

Hospital EMS Report – June 2022

San Francisco EMS Agency

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Diversion, EMS transport, and APOT-1 data were extracted and reported in compliance with EMSA Policy 5020.

The tables below contain diversion metrics over a prior 13-month period.

- San Francisco's 10 adult hospitals totaled **1028** hours of diversion. The first table below shows diversion hours for each hospital as a percentage of total month hours.
- 108** diversion suspension events occurred, totaling **352** hours. In the second table below, suspension hours are shown as a percentage of total month hours.
- ZSFG retains the ability to stay on diversion during suspension ("Trauma Override"). ZSFG utilized Trauma Override **84%** of the time diversion was suspended. Our goal is limiting Trauma Override to < 20% of this time.

Table 1

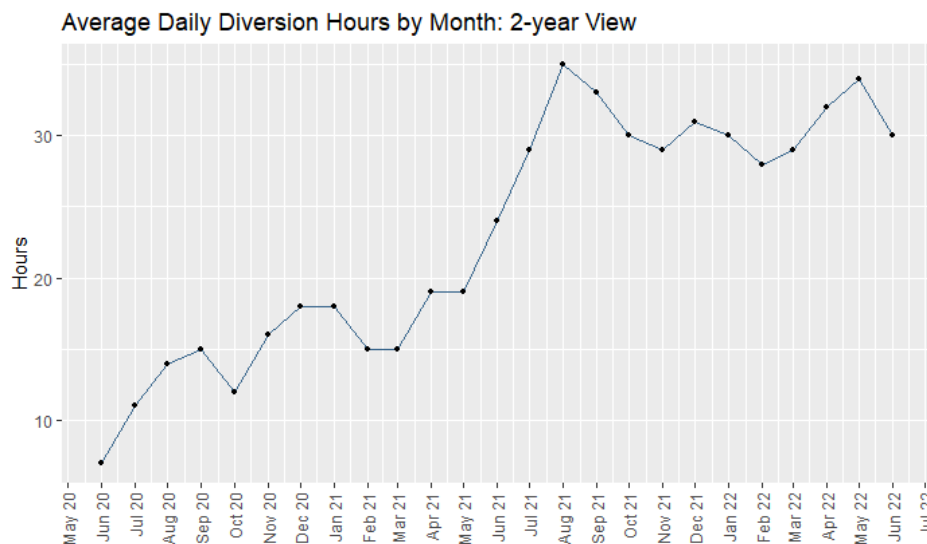
Hospital	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	Avg
Chinese	2.2%	2.2%	0.3%	1.7%	2.9%	0.9%	0.8%	3.4%	1.3%	0.7%	0.3%	0.0%	0.0%	1.3%
CPMC-Bernal	1.8%	3.0%	6.6%	3.9%	1.6%	1.9%	2.8%	6.9%	1.9%	1.2%	2.6%	4.2%	4.5%	3.3%
CPMC-Davies	3.7%	3.1%	5.9%	5.0%	4.3%	8.7%	2.6%	1.7%	0.3%	1.4%	0.9%	0.7%	0.8%	3.0%
CPMC-Van Ness	15.3%	13.0%	26.5%	19.6%	14.7%	14.2%	18.9%	17.1%	13.2%	15.4%	26.2%	20.7%	13.4%	17.6%
Kaiser SF	7.3%	14.4%	7.4%	5.1%	6.3%	5.6%	11.5%	6.8%	8.7%	16.1%	12.4%	17.5%	11.7%	10.1%
St. Francis	0.4%	0.5%	0.8%	0.1%	0.9%	1.2%	0.5%	1.5%	2.7%	0.8%	1.6%	0.7%	0.7%	1.0%
St. Marys	2.5%	3.6%	5.0%	6.1%	4.6%	10.6%	8.8%	5.6%	4.0%	5.1%	3.7%	5.1%	6.9%	5.5%
UCSF-Parnassus	22.0%	18.0%	22.0%	21.1%	20.1%	18.0%	20.8%	14.1%	27.4%	19.8%	25.5%	15.8%	22.2%	20.5%
VA	0.0%	0.5%	1.1%	1.5%	0.5%	0.9%	0.5%	1.5%	0.3%	0.3%	0.0%	1.4%	1.3%	0.8%
ZSFG	40.9%	63.5%	69.6%	73.6%	67.5%	60.4%	60.5%	66.9%	57.7%	57.9%	60.5%	76.2%	65.6%	63.1%

