Special Seasonal Report

Ambulance Patient Offload Time

Week 39 (09/20/20 – 09/26/20)

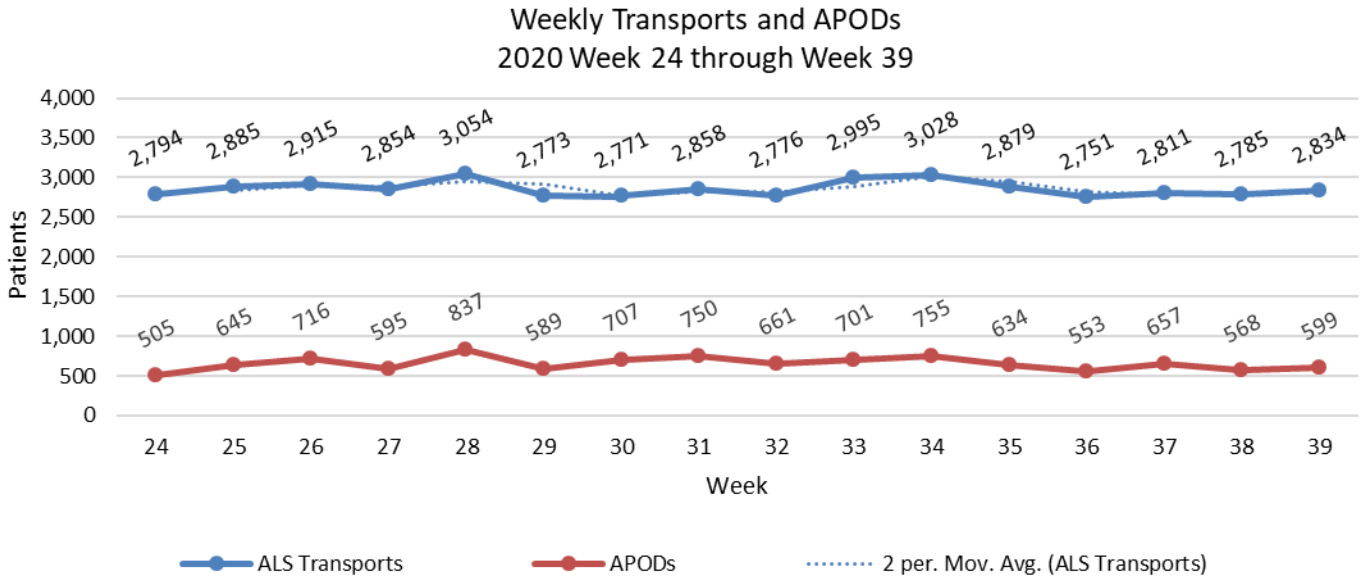
2019-20 Seasonal Report

This report and all current and recent APOT reports can be found online at:
http://www.rivcoems.org/Documents/Reports-Current

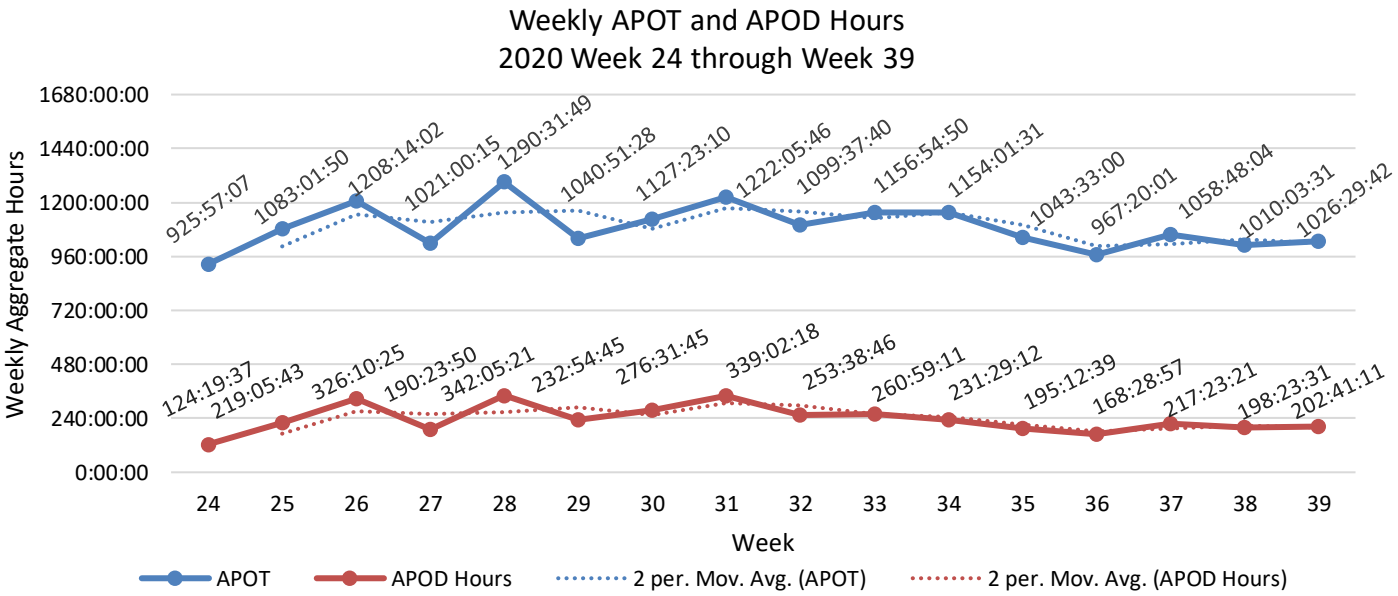
Prepared by Riverside County EMS Agency – October 2, 2020

SPECIAL SEASONAL REPORT

In an effort to monitor seasonal surge in Ambulance Patient Offload Time (APOT), Riverside County EMS Agency is publishing weekly reports. The following charts represent weekly aggregate APOT/APOD data for the past 16 weeks, updated weekly.



