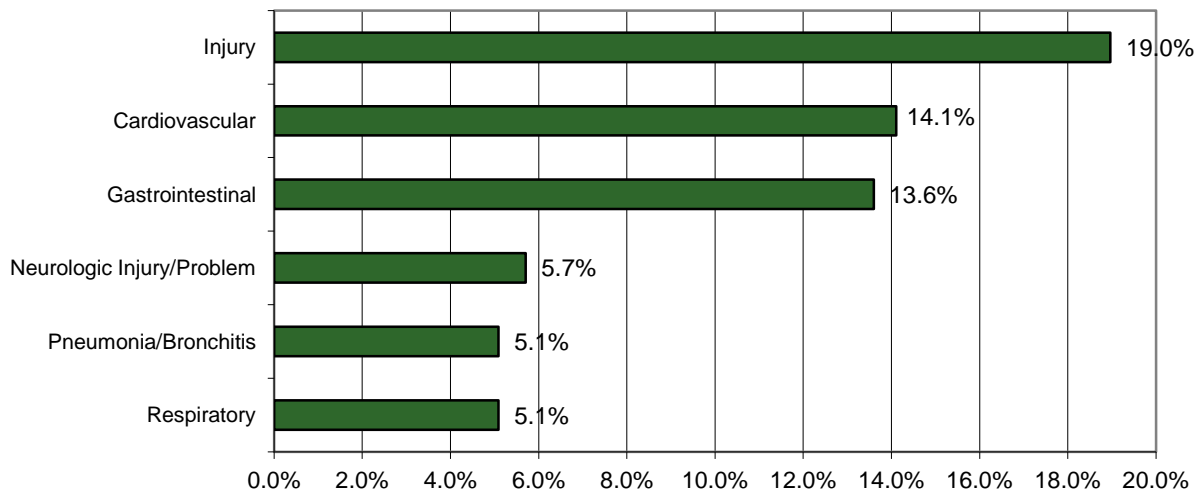
Among encounters of less than four hours, 55.6% (n=1,627) resulted in transfer. In addition, 43.1% (n=1,262) of less-than-four-hour encounters were classified as monitoring and observation.

**Figure 29. Percentage of Five Most-Frequent Chief Complaints of Less-than-Four-Hour Encounters**



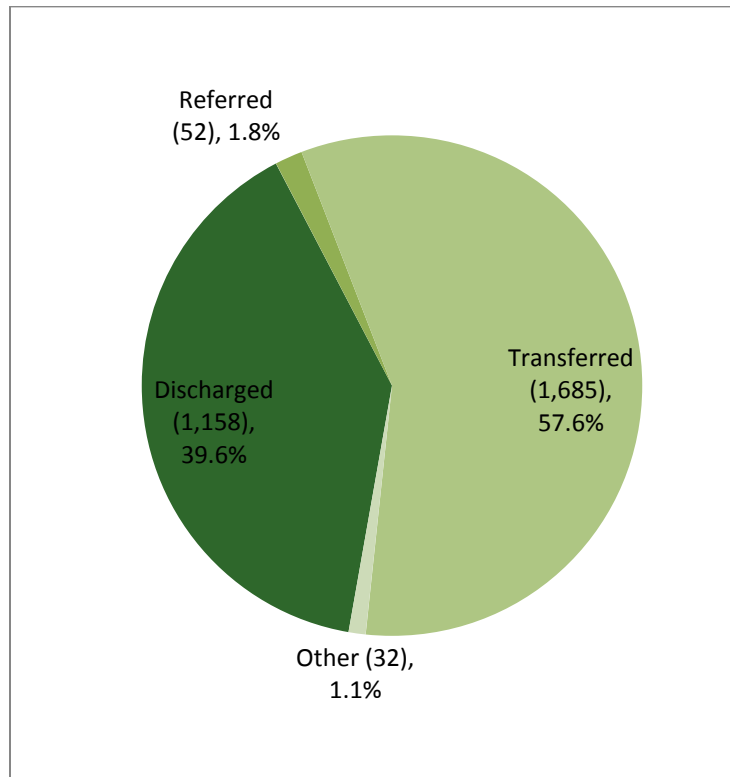
The five most frequent chief complaints of encounters lasting less than four hours accounted for 59.3% of these encounters. Leading the list of most frequent chief complaints for encounters less than 4 hours was injury (17.3%, n=506), followed by abdominal pain (13.7%, n=402), short of breath/cough/respiratory (10.5%, n=308), chest pain (10.1%, n=295), and included flu type symptoms (7.7%, n=226). Other less-frequent chief complaints were unresponsive/syncope/confusion (6.9%, n=201) and pain in limb(s) (3.8%, n=110).

