

ReddiNet EMS Alert Feature

Information and Training Guide

Beginning 01/03/2022, the San Francisco EMS system will implement a new feature in ReddiNet to replace the current version of the CADDiE pilot program with an automated ambulance routing function. **CADDiE call-ins will remain in effect until January 17, 2022. Please follow normal procedures. The EMS Alert procedures will start at 0700 on January 18, 2022. However, you may see EMS Alert featuring in ReddiNet starting January 3, 2022.**

Analysis of EMS transport data and collaborative efforts with both hospital and EMS partners have identified “ambulance bunching” as a primary issue contributing to increasing ambulance offload delays and Diversion. This is when a hospital receives a disproportionate number of ambulances at a single point in time, causing a surge event at their emergency department. During a 6-month sample period in 2021, 47% of EMS surge events were followed by Diversion at that hospital within the following 2 hours.

The goal of the EMS Alert is to provide a fluid, point-in-time reflection of each hospital’s EMS impact, and supplement Diversion with a system that routes ambulances based on a set of defined conditions.

WHAT IS AN EMS ALERT?

EMS data, like responses and transports, are captured by a software service called FirstWatch via our CAD database. Inside FirstWatch, a set of triggers continuously measure a ratio of EMS volume and ED capacity.

60-Minute EMS Volume : ED Surge Cap (aka “EMS Surge Ratio”)

<p>60-Minute EMS Volume</p>	<p>Sum of the following, updated on-the-minute (all EMS transports, Code 2 & Code 3): Units En-Route + Units At-Hospital + Units Cleared in Past 60 Minutes</p>
<p>ED Surge Cap</p>	<p>Determined by the “30% or 6 Rule”: 30% of a hospital’s licensed ED bed count or 6, whichever is lowest. This represents a reasonable number of EMS patients that a hospital can intake within a 60-minute time window.</p> <p>Large hospitals default to 6 (30% of ZSFG’s ED bed count is 18, resulting in a default cap of 6) while smaller hospitals will use 30% of their licensed beds (CPMC-Davies = 3, St. Mary’s = 5).</p>

An EMS Alert will activate when the following condition is satisfied for any hospital:

If current 60-Minute EMS Volume \geq ED Surge Cap \rightarrow EMS Alert is activated

An interface has been established between FirstWatch and ReddiNet. When the condition is satisfied in any of the hospital triggers a signal is sent to ReddiNet placing that hospital on EMS Alert. Similar practices exist in other EMS systems throughout the state. While alert conditions may differ, the model is essentially the same.

GUIDELINES FOR FIELD OPERATIONS

You will now have access to a special ReddiNet account where you are able to see San Francisco's Hospital Status Dashboard. ReddiNet is the software service hospitals use to manage Diversion status. When you check Diversion on your MDT, for example, this is where the information comes from (side note: you will also be able to directly check Diversion status yourself now via ReddiNet).

Use the following instruction when determining a destination:

1. Log-in to ReddiNet (reddinet.net) via browser or App and view the Hospital Status Dashboard
 - Username: Field_User
 - Password: ready123
2. Check the status of the desired hospital. In the Diversion Status column, "ED" indicates regular Diversion and "Alert" indicates EMS Alert (both when highlighted in red). You'll also notice that "Trauma Override" is displayed for ZSFG only.

Facility	Last Updated	Diversion Status
SAN FRANCISCO GENERAL	08/07/17 12:07	Alert ED Trauma Override INT
Van Nuys Campus - CPMC	08/07/17 12:07	Alert ED INT
Davies Campus - CPMC	08/07/17 12:07	Alert ED INT
Bernal Campus - CPMC	08/07/17 12:07	Alert ED INT
Kaiser San Francisco	08/07/17 12:07	Alert ED INT
St. Mary's Medical Center	08/07/17 12:07	Alert ED INT
Chinese Hospital	08/07/17 12:07	Alert ED INT
VA Med Center - Standby ED	08/07/17 12:07	Alert ED INT HELPING
UCSF - Mission Bay Peds Campus	08/07/17 12:07	Alert ED INT HELPING

If Diversion is Activated: No change from current practice. Diversion may only be bypassed when patients meet qualifying criteria per policy.

If EMS Alert is Activated: Generally treated the same as Diversion – ambulances are not permitted to transport to that destination while EMS Alert is active. There are two exceptions:

- Patients who meet any criteria which would allow them to bypass Diversion (e.g. trauma, stroke, STEMI, in-custody).
- Extenuating circumstances where a patient has specific clinical needs that require care at a certain facility (e.g. recent transplant or <48 hour surgical patient requesting transport to the hospital that performed the procedure). These situations require approval from the Dispatch Rescue Captain or King American/AMR On-duty Supervisor prior to transport. EMS Alert bypass requires documentation of the extenuating circumstances within the PCR and the name of the supervisor who approved the bypass.