- During 2020 Week 39, there were a total of **2,834 transports in Riverside County**— a 1.8% INCREASE from the previous week's 2,785 transports.
- The number of **APODs in Week 39 was 599,** 5.5% ABOVE the previous week's total of 568 APODs.

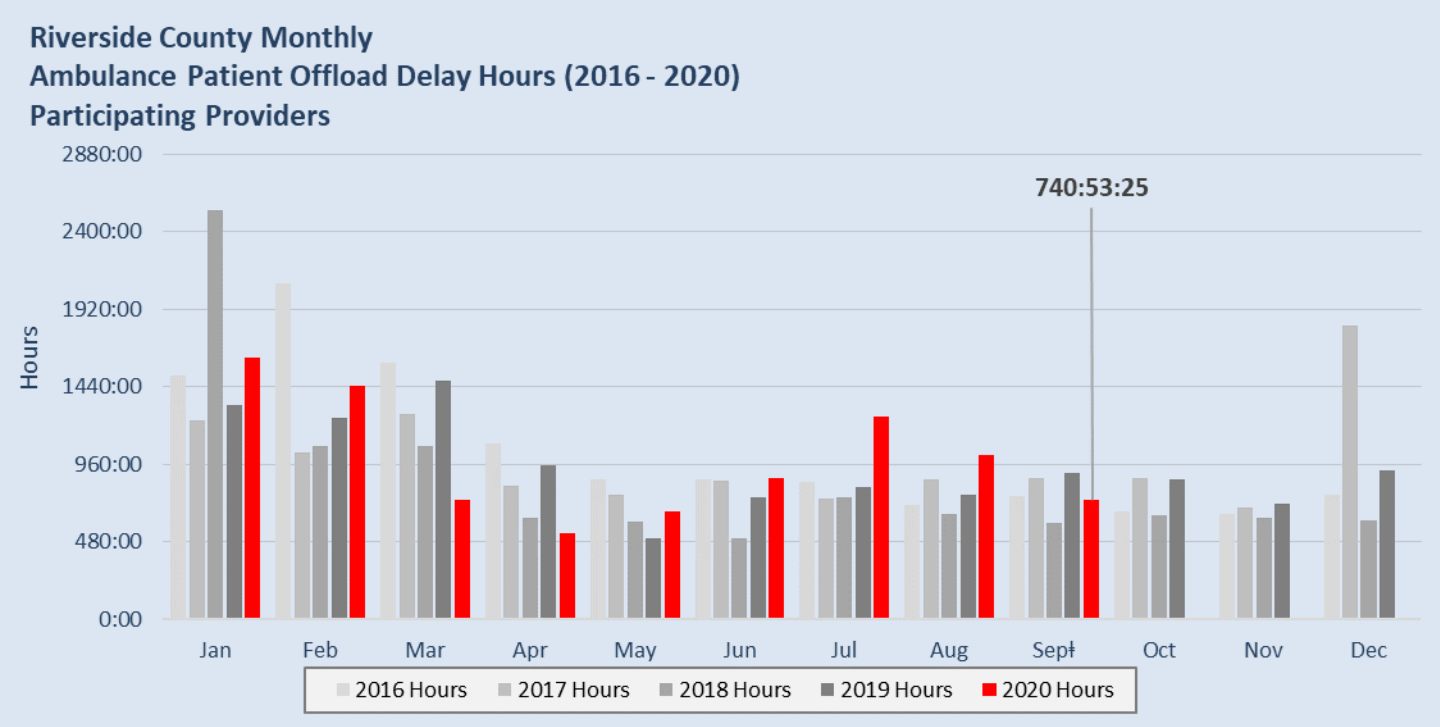


- During 2020 Week 39, **APOT county-wide totaled 1026.5 hours** —1.6% ABOVE the previous week's total of 1010.1 hours.
- County-wide **APOD hours for Week 39 totaled 202.7 hours**, a 2.2% INCREASE from the previous week's total of 198.4 hours.

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD TIME

The data provided illustrates total ambulance patient offload delay time (hh:mm:ss) by month for 2016 through the current Week 39 from hospitals within Riverside County. To qualify for this chart, the duration of offload delay must be greater than 30 minutes, and only the time period after the first 30 minutes is summed.

Beginning January 2017, offload times represented are measured using time of patient arrival at hospital (eTimes.11) until the time of patient transfer (eTimes.12) as represented on the ePCR (electronic patient care report). This represents a different methodology in offload time measurement. *Prior to January 2017, offload times were calculated using CAD times, beginning with the time that dispatch placed the ambulance on bed delay status until the time the ambulance left the hospital.*



**For May of 2016, actual totals may have been slightly higher than are reported due to a 3-day CAD outage.*
***Beginning August 2017, times represented include all participating providers. Prior to August, data included AMR responses only.*
‡Sep 2020 *is a partial month*