**Figure 30. Percentage of Six Most-Frequent Discharge Diagnoses of Less-than-Four-Hour Encounters**



The six most-common diagnoses at discharge for encounters under four hours represented 62.6% of all discharge diagnoses. Note that injury topped the list (19.0%, n=555), followed by cardiovascular (14.1%, n=413). Rounding out the six most frequent diagnoses were gastrointestinal (13.6%, n=398), neurologic injury/problem (5.7%, n=167), respiratory (5.1%, n=149), and pneumonia/bronchitis (5.1%, n=149). Other, less-frequent diagnoses at discharge were renal/urinary (4.6%, n=136), substance abuse/use-related (4.6%, n=135), and infection (4.0%, n=116).

**Figure 31. Discharge Disposition of Under-Four-Hour Encounters over Five Years**



A majority of encounters under four hours were transferred (57.6%). Just shy of forty percent (39.6%) of encounters under four hours were discharged. Another 1.8% were referred to another health facility for non-urgent follow-up care.

## **F. Billable Units and Proposed Rates and Projected Revenues for FESC Encounters with Primary Payer of Medicare or Medicaid**

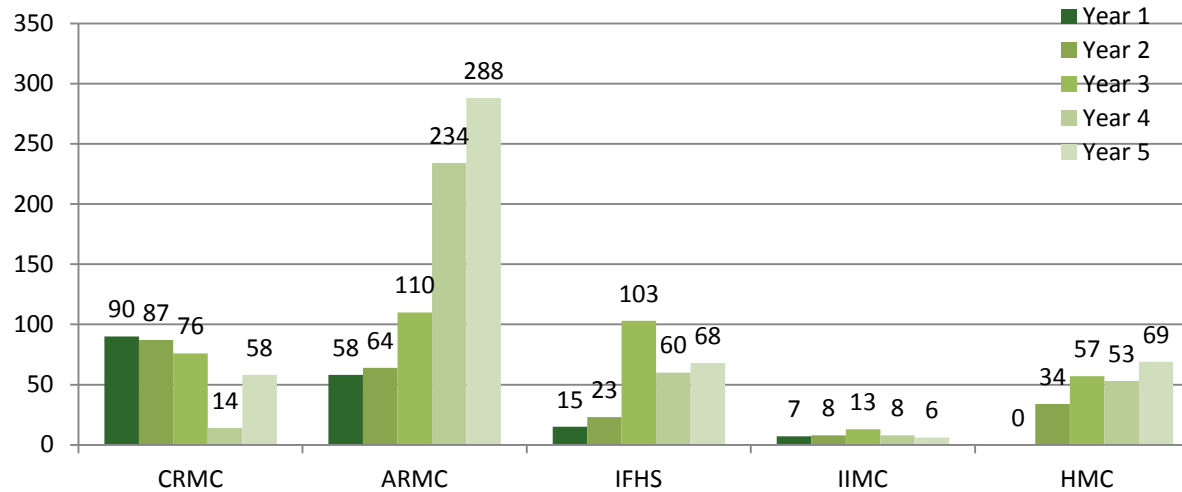
This subsection examines FESC encounters—encounters of four hours or more with a primary payer of Medicare or Medicaid billable units and proposed rates. Estimates of projected revenues are also provided.

Medicare- and Medicaid-billable units are calculated by dividing FESC encounters into segments using the following table. The maximum billable units is 12.

**Table 13. Description of Medicare- and Medicaid-Billable Units**

<b>Encounter Length (Range in Hours)</b>	<b>Units</b>
Under 4 hours	0
4 to <6 hours	1
6 to <10 hours	2
10 to <14 hours	3
14 to <18 hours	4
18 to <22 hours	5
22 to <26 hours	6
26 to <30 hours	7
30 to <34 hours	8
34 to <38 hours	9
38 to <42 hours	10
42 to <46 hours	11
Up to 48 hours	12

