SUMMARY REPORT

EMERGENCY MEDICAL DISPATCH

FISCAL YEAR 2018-19

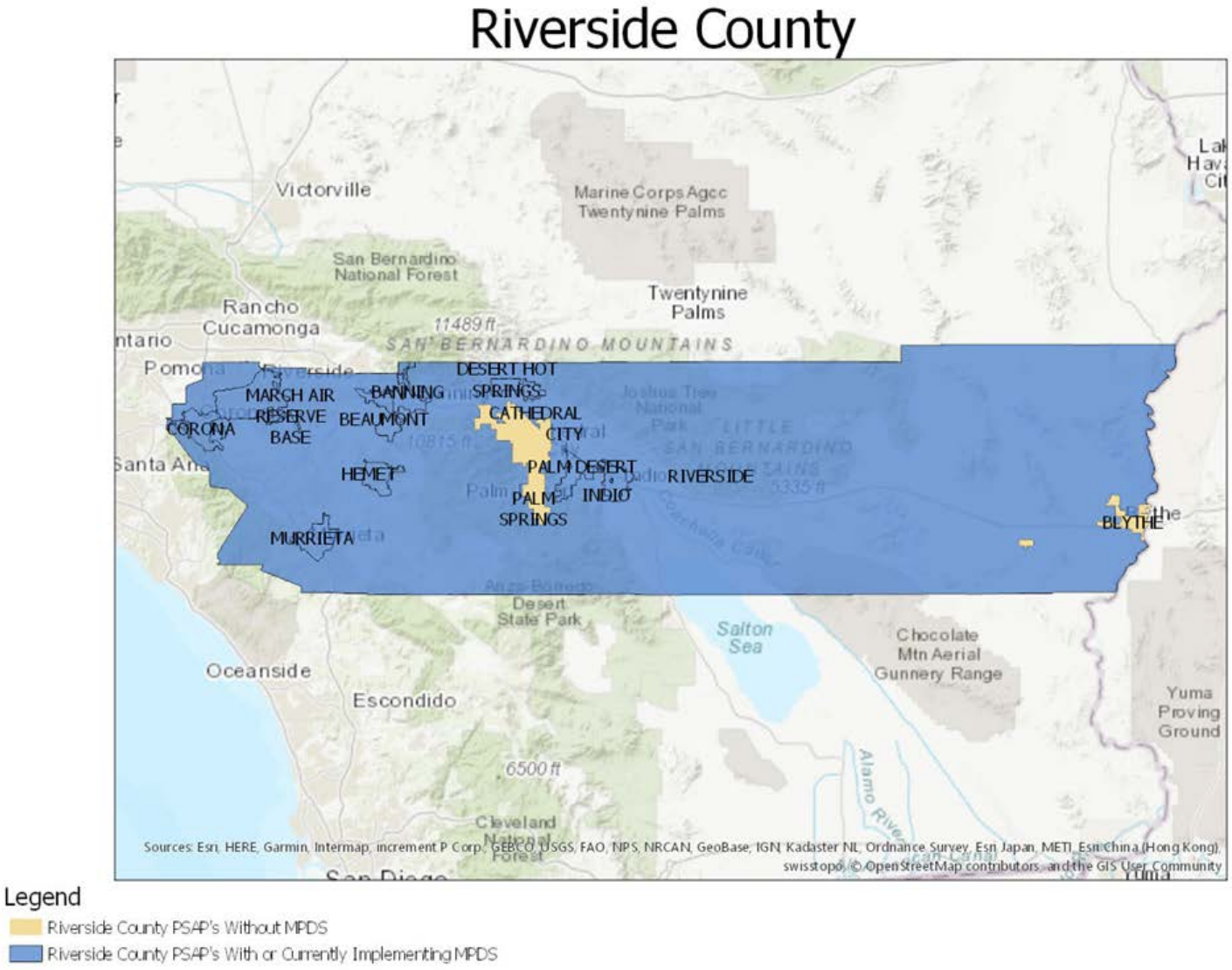
JANUARY 29TH, 2020

PREPARED BY SEAN HAKAM FOR RIVERSIDE COUNTY EMS AGENCY, EMERGENCY MANAGEMENT DEPARTMENT

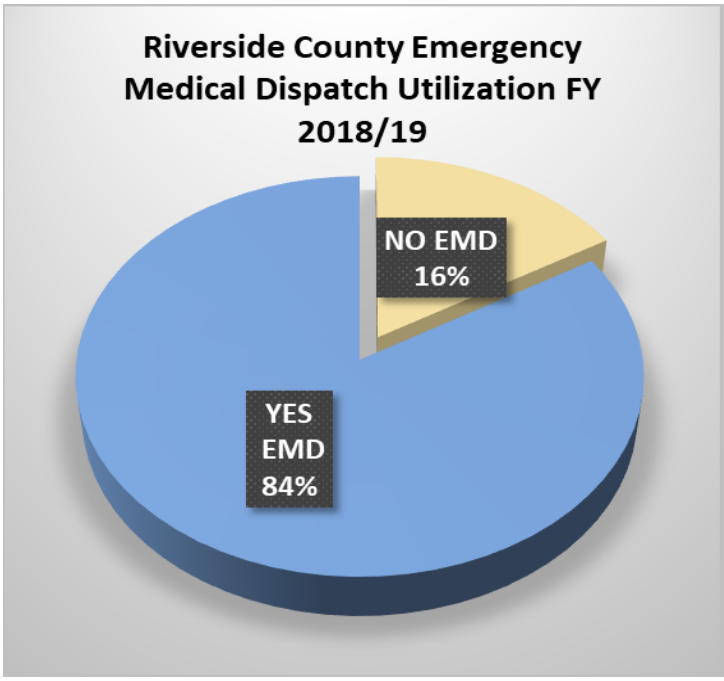
EMERGENCY MEDICAL DISPATCH SUMMARY

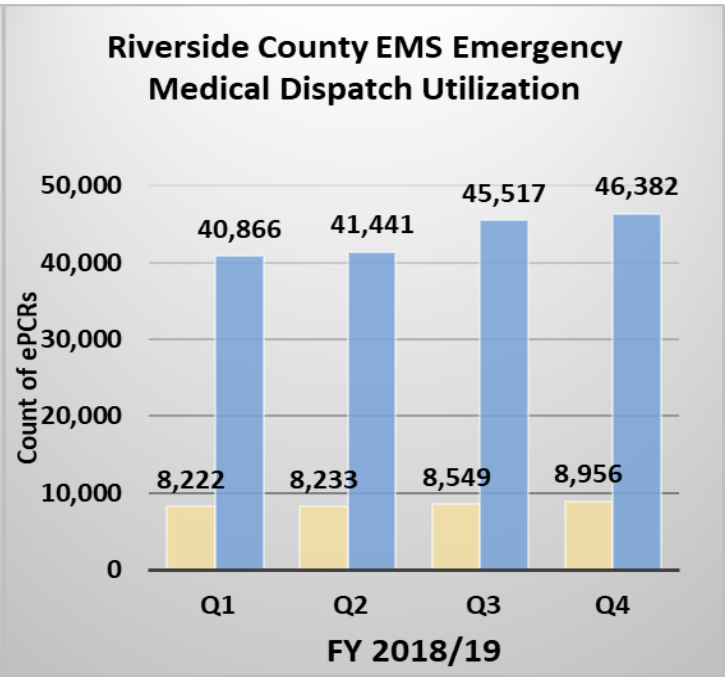
The Medical Priority Dispatch System (MPDS) is utilized by Public Safety Answering Points to assist call-takers in rapidly narrowing down a caller's medical or trauma condition, dispatching emergency services, and providing standardized medical instructions to callers before help arrives. The following is the Riverside County Emergency Medical Dispatch (EMD) Response Summary Report for the 2018-19 fiscal year (FY). This data was collected by responding agencies between July 1st, 2018 through June 30th, 2019.

The majority of Riverside County is covered by MPDS through the EMD program.



The following data is shown to reflect ***EMD utilization*** in Riverside County for FY 2018-19. Electronic patient records (eRecord.01) were collected and grouped according to EMD participating and non-participating agencies, respectively. *To reduce duplication, transport agency data was excluded from this analysis*.