APOD AMBULANCE REDIRECTION

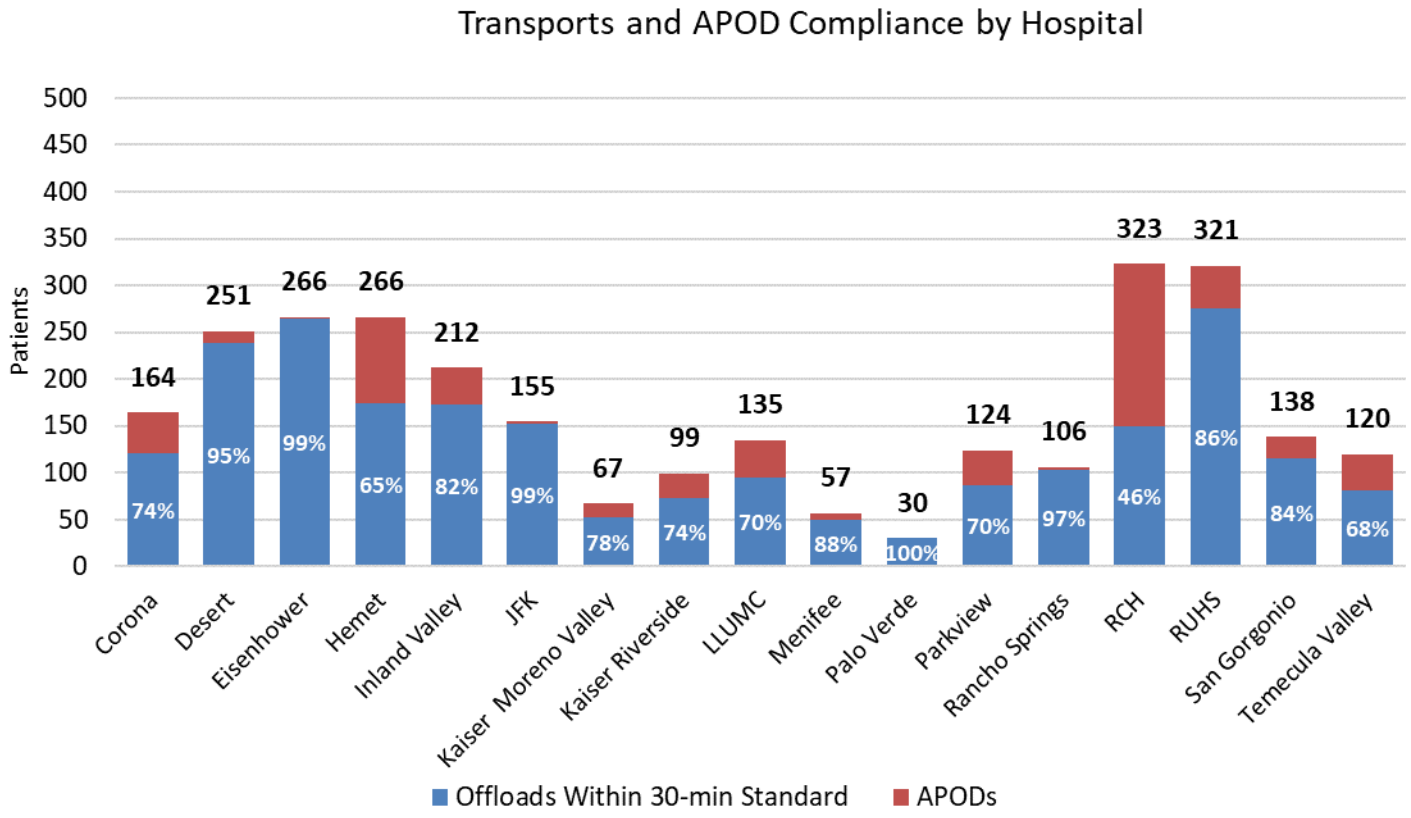
On October 1, 2019, Riverside County EMS Agency activated Policy 6104 (http://www.remsa.us/policy/6104.pdf) to allow redirection of ambulances from hospitals that have extended Ambulance Patient Offload Delay (APOD)--to the closest most appropriate hospital that does not have extended APOD. Extended APOD is a patient remaining on an ambulance gurney for 90 minutes or greater after arrival at a hospital. The table below shows the ambulance diversions that occurred during Week 39.

	Occurrences of APOD Redirection
Corona Regional Medical Center	1
Hemet Valley Medical Center	1
Kaiser Permanente Riverside Medical Center	1
Loma Linda University Medical Center--Murrieta	1
Parkview Community Hospital	2
Riverside Community Hospital	7
Temecula Valley Hospital	2
Grand Total	**15**