**Figure 32. Medicare-Billable Units, Five-Year Comparison by Clinic**



**14. Medicare- and Medicaid-Eligible Units and FESC Encounters, Proposed Rates, and Projected Revenue**

FESC Site	Total FESC Encounters	Number of Medicare - Eligible Encounters	Number of Medicaid -Eligible Encounters	Medicare and Medicaid Four Hour Units	Proposed Medicare Rate	Proposed Medicaid Rate	Projected Revenue (Medicare and Medicaid Combined)
ARMC, Klawock	706	250	101	969	\$522.43	\$426.00	\$526,824
CRMC, Glennallen	384	109	59	358	\$522.43	\$299.59	\$233,321
HHC, Haines (Three Years)	232	105	15	226	\$522.43	\$426.00	\$134,282
IFHS, Unalaska	830	33	4	286	\$522.43	\$219.86	\$144,820
IIMC, Friday Harbor	74	101	23	44	\$463.07	\$885.29	\$31,334
<b>Total</b>	<b>2,226</b>	<b>598</b>	<b>202</b>	<b>1,883</b>	<b>N/A</b>	<b>N/A</b>	<b>\$1,070,580</b>

Table 14 shows that 1,883 Medicare or Medicaid billable units were generated from 2,226 FESC encounters. The proposed Medicare and Medicaid rates and the projected revenue of the combined programs are included. Over the five years of the ORHP demonstration, ARMC generated the largest number of potentially eligible Medicare or Medicaid billable units at 969.

## **Appendix A. Volume II**

### **Operating Hours for FESC Clinics**

#### **Unalaska**

M-F 8:30am – 6pm

Sat 8:30am – 5pm

Sun – Closed

#### **Friday Harbor**

M-F 8am – 5pm

Sat 10am – 1pm

Sun – Closed

#### **Klawock**

M-F 8am – 5pm

Wed 1pm – 5pm

Sat & Sun – Closed

#### **Haines**

M-F 8am – 5pm

Sat & Sun – Closed

#### **Glennallen**

Mon 9am – 5:30pm

TWF 10am – 4:40pm

Thurs 1pm – 7:30pm (starting Oct 1<sup>st</sup>, 2007 10am – 7:30pm)

Sat (starting Oct 1<sup>st</sup>, 2007 10am – 2pm)

Sun – Closed

## Appendix B. Data Tables for Figures in Volume II

**Figure 1. FESC Encounters by Clinic Site over Five Years**

<b>Clinic Site</b>	<b>Count</b>	<b>Percent</b>
CRMC	384	17.3%
ARMC	706	31.7%
IFHS	830	37.3%
IIMC	74	3.3%
HMC (4 yrs)	232	10.4%
<b>Total</b>	<b>2,226</b>	<b>100.0%</b>

**Figure 2. Annual Mean in Hours of FESC Encounters per Clinic and over All Clinic Sites**

<b>Clinic Site</b>	<b>Annual Mean</b>
CRMC	76.8
ARMC	141.2
IFHS	166.0
IIMC	14.8
HMC (4 yrs)	58.0
<b>All Sites</b>	<b>91.4</b>

**Figure 3. Annual Mean Length in Hours of Encounter by Type**

<b>Clinic Site</b>	<b>Annual Mean</b>	
	<b>Mon Ob</b>	<b>Transfer</b>
CRMC	12.8	6.8
ARMC	9.2	7.2
IFHS	8.7	11.1
IIMC	5.1	6.3
HMC (4 yrs)	7.4	7.6
<b>All Sites</b>	<b>9.5</b>	<b>8.6</b>

**Figure 4(a). Percentage of FESC Encounters by Type and Data Year**

Encounter Type	Year 1	Year 2	Year 3	Year 4	Year 5	All Years
Mon-Ob	68.3%	63.1%	61.3%	59.2%	55.4%	60.9%
Transfer	30.6%	33.5%	37.5%	40.4%	44.2%	38.0%
Other	1.1%	3.4%	1.2%	0.4%	0.4%	1.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Figure 4(b). Number of FESC Encounters by Type and Data Year**

Encounter Type	Year 1	Year 2	Year 3	Year 4	Year 5	All Years
Mon-Ob	254	224	306	268	303	1355
Transfer	114	119	187	183	242	845
Other	4	12	6	2	2	26
<b>Total</b>	<b>372</b>	<b>355</b>	<b>499</b>	<b>453</b>	<b>547</b>	<b>2,226</b>