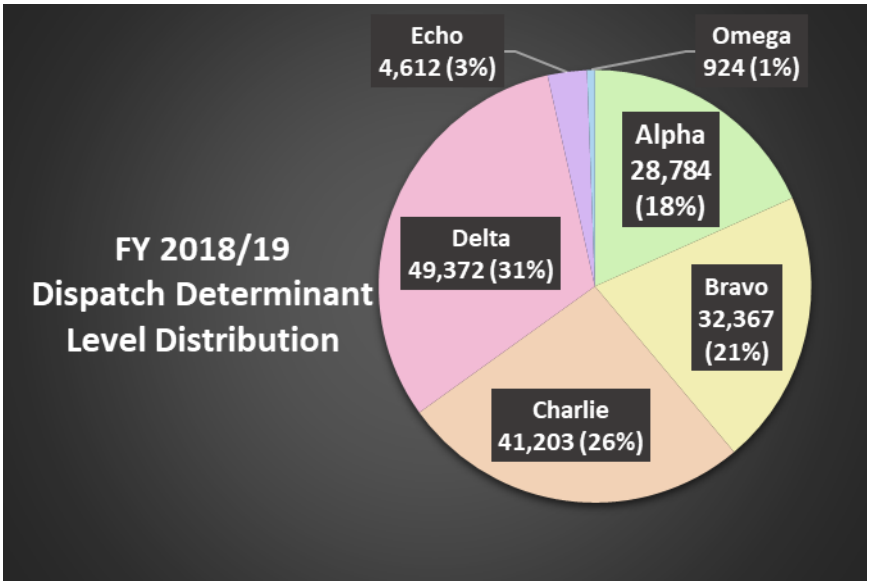




The table below shows the *rate of EMD integration* with EMS Electronic Patient Care Reports (ePCRs) for all 911 provider agencies in Riverside County. A count of *eRecord.01*, a number generated with each ePCR created, was used to determine the theoretical integration of EMD by responding agency. *EMD Integration with ePCR* is a total count of eDispatch.03, the EMD card and dispatch determinant level which is used to determine raw integration numbers of EMD by the responding agency. *EMD Card Missing* is defined here as an ePCR having a blank eDispatch.03, or no recorded EMD card and dispatch determinant level. *Percentage of EMD Integration* was calculated by dividing the total ePCR count (eRecord.01) by the EMD Integration count (eDispatch.03).

All 911 Agencies	ePCR Count *(eRecord.01)*	EMD Integration w/ ePCR *(eDispatch.03)*	EMD Cards Missing from ePCR	Percentage of EMD Integration to ePCR *(Actual/ePCR Total)*	911 Agency With EMD Call Center
Transport					
AMR - Desert Cities	29,098	1,875	27,223	6.4%	No
AMR - Hemet	35,686	8,925	26,761	25.0%	No
AMR - Riverside	110,186	27,702	82,484	25.1%	No
Total EMD Integration	**174,970**	**38,502**	**136,468**	**22.0%**	
911 Responders (Non-EMD)					
Cathedral City Fire Department	4,520	4	4,516	**0.1%**	No
Hemet Fire Department	14,141		14,141	**0.0%**	No
Murrieta Fire Department	7,182		7,182	**0.0%**	No
Palm Springs Fire Department	8,117		8,117	**0.0%**	No
Total EMD Integration	**33,960**	**4**	**33,956**	**0.0%**	
EMD 911 Responders					
Calimesa Fire Department	**937**	**759**	**178**	**81.0%**	**Yes**
Corona Fire Department	**7,232**	**3**	**7,229**	**0.0%**	**Yes**
Idyllwild Fire Protection District	**632**	**3**	**629**	**0.5%**	**Yes**
March Air Reserve Base Fire Department	**64**		**64**	**0.0%**	**Yes**
Morongo Fire Department	**969**	**795**	**174**	**82.0%**	**Yes**
Pechanga Fire Department	**1,227**	**1,063**	**164**	**86.6%**	**Yes**
Riverside City Fire Department	**29,044**		**29,044**	**0.0%**	**Yes**
Riverside County Fire Department	**133,757**	**115,842**	**17,915**	**86.6%**	**Yes**
Soboba Fire Department	**344**	**292**	**52**	**84.9%**	**Yes**
Total EMD Integration	**174,206**	**118,757**	**55,449**	**68.2%**	
Total EMD Integration for Riverside County	**383,136**	**157,263**	**225,873**	**41.05%**	

The Medical Priority Dispatch System (MPDS) allows rapid assignment of call type using determinant levels (Alpha, Bravo, Charlie, Delta, Echo, Omega) which can identify response time and type of emergency services required (i.e. ALS vs. BLS). While Riverside County does not rely on EMD to guide response type and time, assigned determinant codes do define modes of response for emergency vehicles. The FY 2018 distribution of determinant levels was analyzed using ePCR data. This data reflects determinant levels for 911 responding agencies with ePCR integration of dispatch data. While most Riverside County 911 responding agencies utilize EMD, less than half currently have ePCR integration.