AMBULANCE PATIENT OFFLOAD TIME BY HOSPITAL

Key: High | Low/Best

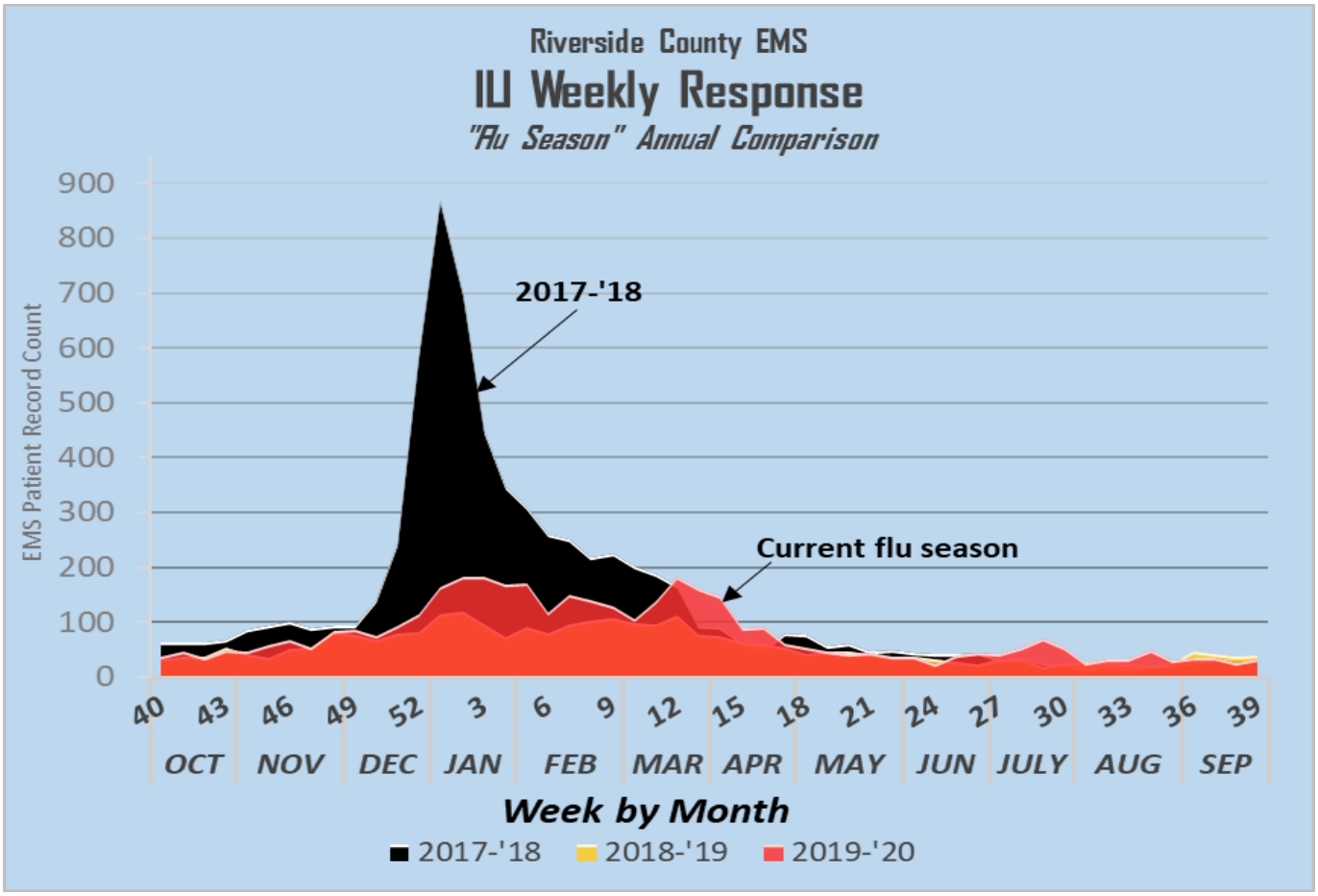
	APOT Snapshot				
	ALS Transports	APOT	APOD Hours	APODs	APOD Compliance
Corona Regional Med Ctr	164	67:26:20	11:01:15	43	73.8%
Desert Regional Med Ctr	251	53:37:20	2:09:56	13	94.8%
Eisenhower Health	266	40:17:40	0:30:56	2	99.2%
Hemet Valley Hospital	266	126:22:54	26:18:01	92	65.4%
Inland Valley Med Ctr	212	76:04:27	14:32:10	39	81.6%
JFK Hospital	155	20:13:18	0:04:43	2	98.7%
Kaiser Hospital Moreno Valley	67	23:25:28	3:01:33	15	77.6%
Kaiser Hospital Riverside	99	43:37:45	11:24:16	26	73.7%
Loma Linda Univ Med Ctr Mur	135	55:19:08	10:17:49	40	70.4%
Menifee Med Ctr	57	16:19:56	1:37:17	7	87.7%
Palo Verde Hospital	**30**	**2:42:05**	**0:00:00**	**0**	**100.0%**
Parkview Community Hospital	124	60:21:54	18:46:56	37	70.2%
Rancho Springs Med Ctr	106	28:34:43	0:23:30	3	97.2%
Riverside Community Hospital	**323**	**206:47:26**	**74:45:57**	**173**	**46.4%**
Riverside University Health System	321	102:17:23	8:07:54	46	85.7%
San Gorgonio Mem Hospital	138	45:15:44	3:21:17	22	84.1%
Temecula Valley Hospital	120	57:46:11	16:17:41	39	67.5%
Totals	**2,834**	**1026:29:42**	**202:41:11**	**599**	**78.9%**



ILI - INFLUENZA-LIKE ILLNESS RESPONSE

While influenza viruses are detected year-round, they are most common during fall and winter. Increases in influenza-like-illness (ILI) generally begin in October and peak sometime between December and February (https://www.cdc.gov/flu/about/season/flu-season.htm).

Hospital Emergency Departments (EDs) generally experience an increase in volume during flu season which, in turn, can impact Ambulance Patient Offload Time. The purpose of the Riverside County EMS system ILI (Influenza-like Illness) reporting is to improve tracking of influenza-related activity and facilitate EMS preparedness in the event of a significant surge event, similar or greater than that observed during the 2017-18 flu season.



Week 40 (~October 1st) is defined by the Center for Disease Control (CDC) as the expected start of increasing influenza activity, or "flu season". Riverside County EMS Agency monitors influenza-like illness (ILI) year-round for better detection of seasonal or abnormal surges which can impact EMS utilization.

The ILI trigger evaluates electronic patient report (ePCR) data using the following methodology:

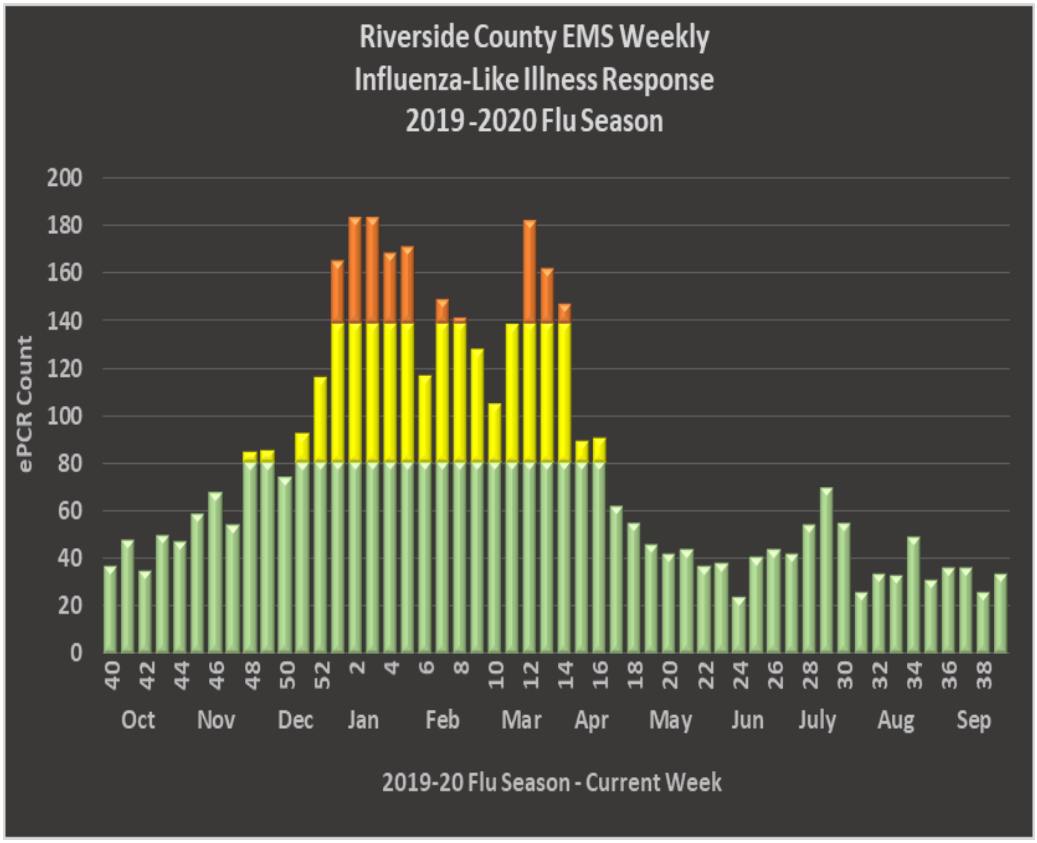
1. Filters primary or secondary impression of code J11 (Influenza due to unidentified influenza virus)
   OR
2. A primary / secondary impression code J80, J98.09 (Acute respiratory distress syndrome, Respiratory disorder unspecified) with a match in the narrative for ILI, influenza like illness, Flu, Flu-, Flu\., or influenza
   OR
3. Any incident with a match in the narrative for ILI, influenza like illness, Flu, Flu-, Flu\., or influenza.

ILI - INFLUENZA-LIKE ILLNESS RESPONSE *(CONT.)*

EMS ILI response two standard deviations above the calculated baseline average during non-peak flu seasons is considered a surge in flu activity. Surges are identified as color levels adapted from the *CDPH Standards and Guidelines for Healthcare Surge During Emergencies* (actual response status for the EMS system may differ):

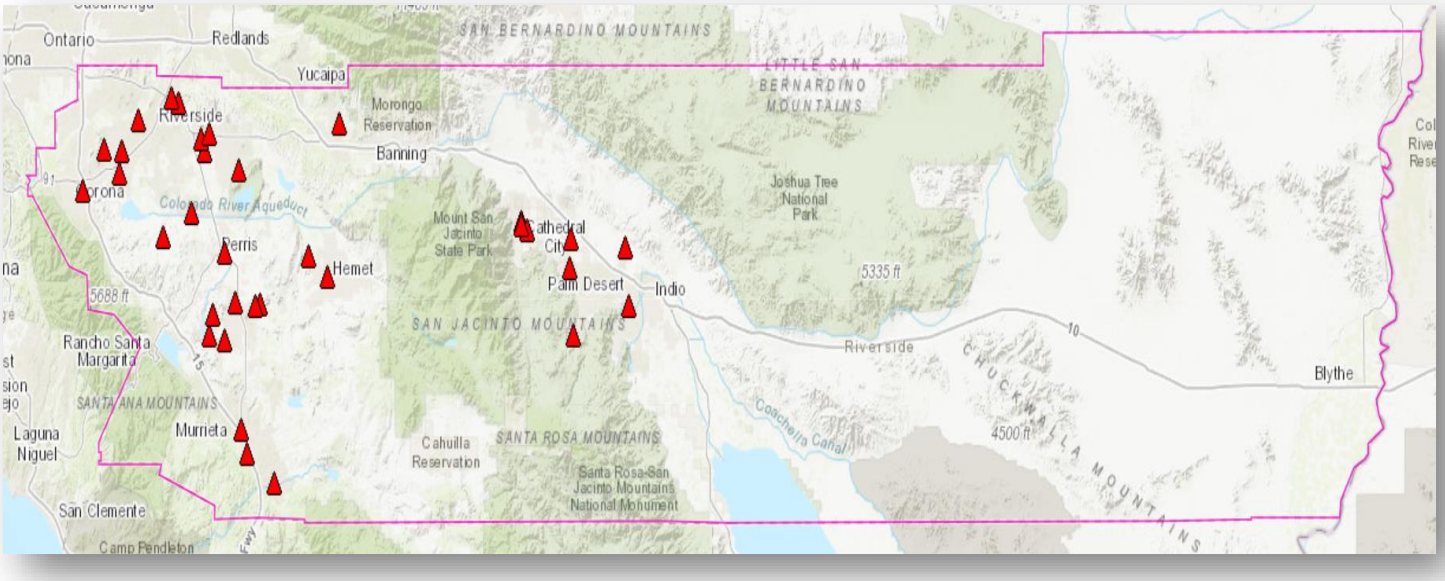
https://www.cdph.ca.gov/Programs/EPO/CDPH%20Document%20Library/FinalEOM712011.pdf

During Week 39, EMS ILI response was at BASELINE compared to non-peak flu season activity levels (weeks 13-39).



