SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

119

FROM: Department of Public Health

SUBMITTAL DATE:
May 20, 2015

SUBJECT: Report on ambulance patient offload delay (APOD) occurring at Riverside County hospitals.

RECOMMENDED MOTION: That the Board of Supervisors:
1. Receive and file the report on ambulance patient offload delay (APOD) occurring at Riverside County hospitals.

BACKGROUND:
Summary
Ambulance patient offload delay (APOD) occurs when the hospital to which the ambulance transported the patient does not assume care and transfer the patient to a hospital bed within 30 minutes of arrival at the emergency department (ED). The patient remains on the ambulance gurney under the care of ambulance personnel for extended periods of time. These patients along with the ambulance crews that provided prehospital care and transportation to the ED are lined up in hallways or held in areas adjacent to the ED until a bed becomes available and/or hospital staff assumes care of the patient.

BB:rp

Susan D. Harrington, Director
Department of Public Health

Departmental Concurrence

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost:	POLICY/CONSENT (per Exec. Office)
COST	$ 0	$ 0	$ 0	$ 0	Consent ☐ Policy ☐
NET COUNTY COST	$	$	$	$	

SOURCE OF FUNDS: NA

Budget Adjustment: NA

For Fiscal Year: 14/15

C.E.O. RECOMMENDATION: APPROVE

BY: *Donna Shaw*

County Executive Office Signature

MINUTES OF THE BOARD OF SUPERVISORS

Positions Added ☐
Change Order ☐
4/5 Vote
A-30 ☐ ☐

Prev. Agn. Ref.:   **District: All**   **Agenda Number:**

2-9

BACKGROUND:
Summary (continued)

APOD has links to patient safety, timeliness of patient care, patient and provider satisfaction and ED throughput and efficiency. When ambulances are delayed in the ED, they are out of service, thereby decreasing the Emergency Medical Services (EMS) system's ability to provide lifesaving support to the community. Ambulance providers have continuously added resources to compensate for the operational impact of APOD. At times when the EMS system is experiencing high 9-1-1 call volume, commensurate increases in APOD negatively impact ambulance response times, timely transport of patients to definitive care and scene times for first responders. In 2014 the County contracted emergency ambulance provider, American Medical Response (AMR), transported 117,896 patients to local EDs. 29,354 or 25% of those patients remained on the ambulance gurney for more than 30 minutes. This resulted in the accumulation of over 14,000 hours of APOD by AMR Countywide. January of 2015 trended even higher with record high APOD occurrences and cumulative hours. APOD in February through April have come down from January but remain above the previous four year trend. This remains true when controls are applied for year to date 2015 growth in ambulance transport volume. It should be noted that many area hospitals are reporting increased ED visits over established historical year over year growth trends. Patients transported by ambulance account for approximately 22% of total ED patient visits countywide.

Data provided by AMR to Riverside County EMS Agency (REMSA) shows varying degrees of APOD at most Hospitals in Riverside County. Notable positive exceptions are the Desert Zone hospitals (Desert Regional, Eisenhower, John F. Kennedy and Palo Verde) who have little occurrence of APOD. The Northwest Zone and Hemet/San Jacinto Zone hospitals have the greatest number of APOD occurrences, cumulative hours of APOD and the greatest number of extended APOD (defined as 90 minutes or more). Cases of APOD up to eight (8) hours have been investigated by the REMSA. Attached is the REMSA APOD report. The data tables on pages five and six provide a comprehensive overview of hospital and system APOD in 2014 and January through April 2015.

Factors Contributing to APOD

Ambulance patient offload delays are a concern in the healthcare community throughout California and Nation. In a national study involving 200 cities, the national average for handing off ambulance patients more than doubled from 20 minutes to over 45 minutes between 2006 and 2012, resulting in the loss of nearly 5 million hours of EMS system productivity. APOD is linked to the larger healthcare issues of ED overcrowding, ED patient boarding and hospital patient throughput. Factors identified by the healthcare community include:

- Lack of hospital beds
- Nurse to patient ratios
- Hospital regulations limiting areas of care
- Inefficient internal bed management at hospitals
- Increasingly complex medical conditions
- Dramatically increasing demand for mental health care placed on the hospitals
- Lack of access to primary care
- Hospital physician, nurse, laboratory and specialist staffing shortages
- Decreasing hospital reimbursement
- Physical limitations and regulatory complexity of increasing hospital size
- Increasing difficulty in placement of patients for follow-up care

The viewpoint of hospitals is that these challenges lead to use of the ED as the safety net for the healthcare system. ED beds are full, including admitted patients, and the ED cannot free beds and staff to accept new patients arriving by ambulance. A comprehensive discussion, analysis and mitigation strategies are contained in the "Toolkit to Reduce Ambulance Patient Offload Delays in the Emergency Department: Building Strategies for California Hospitals and Local Emergency Services Agencies". The toolkit can be accessed on the REMSA website at rivcoems.org.

APOD Monitoring and Improvement Activities

REMSA has been collecting data and generating reports on APOD since 2005. REMSA has established standardized nomenclature and performance metrics for each hospital and the EMS system as shown in the attached APOD report. These reports and the occurrence of APOD is reviewed and discussed with all hospitals and EMS system participants quarterly in multiple venues including the Emergency Medical Care Committee (EMCC), Prehospital Medical Advisory Committee (PMAC), EMS Zone Meetings and at the Hospital Association of Southern California (HASC) Inland Empire Regional Meetings. Hospital CEOs that experience high APOD receive letters from REMSA with detailed reports on their individual hospital performance. APOD reports are also posted on the REMSA website at rivcoems.org. In addition to retrospective reporting and analysis, the REMSA duty officers monitor APOD daily in conjunction with AMR and area hospitals. Many hospitals have collaborated effectively with REMSA and system partners resulting in improved performance for offloading ambulance patients. There remain a few hospitals that continue to have outlier cases of greatly extended APOD, periods of multiple extended APOD and poor compliance with the 30 minute patient offload standard.

As part of the EMS System Evaluation completed by The Abaris Group, an EMS System Strategic Plan goal was developed to focus on decreasing APOD. REMSA in cooperation with the Inland Counties EMS Agency (ICEMA) established a regional APOD workgroup to develop strategies to decrease the occurrence of APOD at Inland Empire hospitals. The workgroup is a regional collaboration that includes REMSA, ICEMA, HASC, selected hospital CEOs, Fire Chiefs, ED physicians, Chief Nursing Officers (CNO), American Medical Response (AMR) and other affected ambulance providers. The workgroup developed an APOD redirection pilot program that was implemented May 1, 2015. The redirection pilot program establishes operational criteria whereby ambulances are temporarily diverted away from hospitals that have extended APOD to the next closest appropriate hospital that does not have extended APOD. The pilot project is a first step in what will be a series of activities to decrease the occurrence of APOD at Inland Empire hospitals. While the pilot project is in the early phases, most hospitals appear to be implementing APOD reduction strategies and preliminary data is trending toward positive improvement in occurrence and duration of extended APOD (90 minutes or greater) overall. REMSA will continue to generate reports on APOD as well as the results of improvement initiatives.