**Figure 5(a). Percentage of FESC Encounters by Type and Clinic over Five Data Years**

Encounter Type	CRMC	ARMC	IFHS	IIMC	HMC
Mon-Ob	66.4%	63.3%	62.7%	64.9%	36.6%
Transfer	32.6%	36.1%	36.7%	32.4%	58.6%
Other	1.0%	0.6%	0.6%	2.7%	4.7%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Figure 5(b). Number of FESC Encounters by Type and Clinic over Five Data Years**

Encounter Type	CRMC	ARMC	IFHS	IIMC	HMC	Total
Mon-Ob	255	447	520	48	85	1,355
Transfer	125	255	305	24	136	845
Other	4	4	5	2	11	26
<b>Total</b>	<b>384</b>	<b>706</b>	<b>830</b>	<b>74</b>	<b>232</b>	<b>2,226</b>

**Figure 6. Number and Percent of FESC Encounters by Clinic Operating Hours for Five Years**

Clinic Operating Hours	Count	Percent
During Clinic Hours	1231	55.3%
After Hours	995	44.7%
<b>Total</b>	<b>2,226</b>	<b>100.0%</b>

**Figure 7. Percentage of After-Hours FESC Encounters by Clinic over Five Years**

Clinic Site	Percent
CRMC	53.4%
ARMC	47.3%
IFHS	39.4%
IIMC	23.0%
HMC	48.3%
<b>All Sites</b>	<b>44.7%</b>

**Figure 8(a). Percentage of Encounters During and After Clinic Operating Hours by Data Year**

Clinic Operating Hours	Year 1	Year 2	Year 3	Year 4	Year 5	All Years
After Hours	46.5%	37.2%	48.5%	48.3%	41.9%	44.7%
During Clinic Hours	53.5%	62.8%	51.5%	51.7%	58.1%	55.3%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Figure 8(b). Number of Encounters During and After Clinic Operating Hours by Data Year**

Clinic Operating Hours	Year 1	Year 2	Year 3	Year 4	Year 5	All Years
After Hours	173	132	242	219	229	995
During Clinic Hours	199	223	257	234	318	1231
<b>Total</b>	<b>372</b>	<b>355</b>	<b>499</b>	<b>453</b>	<b>547</b>	<b>2,226</b>

**Figure 9. Count and Percentage of FESC Encounters by Chief Complaints over Five Years**

Chief Complaint	Count	Percent
Abdominal Pain	305	13.7%
Short of Breath/Cough/Respiratory	303	13.6%
Chest pain	251	11.3%
Injury	246	11.1%
Flu-like Symptoms	218	9.8%
Unresponsive/Syncope/Confusion	140	6.3%
Behavioral/Mental health	123	5.5%
Fever	82	3.7%
Back Pain	56	2.5%
Seizure	51	2.3%
Headache	51	2.3%
Pain in Limb(s)	50	2.2%
Pregnancy Related	48	2.2%
Flank Pain	33	1.5%
Blood in Cough/Vomit	16	0.7%
Blood in Stool	12	0.5%
Other	239	10.7%
<b>Total</b>	<b>2,226</b>	<b>100.0%</b>

**Figure 10. Count and Percentage of FESC Encounters by Discharge Diagnoses over Five Years**

<b>Discharge Diagnosis</b>	<b>Count</b>	<b>Percent</b>
Cardiovascular	308	13.8%
Gastrointestinal	292	13.1%
Injury	259	11.6%
Substance Abuse/Use related	197	8.8%
Pneumonia/Bronchitis	194	8.7%
Renal/Urinary	140	6.3%
Respiratory	139	6.2%
Neurologic Injury/Problem	77	3.5%
Hepatic/Pancreatic/Gallbladder/Appendix	73	3.3%
Infection	67	3.0%
Pregnancy Related	65	2.9%
Behavioral/Mental Health	63	2.8%
Musculoskeletal	61	2.7%
Flu/Flu-like illness	60	2.7%
Dehydration	56	2.5%
Diabetes-related Diagnosis	53	2.4%
Cancer	22	1.0%
Allergic Reaction	8	0.4%
Other	92	4.1%
<b>Total</b>	<b>2,226</b>	<b>100.0%</b>

**Figure 11. Count and Percentage Discharge Disposition of FESC Encounters over Five Years**

<b>Discharge Disposition</b>	<b>Count</b>	<b>Percent</b>
Discharged Home	1,059	47.6%
Referred	159	7.1%
Transferred	973	43.7%
Other	35	1.6%
<b>Total</b>	<b>2,226</b>	<b>100.0%</b>