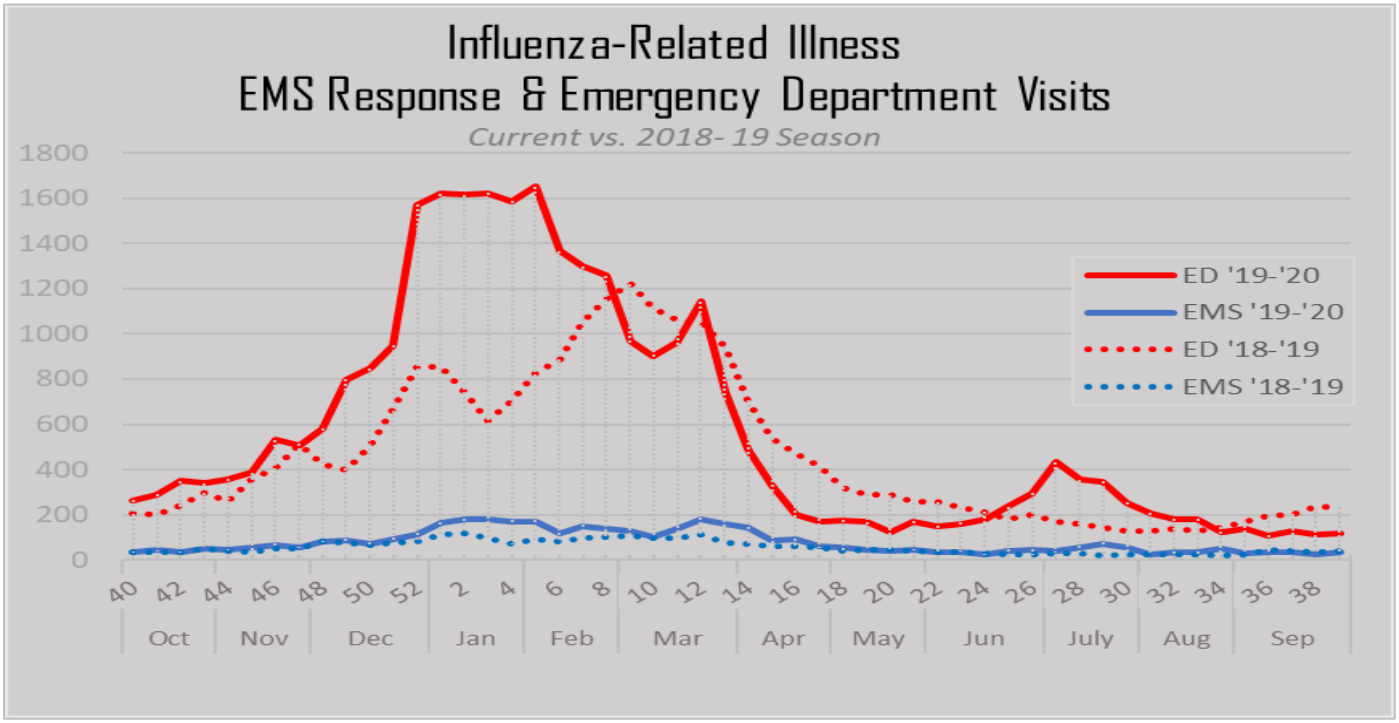
PUBLIC HEALTH AND MEDICAL SYSTEM STATUS	
Green	The Public Health and Medical System is in usual day-to-day status. Situation resolved; no assistance is required.
Yellow	The Public Health and Medical System is managing the incident using local resources or existing agreements. No assistance is required.
Orange	The Public Health and Medical System requires assistance from within the local jurisdiction/Operational Area.
Red	The Public Health and Medical System requires assistance from outside the local jurisdiction/Operational Area.
Black	The Public Health and Medical System requires significant assistance from outside the local jurisdiction/Operational Area.
Grey	Unknown.

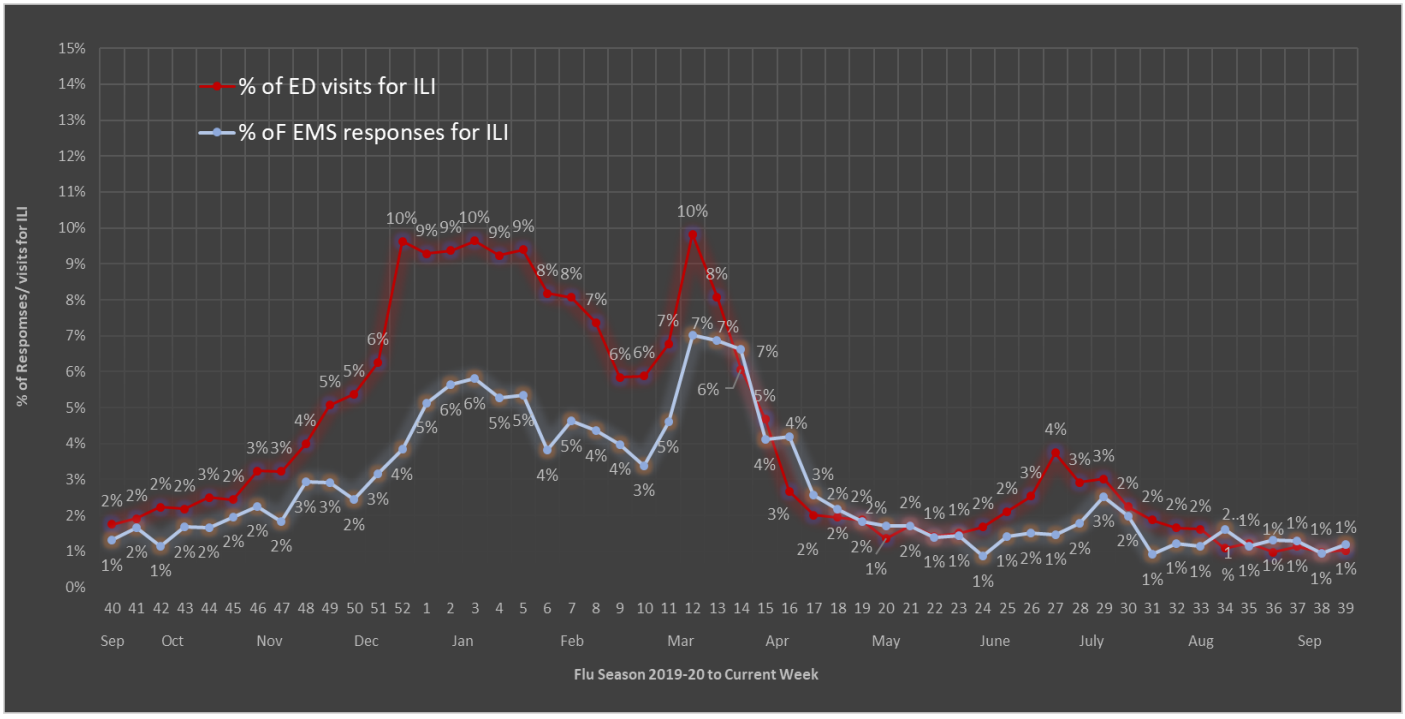
ILI-related EMS response in Riverside County, ePCR distribution map: Week 39