Impact on Citizens and Businesses
The citizens of Riverside County require the life-saving services supplied by an efficient EMS system. Continued monitoring, reporting and improvement activities are required to mitigate the impacts of APOD that degrade the efficiency of the EMS system.
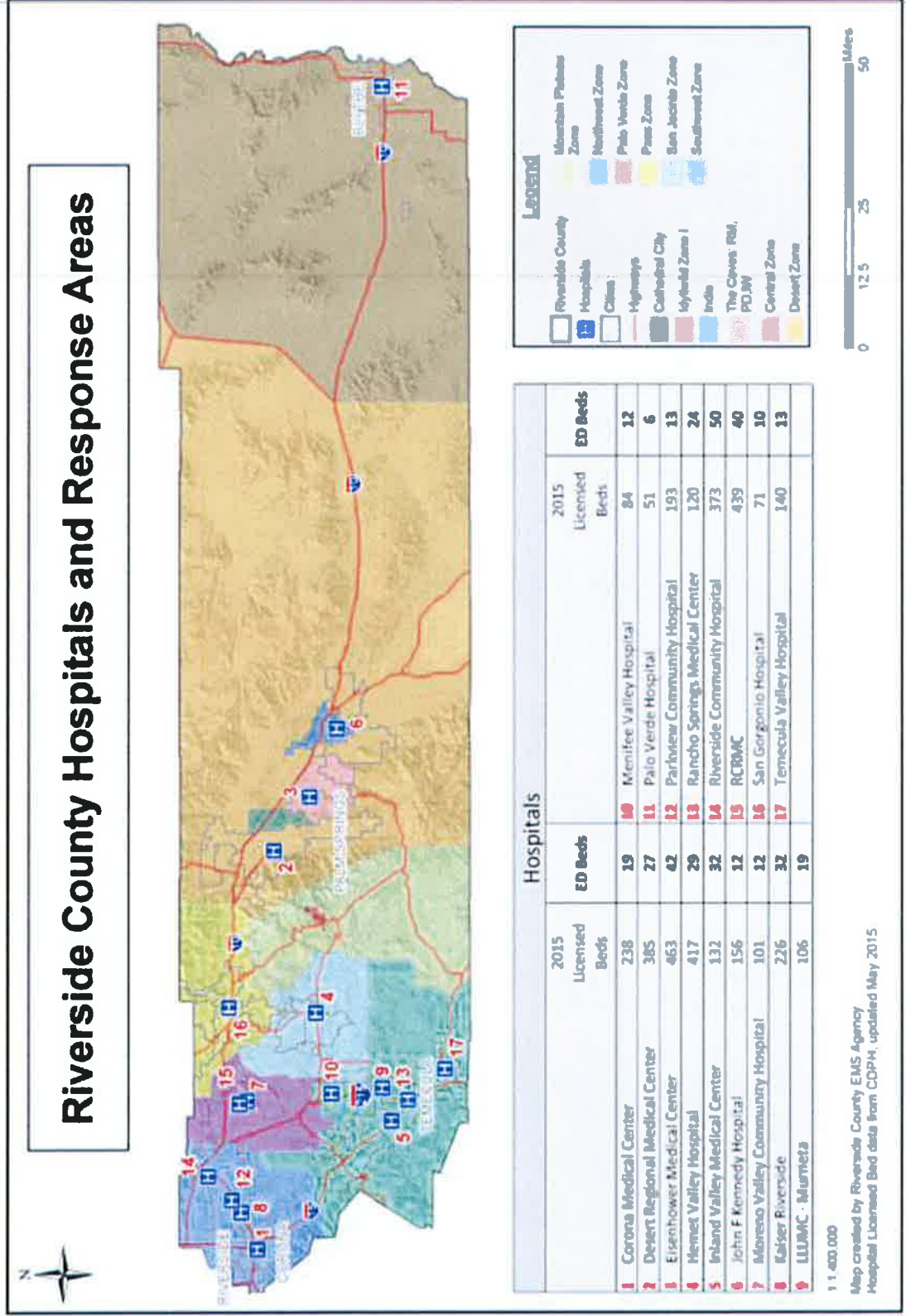
AMBULANCE PATIENT OFFLOAD DELAYS

May 19, 2015

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

OVERVIEW

The Emergency Medical Services (EMS) system encompasses the medical care requests that are received from the 9-1-1 system. Prehospital EMS personnel such as Emergency Medical Technicians (EMTs) and Paramedics (EMT-Ps) render emergency care to patients in a timely manner, in an ever-changing environment. Medical personnel arrive on-scene from several providers in the County, with the majority of the county's patients served by Riverside County Fire Department and American Medical Response, in addition to city fire departments' paramedics and EMTs. Response times are delineated in County contracts between providers and the EMS Agency, ensuring countywide coverage and high-quality patient care. A map of Riverside County's hospitals, from the EMS System CQI Plan, has been included below for reference.