Table 2

System Measure	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	Avg
Diversion Hours	756	1014	1209	1113	1007	991	1041	1040	881	983	1075	1177	1028	1024
Suspension Hours	95	198	219	193	236	169	301	272	124	176	157	293	354	214
Suspension %	13.2%	26.6%	29.4%	26.8%	31.7%	23.5%	40.5%	36.6%	18.5%	23.7%	21.8%	39.4%	49.2%	29.3%
Transports	6025	6430	6434	6334	6648	6314	6905	6864	5860	6425	6242	6822	6420	6440

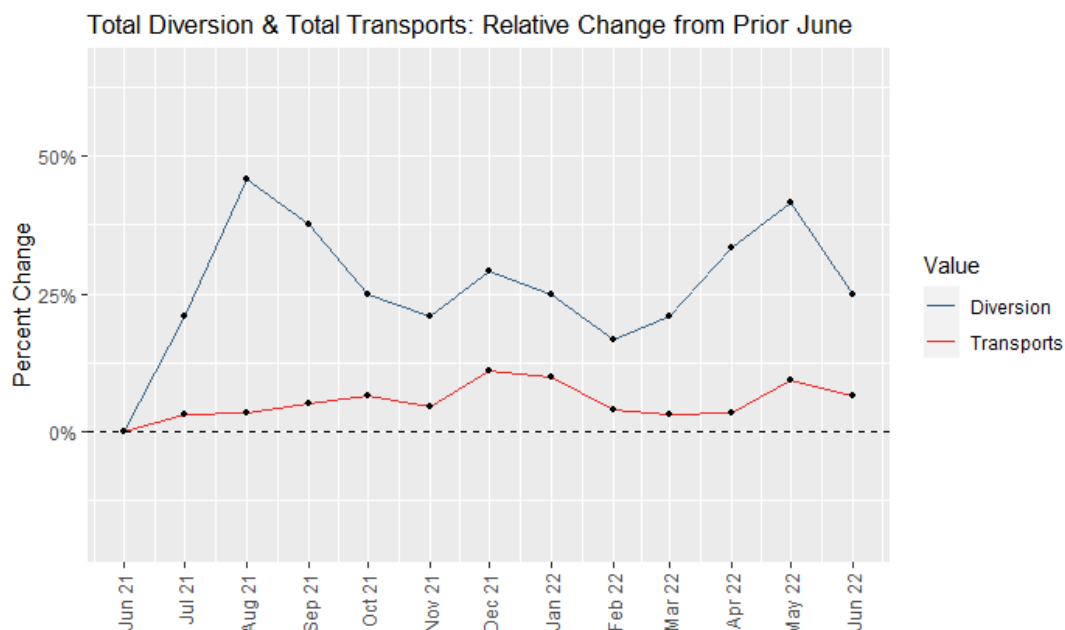
The plot below shows average daily system diversion, by month, over a 2-year period prior to June.

Figure 1



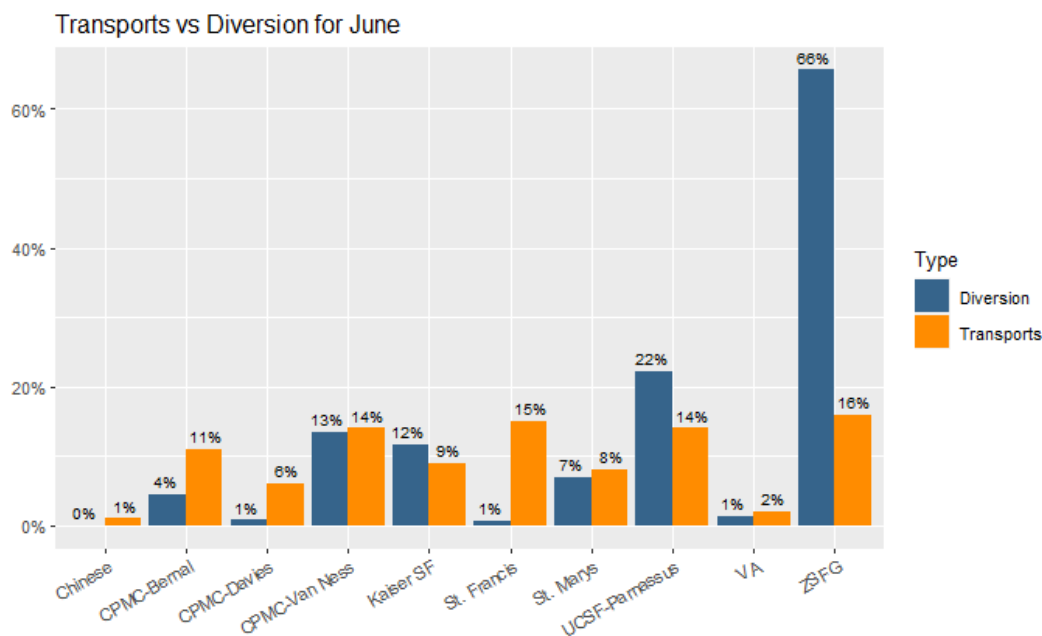
The plot below shows the change in system-wide diversion and EMS transports over the prior 13-month period, relative to their levels in June of the previous year. In other words, how diversion and transport volume has changed since this time last year.