RIVERSIDE COUNTY PUBLIC HEALTH INFLUENZA-LIKE ILLNESS DATA

Riverside County Public Health Department – DOPH collects Emergency Department ILI activity data from the Center for Disease Control's (CDC's) *Early Notification of Community-based Epidemics (ESSENCE)* system as part of the National Syndromic Surveillance Program (NSSP). As of November 2018, 14 of 17 Riverside County hospitals participate in ESSENCE. The graph below provides a comparison between Riverside County's EMS ILI responses and Emergency Department (ED) ILI visits for the current year compared to the previous year.





EMS ILI responses and ED ILI visits as a percentage of their respective total volume (adapted from CDC methodology)

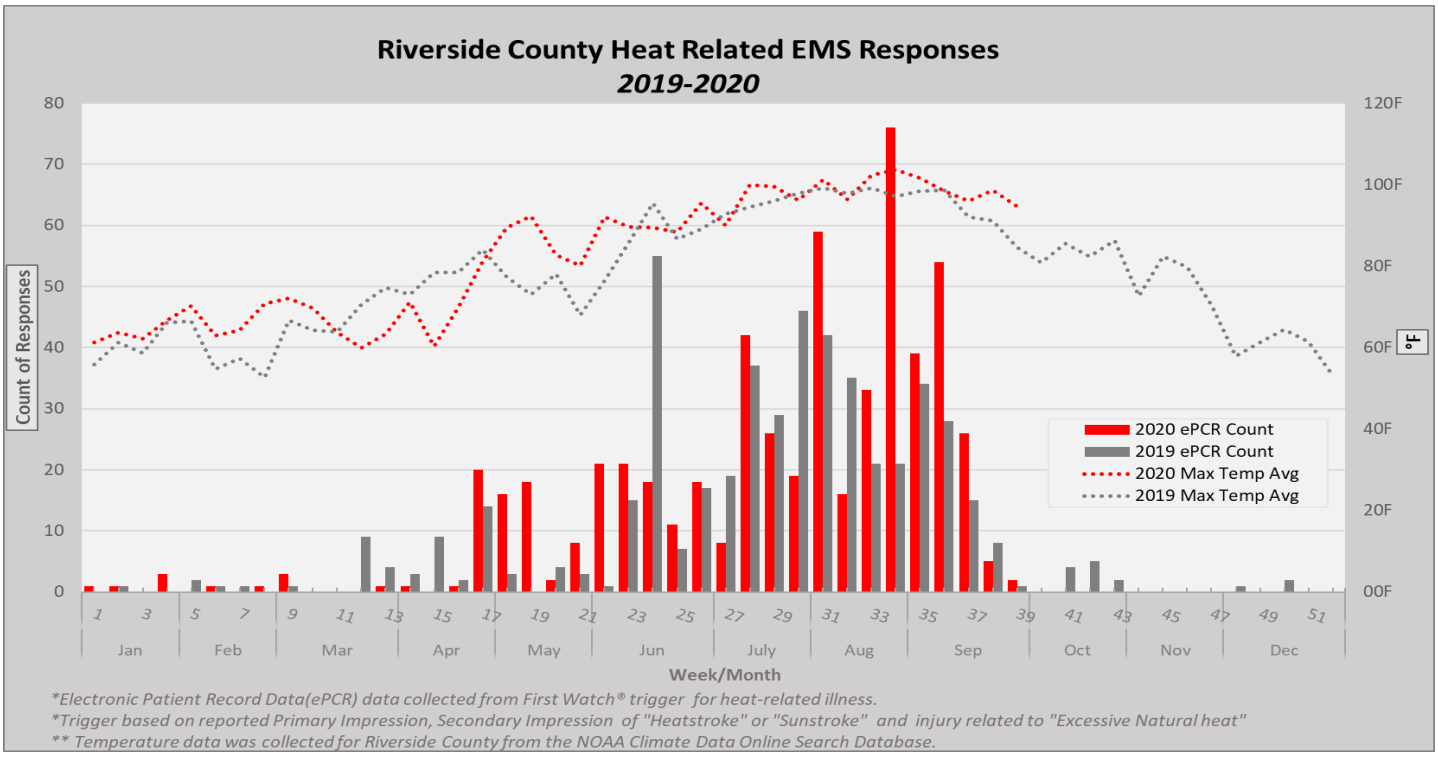
HEAT-RELATED RESPONSE

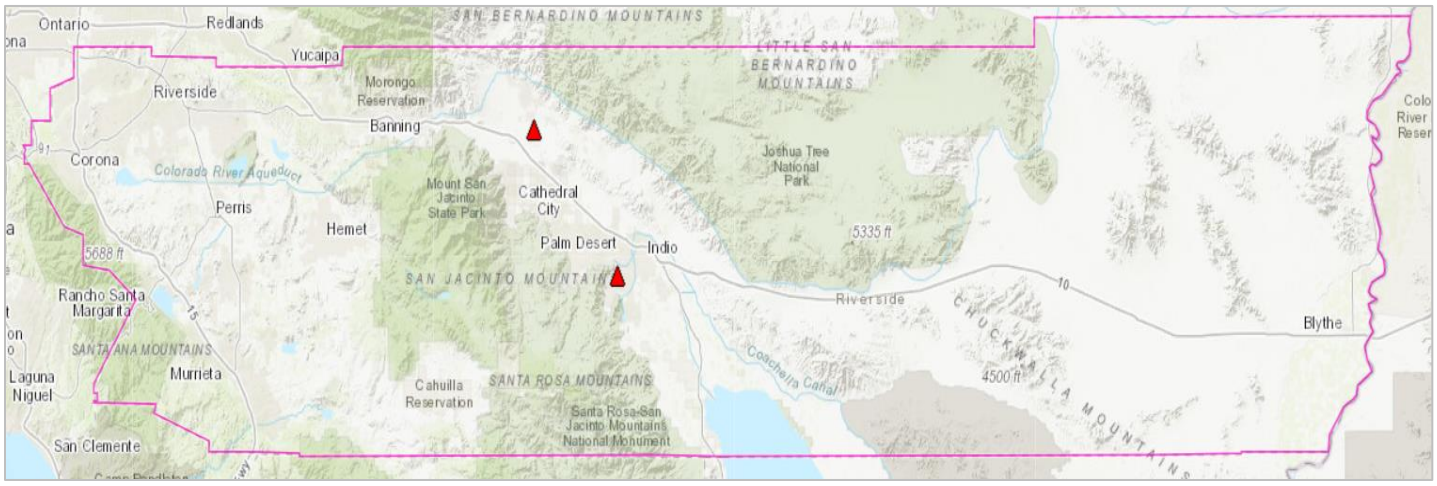
Excessive heat exposure kills more people than any other weather-related phenomenon, aggravates chronic diseases, and causes direct heat illness[7,8,9,10]. Relationships between extreme heat and health can be identified through increased hospitalizations, emergency department visits and demand for emergency medical services (EMS). The purpose of the REMSA Environmental Heat trigger is to analyze EMS demand associated with extreme heat, using response data from electronic patient care reports (ePCRs).

The HEAT trigger evaluates ePCRs using the following methodology:

1. Primary or Secondary Impression as "Heatstroke" or "Sunstroke"
   OR
2. Injury related to "Excessive Natural Heat".

The graph below illustrates total EMS heat-related responses by week from 2019 through the current Week 39 and compares them against maximum temperature averages across Riverside County for the same week. Climate data is obtained from the National Climate Data Center, National Oceanic and Atmospheric Administration - NOAA.





Heat-related EMS response in Riverside County, ePCR distribution map: Week 39

APOT AND APOD DEFINITIONS

Ambulance Patient Offload Time (APOT)
The Time interval between the arrival of an ambulance patient at an ED and the time the patient is transferred to the ED gurney, bed, chair, or other acceptable location and the emergency department assumes the responsibility for care of the patient.[1] The Clock Start (eTimes.11) is the time of patient arrival at the destination (hospital), and the Clock Stop (eTimes.12) is time the care of the patient is transferred.[2] REMSA obtains both times from the ePCR.

APOT -1 Specifications
Criteria: All 911 transports to a hospital emergency department for which the patient arrival and transfer dates and times are "logical and present."[3]
Method: Aggregate of all transfer times and reported at the 90th percentile (the value for which 90% of the times are shorter).

APOD Compliance
Frequency comparison between the total number of transports and those resulting in APOD.

Ambulance Patient Offload Delay (APOD)