**Figure 13. Count and Percentage of FESC Encounters Using Paid Escort over Five Years**

<b>Paid Escort Used</b>	<b>Count</b>	<b>Percent</b>
Yes	50	8.7%
No	526	91.3%
<b>Sub-Total</b>	<b>576</b>	<b>100%</b>
Missing	269	
<b>Total Transfer Encounters</b>	<b>845</b>	

**Figure 14. Number and Percentage of Monitoring and Observation Encounters During and After Clinic Hours over Five Years**

<b>Clinic Operating Hours</b>	<b>Number</b>	<b>Percent</b>
During Clinic Hours	781	57.6%
After Clinic Hours	574	42.4%
<b>Total</b>	<b>1,355</b>	<b>100.0%</b>

**Figure 15. Count and Percentage of Monitoring and Observation Encounters by Chief Complaints over Five Years**

<b>Chief Complaints</b>	<b>Count</b>	<b>Percent</b>
Flu-like Symptoms	182	13.4%
Short of Breath/Cough/Respiratory	176	13.0%
Abdominal Pain	170	12.5%
Chest Pain	124	9.2%
Injury	121	8.9%
Behavioral/Mental health	88	6.5%
Unresponsive/Syncope/Confusion	78	5.8%
Fever	57	4.2%
Headache	41	3.0%
Back Pain	39	2.9%
Pain in Limb(s)	33	2.4%
Seizure	30	2.2%
Flank Pain	25	1.8%
Pregnancy Related	24	1.8%
Blood in Cough/Vomit	6	0.4%
Blood in Stool	4	0.3%
Other	157	11.6%
<b>Total</b>	<b>1,355</b>	<b>100.0%</b>

**Figure 16. Count and Percentage of Monitoring and Observation Encounters by Discharge Diagnoses over Five Years**

<b>Discharge Diagnoses</b>	<b>Count</b>	<b>Percent</b>
Gastrointestinal	187	13.8%
Substance Abuse/Use Related	145	10.7%
Cardiovascular	142	10.5%
Pneumonia/Bronchitis	127	9.4%
Injury	126	9.3%
Renal/Urinary	103	7.6%
Respiratory	81	6.0%
Flu/Flu-like Illness	51	3.8%
Infection	48	3.5%
Diabetes-Related Diagnosis	47	3.5%
Dehydration	46	3.4%
Musculoskeletal	41	3.0%
Behavioral/Mental Health	38	2.8%
Neurologic Injury/Problem	35	2.6%
Pregnancy Related	32	2.4%
Hepatic/Pancreatic/Gallbladder/Appendix	28	2.1%
Cancer	13	1.0%
Allergic Reaction	8	0.6%
Other	57	4.2%
<b>Total</b>	<b>1,355</b>	<b>100.0%</b>

**Figure 17. Count and Percentage Discharge Disposition of Monitoring and Observation Encounters over Five Years**

<b>Discharge Disposition</b>	<b>Count</b>	<b>Percent</b>
Discharged	1,047	77.3%
Referred to Another Health Facility	157	11.6%
Transferred	126	9.3%
Other	25	1.8%
<b>Total</b>	<b>1,355</b>	<b>100.0%</b>

**Figure 18(a). Percentage of Monitoring and Observation Encounters by Discharge Disposition by Clinic over Five Years**

Clinic Site	Discharged Home	Referred to Another Health Facility	Transferred	Other	Total
CRMC	74.5%	20.4%	4.3%	0.8%	100%
ARMC	81.2%	8.1%	10.3%	0.4%	100%
IFHS	78.3%	12.1%	8.3%	1.3%	100%
IIMC	79.2%	2.1%	12.5%	6.3%	100%
HMC	57.6%	5.9%	23.5%	12.9%	100%

**Figure 18(b). Count of Monitoring and Observation Encounters by Discharge Disposition by Clinic over Five Years**

Clinic Site	Discharged Home	Referred to Another Health Facility	Transferred	Other	Total
CRMC	190	52	11	2	255
ARMC	363	36	46	2	447
IFHS	407	63	43	7	520
IIMC	38	1	6	3	48
HMC	49	5	20	11	85

**Figure 19. Count and Percentage of During- and After-Hours Transfer Encounters over Five Years**

Clinic Operating Hours	Count	Percent
During Clinic Hours	437	51.7%
After Clinic Hours	408	48.3%
<b>Total</b>	<b>845</b>	<b>100.0%</b>