Figure 2



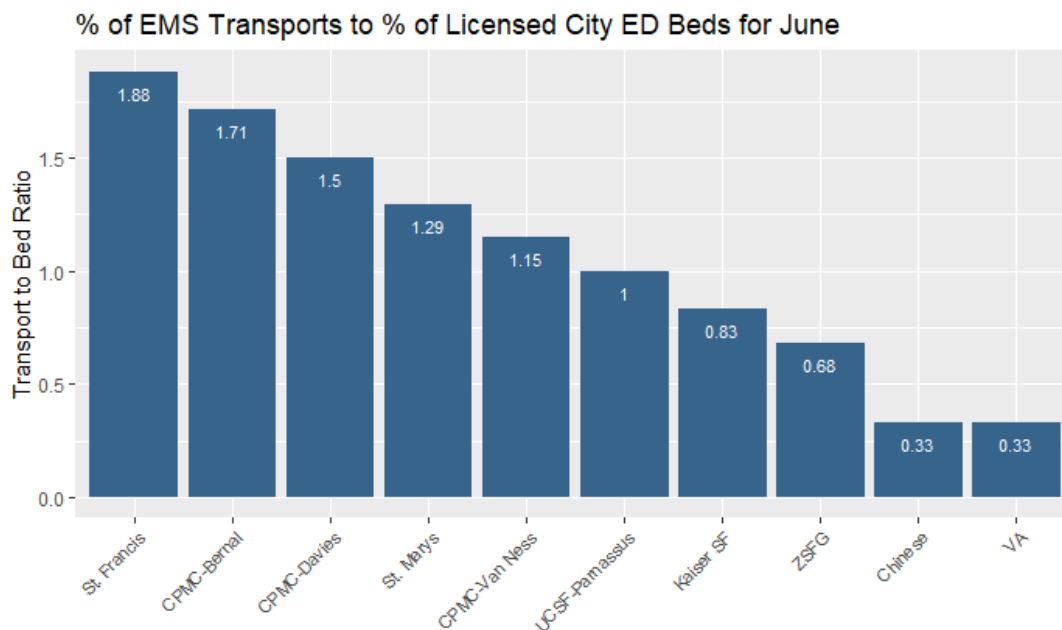
For the 10 adult hospitals, the percentage of time on diversion is compared with the proportion of total EMS transport volume they received. The total number of transports in June (**6,420**) includes transports to partial receiving hospitals, out-of-county ED transports, SF Sobering Center, UCSF-Benioff, or “missing” hospital names.

Figure 3



To provide additional context to “Transports vs Diversion,” the plot below shows a ratio of the following: the proportion of total 911 EMS transports received in relation to the proportion of total San Francisco licensed ED beds reported by each hospital.

Figure 3



The table below shows EMS transport volume to all receiving hospitals over the prior 13-month period. Heat mapping in red shows variance in EMS transport volume relative to each hospital's total volume, respectively.