Key Performance Time Intervals by Dispatch Determinant Level

In Riverside County, Determinant Codes do not govern response times; however, determinant levels help describe how rapidly care is needed, and providers may intrinsically respond more rapidly to higher acuity calls. In an effort to review potential differences in response time based on determinant levels, an aggregate analysis of key performance time intervals is described below. Less than half of the county's EMD-based calls have been integrated with the ePCRs analyzed, so *these values may not represent average response times for individual agencies.*

Total Prehospital Time by Dispatch Determinant Level

Total Prehospital Time (eTimes.01 to eTimes.11) begins when a 911 call is placed and ends when the responding unit arrives at the hospital with the patient. This is a key performance interval because it measures all parts of the prehospital system and how they interact with each other to deliver a patient to definitive care.

Total Prehospital Time (eTimes.01 to eTimes.11)		Dispatch Determinant Level Not Recorded	OMEGA	ALPHA	BRAVO	CHARLIE	DELTA	ECHO
N	Total	225,874	924	28,784	32,367	41,204	49,372	4,612
	Valid	107,402	238	9,116	7,128	14,766	17,763	1,487
	Invalid	2,512	4	79	55	67	76	12
	Missing	115,960	682	19,589	25,184	26,371	31,533	3,113
Mean		37.8	40.0	42.1	39.4	38.1	39.0	38.8
Median		35.7	39.2	40.0	37.5	36.5	37.4	37.5
Standard Deviation		12.8	11.8	13.0	12.1	11.4	11.1	11.1
90th Percentile		54.6	57.4	59.8	55.5	53.1	53.4	54.1
95% Confidence Interval for Mean		(37.73 - 37.88)	(38.52 - 41.54)	(41.82 - 42.36)	(39.15 - 39.71)	(37.87 - 38.24)	(38.80 - 39.13)	(38.19 - 39.32)

Total Response Time by Dispatch Determinant Level

Total Response Time (eTimes.01 to eTimes.07) begins when a 911 call is placed and ends when the responding unit arrives at the patient's side. This is a key performance interval because it measures the experience of the patient accessing the 911 system.

Total Response Time (eTimes.01 to eTimes.07)		Dispatch Determinant Level Not Recorded	OMEGA	ALPHA	BRAVO	CHARLIE	DELTA	ECHO
N	Total	225,874	924	28,784	32,367	41,204	49,372	4,612
	Valid	159,674	623	20,205	13,618	29,830	36,520	3,451
	Invalid	4,033	14	324	257	442	492	50
	Missing	62,167	287	8,255	18,492	10,932	12,360	1,111
Mean		10.0	13.3	13.9	11.6	11.1	10.9	10.1
Median		8.6	12.3	12.5	10.7	10.4	10.1	9.4
Standard Deviation		5.7	5.3	5.9	4.4	4.0	4.1	3.9
90th Percentile		16.1	19.0	20.5	16.7	15.6	15.5	14.6
95% Confidence Interval for Mean		(9.92 - 9.97)	(12.92 - 13.75)	(13.79 - 13.95)	(11.50 - 11.65)	(11.04 - 11.13)	(10.87 - 10.95)	(10.01 - 10.27)

Unit Response Time by Dispatch Determinant Level

Unit Response Time (eTimes.03 to eTimes.06) begins when a responding unit receives the call or page from the dispatcher and ends when the responding unit arrives on the scene. This is a key performance interval because it measures the experience of the unit responding to the 911 emergency medical call.

Unit Response Time (eTimes.03 to eTimes.06)		Dispatch Determinant Level Not Recorded	OMEGA	ALPHA	BRAVO	CHARLIE	DELTA	ECHO
N	Total	225,874	924	28,784	32,367	41,204	49,372	4,612
	Valid	159,691	622	20,197	13,615	29,820	36,517	3,448
	Invalid	55,029	245	7,535	16,464	10,178	11,241	853
	Missing	11,154	57	1,052	2,288	1,206	1,614	311
Mean		7.3	9.1	9.5	7.9	7.5	7.6	7.1
Median		6.2	8.2	8.5	7.1	6.8	6.8	6.3
Standard Deviation		4.5	4.4	4.7	4.0	3.8	3.8	3.5
90th Percentile		12.4	14.5	15.4	12.6	11.9	11.9	11.3
95% Confidence Interval for Mean		(7.28 - 7.33)	(8.72- 9.41)	(9.41 - 9.54)	(7.80 - 7.93)	(7.44 - 7.53)	(7.52 - 7.59)	(6.95 - 7.18)

References

Culley, Linda L. et al. (1994). **Increasing the efficiency of emergency medical services by using criteria based dispatch. Annals of Emergency Medicine**. Volume 24, Issue 5, 867 – 872.

https://www.emergencydispatch.org/articles/princdocpull03.pdf

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