Notes on field guidance:

- Diversion Suspension has no effect on EMS Alerts. This is actually when the EMS Alert system is most crucial, as hospitals are currently unable to signal to the system if they are heavily impacted by EMS.
- Expect an EMS Alert Suspension feature sometime in the future...still in development.
- **It is important to know this is not a pilot program and is not a recommendation. EMS Alert is based on an EMS Memo from the Medical Director and shall be followed as any other EMS Agency policy until replaced with a permanent policy.**

EXAMPLE SCENARIO	
<p>UCSF has 34 licensed beds in their ED. 30% of this count is ~10. Since 30% of their licensed bed count is > 6, their ED Surge Cap defaults to 6.</p>	
4:00PM	<p>3 ambulances are currently at UCSF waiting to offload patients. In the past 60 minutes, between 3:00PM and 4:00PM, two other ambulances had cleared from UCSF. The first of these was Medic 50, which cleared at 3:40PM.</p> <p>UCSF's current EMS Surge Ratio is 5/6 <i>Units En-Route (0) + Units At-Hospital (3) + Units Cleared in Past 60 Min (2) = 5</i></p>
4:05PM	<p>Medic 60 puts themselves transporting to UCSF on their MDT and this information is captured in FirstWatch.</p> <p>UCSF's EMS Surge Ratio is now 6/6 <i>Units En-Route (1) + Units At-Hospital (3) + Units Cleared in Past 60 Min (2) = 6</i></p> <p>This information is automatically fed from FirstWatch to ReddiNet, and an EMS Alert is activated for UCSF.</p>
4:41PM	<p>At this point, the following has occurred:</p> <ul style="list-style-type: none"> • Medic 60 has arrived at-hospital • The three units that were waiting to offload have now cleared UCSF • The interval between Medic 50's clear time (3:40PM) and the current time is now 61 minutes, meaning they no longer factor into UCSF's 60-Minute EMS Volume. <p>UCSF's updated EMS Surge Ratio is now 5/6 <i>Units En-Route (0) + Units At-Hospital (1) + Units Cleared in Past 60 Min (4) = 5</i></p> <p>EMS Alert at UCSF is deactivated after diverting routine ambulance traffic for the past 35 minutes. While it would be easy for UCSF to go back on EMS Alert if another unit goes en-route immediately after, their capacity will quickly increase when the units that recently cleared drop off their 60-Minute EMS Volume count. This helps ease the hospital back open to EMS traffic and helps maintain level distribution in the system.</p>

FREQUENTLY ASKED QUESTIONS

How is this different than Diversion?

Functionally, they are very similar for the end user, but there are some key differences:

- Diversion is activated manually at the discretion of hospital staff. EMS Alert is automated on system data, and no individual can manually activate it.
- Diversion can remain on for hours at a time. EMS Alerts will automatically de-activate once the condition of the EMS Surge Ratio is no longer satisfied.
- EMS Alert addresses EMS impact only, while Diversion can account for conditions inside the hospital. In theory, EMS Alert would prevent the need for most EMS-related Diversion events, allowing Diversion to be used for hospital-end issues only.

How much will this impact my day-to-day work?

We project a relatively minor impact. Currently, most hospitals are averaging 0 – 1 hour of “surge” per day. The exception is ZSFG, averaging closer to 4 hours. This is still far fewer hours than Diversion, and EMS Alerts activate on/off more fluidly.

How should we talk to patients who cannot go to their hospital of choice when it is on EMS Alert?

Just as Diversion shuts off EMS when a hospital’s internal conditions prevent them from caring for more patients, EMS Alerts serve the same function. Nearly half the time an SF hospital has an EMS surge, they go on divert within the following 2 hours. As Diversion rates increase, the number of available ED’s decreases, making it harder to “level load” the system. This domino effect tends to continue, and we see increased offload delays.

While we strive to get patients to their hospital of choice it is not sound practice when doing so could jeopardize the quality of care for themselves and others. Explain to patients that for most complaints they can get equal care at a different facility, and patient information can be communicated across hospitals. Ultimately, we cannot afford to put a hospital on divert for one patient when the downstream system effects will negatively impact many patients and multiple hospitals.

Limitations set by the ED Surge Cap were established in cooperation with hospital leaders. Patients may also be informed that contacting the hospital itself with feedback or questions is another option for them.

What will a Rescue Captain consult be like if I think a patient should bypass EMS Alert?

RC’s will balance the clinical needs of the patient with current system status. Explain why it is critical that your patient be transported to a certain hospital and provide necessary information. They are essentially taking responsibility for the bypass and have the ultimate say.

How will the EMS Agency evaluate this system?

Most metrics relevant to the EMS Alert system are already tracked in existing reports (rates of surge, ambulance distribution, Diversion, etc.). We will also look at compliance with EMS Alerts, similar to transports against Diversion not permitted by policy.

MESSAGE TO OUR FIELD PROVIDERS

Your flexibility and cooperation as we tackle complex EMS system issues is greatly appreciated. We realize changes like these can be a lot to adapt to, and San Francisco Paramedics and EMT’s are the ones who shoulder the burden of putting these efforts into practice.

Providers at any level, working in any capacity, are welcome to reach out with questions on this new system. For additional information, contact EMS Specialist Ryan Seymour at ryan.seymour@sfgov.org.