**Figure 20. Count and Percentage of Transfer by Type of Transportation over Five Years**

Type of Transportation	Count	Percent
Commercial Air	52	6.2%
Medevac	725	86.3%
Ferry/Boat	11	1.3%
Vehicle*	9	1.1%
Coast Guard	29	3.5%
Other	14	1.7%
<b>Sub-Total</b>	<b>840</b>	<b>100%</b>
Missing	5	
<b>Total</b>	<b>845</b>	

\*ambulance or private vehicle

**Figure 21. Count and Percentage of Chief Complaints of Transfer Encounters over Five Years**

<b>Chief Complaint</b>	<b>Count</b>	<b>Percent</b>
Abdominal Pain	134	15.9%
Injury	123	14.6%
Chest Pain	122	14.4%
Short of Breath/Cough/Respiratory	122	14.4%
Unresponsive/Syncope/Confusion	59	7.0%
Behavioral/Mental Health	33	3.9%
Flu-like Symptoms	33	3.9%
Fever	25	3.0%
Seizure	23	2.7%
Pregnancy Related	22	2.6%
Back Pain	17	2.0%
Pain in Limb(s)	17	2.0%
Blood in Cough/Vomit	10	1.2%
Headache	10	1.2%
Blood in Stool	8	0.9%
Flank Pain	7	0.8%
Other	80	9.5%
<b>Total</b>	<b>845</b>	<b>100.0%</b>

**Figure 22. Count and Percentage of Discharge Diagnoses of Transfer Encounters over Five Years**

<b>Discharge Diagnoses</b>	<b>Count</b>	<b>Percent</b>
Cardiovascular	160	18.9%
Injury	133	15.7%
Gastrointestinal	103	12.2%
Pneumonia/Bronchitis	66	7.8%
Respiratory	54	6.4%
Substance Abuse/Use Related	48	5.7%
Hepatic/Pancreatic/Gallbladder/Appendix	45	5.3%
Neurologic Injury/Problem	42	5.0%
Renal/Urinary	35	4.1%
Pregnancy Related	31	3.7%
Behavioral/Mental Health	25	3.0%
Musculoskeletal	20	2.4%
Infection	19	2.2%
Dehydration	9	1.1%
Cancer	9	1.1%
Flu/Flu-like Illness	7	0.8%
Diabetes-Related Diagnosis	6	0.7%
Allergic Reaction	0	0.0%
Other	33	3.9%
<b>Total</b>	<b>845</b>	<b>100.0%</b>

**Figure 23. Count and Percentage of FESC Encounters Eligible for Medicare or Medicaid Payment over Five Years**

Eligible for Medicare or Medicaid Payment	Count	Percent
Not Eligible	1426	64.1%
Medicare Eligible	598	26.9%
Medicaid Eligible	202	9.1%
<b>Total</b>	<b>2,226</b>	<b>100.0%</b>

**Figure 24. Count and Percentage of FESC Encounters with Medicare and Medicaid as Primary Payer During and After Clinic Hours over Five Years**

Clinic Operating Hours	Medicare		Medicaid	
	Count	Percent	Count	Percent
During Clinic Hours	347	58.0%	96	47.5%
After Clinic Hours	251	42.0%	106	52.5%
<b>Total</b>	<b>598</b>	<b>100.0%</b>	<b>202</b>	<b>100.0%</b>

**Figure 25. Count and Percentage of FESC Encounters with Medicare or Medicaid as Primary Payer by Discharge Disposition over Five Years**

Discharge Diagnoses	Medicare		Medicaid	
	Count	Percent	Count	Percent
Discharged	249	41.6%	92	45.5%
Referred	32	5.4%	12	5.9%
Transferred	305	51.0%	95	47.0%
Other	12	2.0%	3	1.5%
<b>Total</b>	<b>598</b>	<b>100.0%</b>	<b>202</b>	<b>100.0%</b>

**Figure 26. Count and Percentage of Secondary-Payer Coverage when Medicare, Medicaid, or Private Insurance is Primary**

When Medicare is the Primary Payer		
Secondary Coverage	Count	Percent
Medicaid	117	32.1%
Private Insurance	107	29.4%
Self-pay	12	3.3%
IHS/tribal	49	13.5%
Other	63	17.3%
HRSA Sliding scale	16	4.4%
<b>Total</b>	<b>364</b>	<b>100.0%</b>