Table 3

Destination	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	Avg	Avg %
Chinese	69	93	87	102	111	103	133	110	94	90	89	115	91	99	1.5%
CPMC-Bernal	581	712	717	737	751	693	714	736	651	705	721	815	709	711	11.0%
CPMC-Davies	331	362	394	406	326	329	367	412	309	350	379	429	361	366	5.7%
CPMC-Van Ness	784	848	763	840	872	904	867	903	846	867	815	899	892	854	13.3%
Kaiser SF	502	540	563	548	590	504	580	669	564	589	564	613	599	571	8.9%
Kaiser South SF	64	82	71	77	66	59	64	29	49	74	60	64	46	62	1.0%
Seton	45	61	66	62	74	76	83	84	57	50	77	92	49	67	1.0%
Sobering	40	62	40	36	37	36	32	31	36	51	50	92	79	48	0.7%
St. Francis	816	901	1028	968	952	919	1104	1084	855	931	929	1012	934	956	14.8%
St. Marys	442	449	509	515	546	420	547	557	471	517	436	513	535	497	7.7%
UCSF-MB	77	92	109	88	129	100	93	127	83	107	114	128	102	104	1.6%
UCSF-Parnassus	723	928	854	834	864	867	948	1025	747	922	842	1012	888	881	13.7%
VA	95	124	105	94	113	87	110	104	92	82	88	108	110	101	1.6%
ZSFG	1456	1176	1128	1027	1217	1217	1263	993	1006	1090	1078	930	1025	1124	17.5%
Total	6025	6430	6434	6334	6648	6314	6905	6864	5860	6425	6242	6822	6420	6441	100.0%

Ambulance Patient Offload Time 1 (APOT-1) is a standard performance metric mandated by the California EMS Authority (Health and Safety Code 1797.120). This interval measures the time between an ambulance arrival at hospital and the moment patient care is transferred to hospital staff. APOT-1 is reported as the 90th percentile of aggregated time intervals for each hospital. Heat mapping in red shows variance in APOT-1 relative to each hospital's average APOT-1.

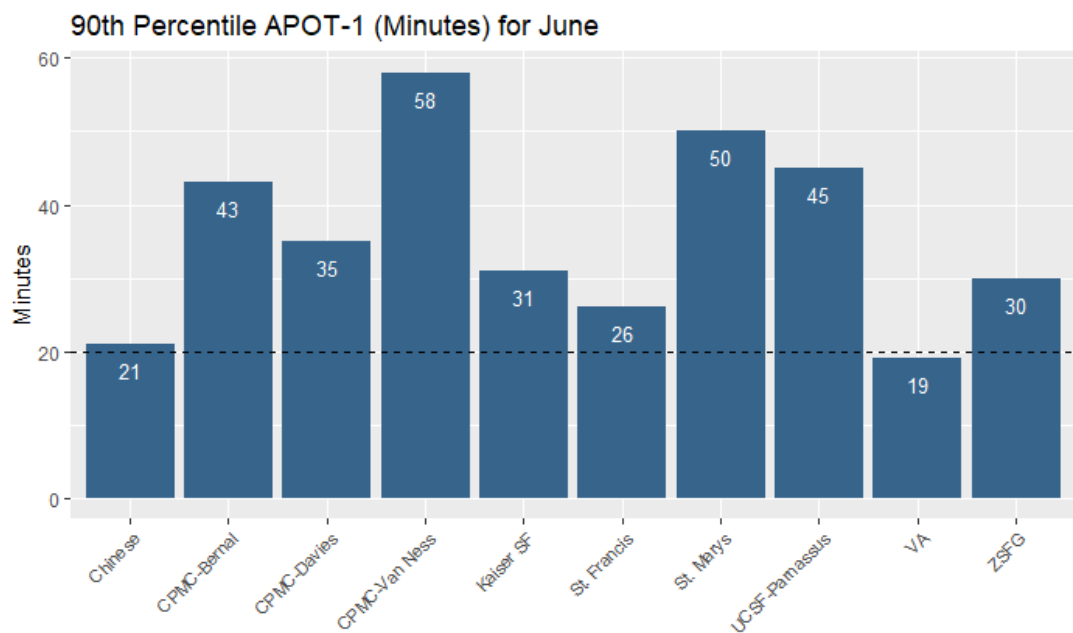
APOT-1 times were extracted from a state EMS data repository and filtered to only include 911 incident transports. Other transport types, such as inter-facility transports, are excluded.

Table 4

Hospital	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	Avg
Chinese	20	19	20	17	20	19	20	21	21	22	18	19	21	19.8
CPMC-Bernal	36	35	47	40	39	39	47	54	36	32	36	40	43	40.3
CPMC-Davies	25	30	34	33	32	37	39	52	35	30	31	31	35	34.2
CPMC-Van Ness	37	36	41	40	38	33	46	52	40	40	47	50	58	42.9
Kaiser SF	23	27	28	28	27	25	28	31	29	27	27	33	31	28
St. Francis	22	21	23	23	23	22	24	24	25	24	24	26	26	23.6
St. Marys	28	24	29	33	32	31	37	42	32	42	34	39	50	34.8
UCSF-Parnassus	35	40	48	44	43	38	40	49	40	38	36	39	45	41.2
VA	20	20	20	22	18	21	23	21	20	18	20	19	19	20.1
ZSFG	27	27	27	28	29	29	29	31	30	30	30	31	30	29.1