Any delay in ambulance patient offload time (APOT) that exceeds the local ambulance patient offload time standard of 25/30 minutes (Riverside County EMS Agency applies a 30-minute standard). This shall also be synonymous with "non-standard patient offload time" as referenced in the Health and Safety Code.[4] If the transfer of care and patient offloading from the ambulance gurney exceeds the 30-minute standard, it will be documented and tracked as APOD.[5]

Data Definitions
Data in this report includes all transports to the 17 hospitals monitored by REMSA in the respective month relative to the date and time the incident originates (eTimes.03--Dispatch Notified Date/Time). *For example, if an incident originates on June 30, and the patient is subsequently transferred to the care of an emergency department on July 1, that incident will be included in the month of June.*

Canceled calls, calls for which both arrival and transfer times are not present, and calls with erroneous/negative offload times are excluded. Certain incidents with offload times exceeding six hours and 12 hours are verified for accuracy, and incidents are excluded if the timeline cannot be validated.

Data for this report has been collected from ePCRs (electronic patient care reports) from FirstWatch® and are available after they have been completed by the provider. There is, therefore, an inherent latency to the availability of these records. Due to this latency, subsequent reports may feature higher aggregate numbers than earlier reports for the same reporting period. The difference is insignificant (averaging less than .07%) and does not impact overall compliance.

-For inquiries, please contact EMS Administrator, TDouville@rivco.org
-Current report prepared by Sudha Mahesh & Catherine Borna Farrokhi, Riverside County EMS Agency
-ESSENCE Emergency Department data compiled by Rick Lopez, Riverside County Department of Public Health

[1] Health and Safety Code Division 2.5, Chapter 3, Article 1, Section 1797.120(b)
[2] Ambulance Patient Offload Time (APOT) Standardized Methods for Data Collection and Reporting, approved by EMS Commission 12/14/2016.
[3] Ibid., APOT-1 Specifications.
[4] REMSA Policy 9101.6. http://www.remsa.us/policy/9101.pdf
[5] REMSA Policy 4204, Transfer of Patient Care. http://www.remsa.us/policy/4204.pdf
[7] Calkins MM, Isaksen TB, Stubbs BA, Yost MG, Fenske RA (2016). Impacts of extreme heat on emergency medical service calls in King County, Washington, 2007-2012:relative risk and time series analyses of basic and advanced life support. Environ Health. doi: 10.1186/s12940-016-0109-0
[8] Sheridan SC, Kalkstein AM, Kalkstein LS (2009). Trends in heat-related mortality in the United States, 1975–2004. Natural Hazards 50:1, 145-160
[9] Guo Y, Gasparrini A, Armstrong BG (2017). Heat Wave and Mortality: A Multicountry, Multicommunity Study. Environ Health Perspect. 2017;125(8):087006. doi:10.1289/EHP1026
[10] CDC, Climate and Health Program. 2010. https://www.cdc.gov/climateandhealth/effects/default.htm