<b>When Medicaid is the Primary Payer</b>		
<b>Secondary Coverage</b>	<b>Count</b>	<b>Percent</b>
Private Insurance	2	2.6%
Self-pay	2	2.6%
IHS/tribal	37	47.4%
Other	35	44.9%
HRSA Sliding scale	2	2.6%
<b>Total</b>	<b>78</b>	<b>100.0%</b>

<b>When Private Insurance is the Primary Payer</b>		
<b>Secondary Coverage</b>	<b>Count</b>	<b>Percent</b>
Medicare	39	13.0%
Medicaid	9	3.0%
Private Insurance	40	13.3%
Self-pay	14	4.7%
IHS/tribal	153	50.8%
Other	25	8.3%
HRSA Sliding scale	21	7.0%
<b>Total</b>	<b>301</b>	<b>100.0%</b>

**Figure 27. Percentage of Less-than-Four-Hour Encounters During and After Hours over Five Years**

<b>Clinic Operating Hours</b>	<b>Count</b>	<b>Percent</b>
During Clinic Hours	1632	55.8%
After Clinic Hours	1295	44.2%
<b>Total</b>	<b>2,927</b>	<b>100.0%</b>

**Figure 28. Percentage of Less-than-Four-Hour Encounters by Type over Five Years**

<b>Encounter Type</b>	<b>Count</b>	<b>Percent</b>
Monitoring and Observation	1,262	43.1%
Transfer	1,627	55.6%
Other	38	1.3%
<b>Total</b>	<b>2,927</b>	<b>100.0%</b>

**Figure 29. Count and Percentage of Chief Complaints of Less-than-Four-Hour Encounters**

<b>Chief Complaint</b>	<b>Count</b>	<b>Percent</b>
Injury	506	17.3%
Abdominal Pain	402	13.7%
Short of Breath/Cough/Respiratory	308	10.5%
Chest Pain	295	10.1%
Flu-like Symptoms	226	7.7%
Unresponsive/Syncope/ Confusion	201	6.9%
Pain in Limb(s)	110	3.8%
Behavioral/Mental Health	103	3.5%
Pregnancy Related	93	3.2%
Back Pain	80	2.7%
Fever	78	2.7%
Headache	65	2.2%
Seizure	54	1.8%
Blood in Stool	36	1.2%
Flank Pain	33	1.1%
Blood in Cough/Vomit	15	0.5%
Other	322	11.0%
<b>Total</b>	<b>2,927</b>	<b>100.0%</b>

**Figure 30. Number and Percentage of Discharge Diagnoses of Less-than-Four-Hour Encounters**

<b>Discharge Diagnoses</b>	<b>Frequency</b>	<b>Percent</b>
Injury	555	19.0%
Cardiovascular	413	14.1%
Gastrointestinal	398	13.6%
Neurologic Injury/Problem	167	5.7%
Respiratory	149	5.1%
Pneumonia/Bronchitis	149	5.1%
Renal/Urinary	136	4.6%
Substance Abuse/Use Related	135	4.6%
Infection	116	4.0%
Pregnancy Related	112	3.8%
Hepatic/Pancreatic/Gallbladder/Appendix	89	3.0%
Musculoskeletal	81	2.8%
Behavioral/Mental Health	71	2.4%
Flu/Flu-like Illness	65	2.2%
Dehydration	49	1.7%
Diabetes-Related Diagnosis	47	1.6%
Cancer	40	1.4%
Allergic Reaction	20	0.7%
Other	135	4.6%
<b>Total</b>	<b>2,927</b>	<b>100.0%</b>

**Figure 31. Discharge Disposition of Under Four Hour Encounters over Five Years**

<b>Discharge Disposition</b>	<b>Count</b>	<b>Percent</b>
Discharged	1,158	39.6%
Referred	52	1.8%
Transferred	1,685	57.6%
Other	32	1.1%
<b>Total</b>	<b>2,927</b>	<b>100.0%</b>

**Figure 32. Medicare Billable Time Units—Year by Year Comparison by Clinic**

<b>Clinic Site</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Five Years</b>
CRMC	90	87	76	14	58	325
ARMC	58	64	110	234	288	754
IFHS	15	23	103	60	68	269
IIMC	7	8	13	8	6	42
HMC	0	34	57	53	69	213
<b>Total</b>	<b>170</b>	<b>216</b>	<b>359</b>	<b>369</b>	<b>489</b>	<b>1,603</b>