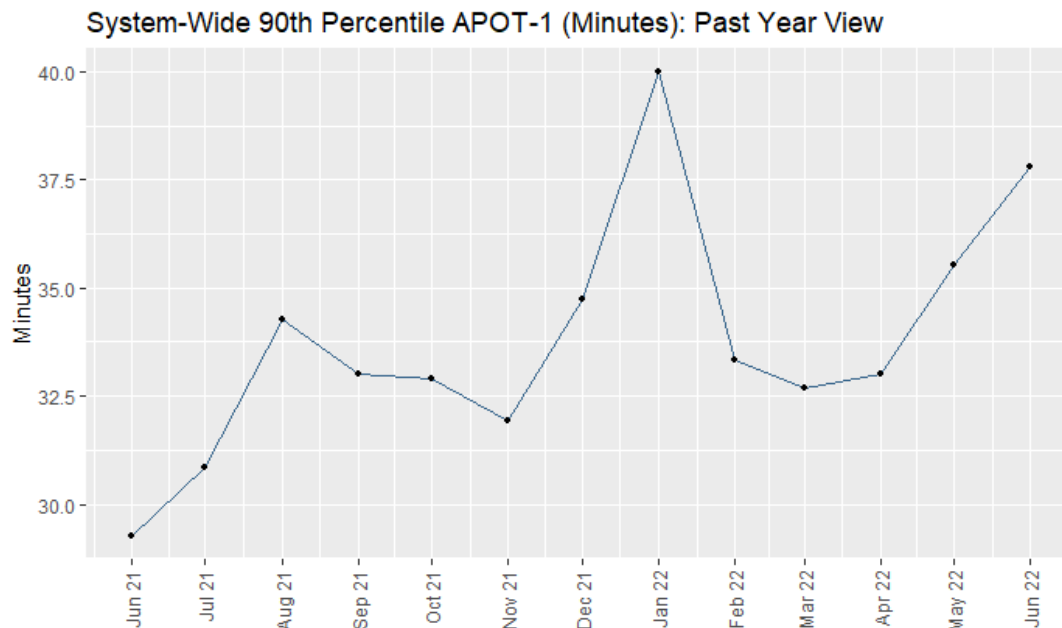
The plot below shows 90th percentile APOT-1 times by hospital in June. The dashed line represents the standard defined in EMSA Policy 4000.1 - Ambulance Turnaround Time Standard of 20 minutes for 90% of EMS arrivals.

Figure 4



The plot below shows aggregate 90th percentile APOT-1 for all 10 adult hospitals over the past year.

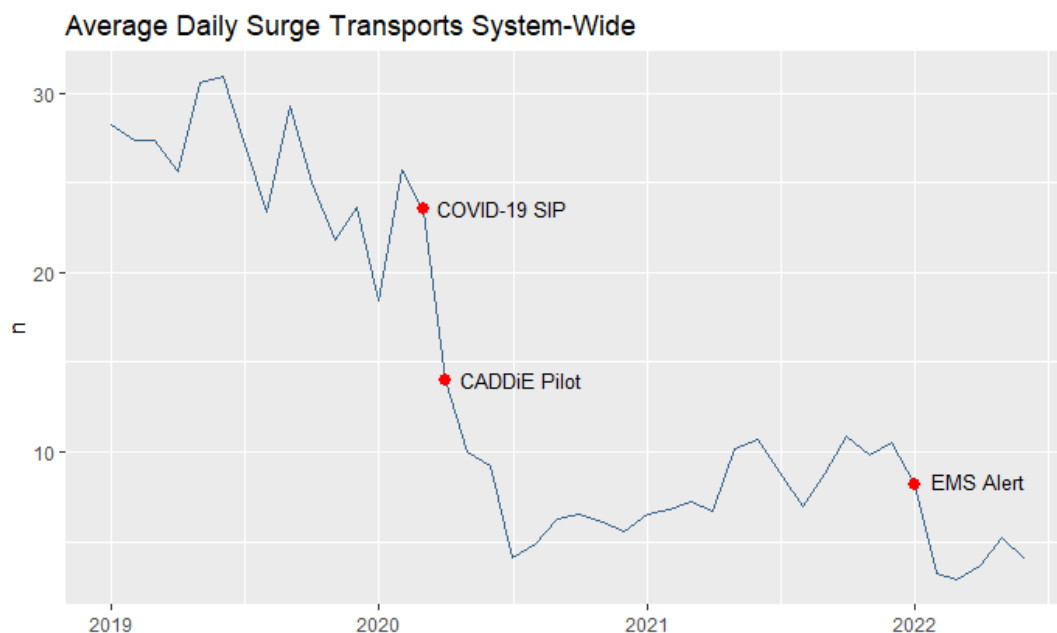
Figure 5



EMS Alert is a locally developed feature for preventing EMS surge events. It incorporates real-time EMS transport, arrival, and past-hour volume to redirect ambulances when hospitals reach a threshold relative to their ED size (more information on EMS Alert can be found [here](#)). “Surge Transports” are transports to a hospital after EMS Alert conditions were met or would have been met. This does not include the ambulance that triggered the Alert, only those transporting after.

The plot below looks at average daily Surge Transports for each month since January 2019. Noted with red points are the months in which the COVID-19 shelter-in-place order was issued in San Francisco, when the CADDiE Pilot began, and when EMS Alert became active in January 2022 (CADDiE ended this same month).

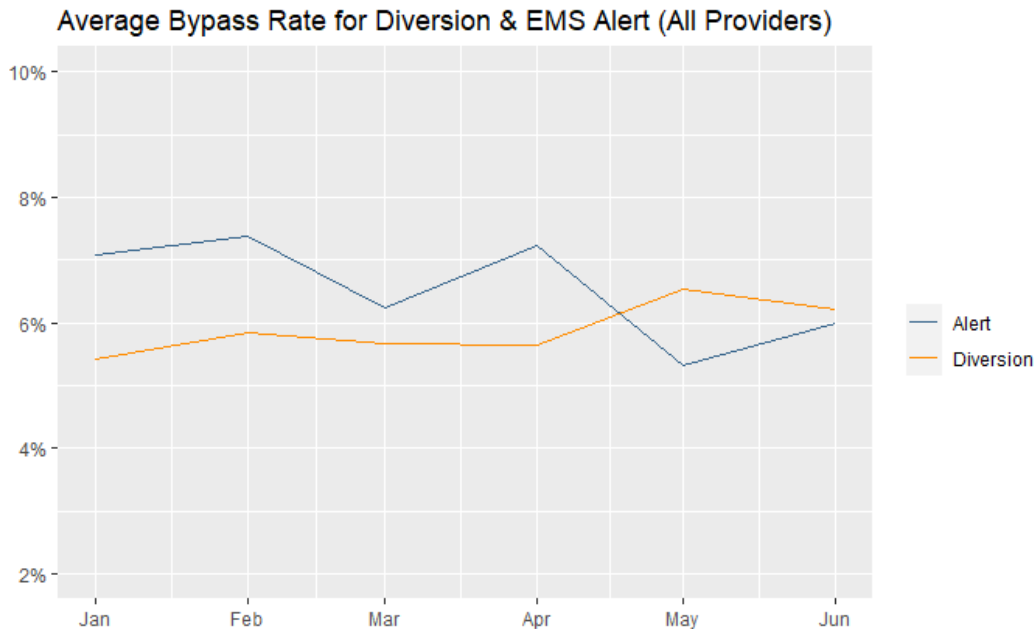
Figure 6



The two figures below look at compliance with EMS Alert. For the purpose of this report, a "non-compliant" transport is one that bypasses Alert with a patient who does not meet exemption criteria (e.g. specialty care, critical medical, etc.).

A challenge in measuring compliance is accurately identifying - at the individual patient level - whether a transport met qualifying bypass criteria given limited prehospital data. For this reason, the diversion bypass rate is used for comparison since criteria for bypassing both is similar. The plot and table below show the average bypass rate of Code 2 transports for both diversion and Alert during times when one or more hospitals is on diversion or Alert, respectively. We would expect similar bypass rates for both.

Figure 7



Shown below are bypass rates for each 911 EMS provider as a percentage of their own transports occurring when one or more hospitals were on Alert.

Table 5

Provider	22-Jan	22-Feb	22-Mar	22-Apr	22-May	22-Jun	Avg
AMR	8.0%	8.1%	6.7%	8.4%	4.4%	8.4%	7.1%
King American	7.9%	4.2%	6.6%	5.3%	3.8%	3.5%	5.4%
SFFD	6.7%	8.0%	6.3%	7.6%	5.7%	6.2%	6.9%