Riverside County Hospitals and Response Areas

Hospitals

#	Hospital	2015 Licensed Beds	ED Beds	#	Hospital	2015 Licensed Beds	ED Beds
1	Corona Medical Center	238	19	10	Menifee Valley Hospital	84	12
2	Desert Regional Medical Center	385	27	11	Palo Verde Hospital	51	6
3	Eisenhower Medical Center	463	42	12	Parkview Community Hospital	193	13
4	Hemet Valley Hospital	417	29	13	Rancho Springs Medical Center	120	24
5	Inland Valley Medical Center	132	32	14	Riverside Community Hospital	373	50
6	John F Kennedy Hospital	156	12	15	RCRMC	439	40
7	Moreno Valley Community Hospital	101	12	16	San Gorgonio Hospital	71	10
8	Kaiser Riverside	226	32	17	Temecula Valley Hospital	140	13
9	LLUMC - Murrieta	106	19				

1:1,400,000

Map created by Riverside County EMS Agency
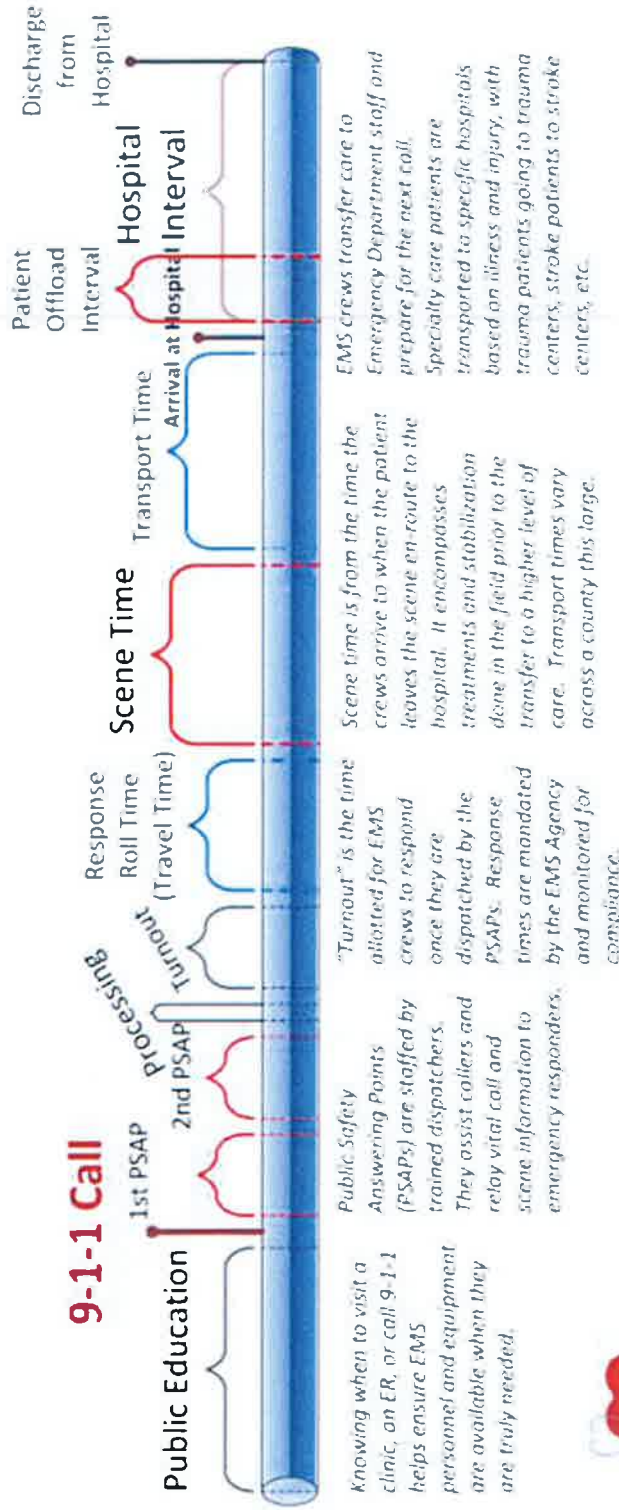Hospital Licensed Bed data from CDPH, updated May 2015

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

In Riverside County, EMS is delivered in a two-tiered system, in which the first response and transport provider agencies employ EMTs and paramedics, and crews from multiple providers respond to 9-1-1 medical aid requests. Transports must be done via ambulance, which helps ensure that the transport vehicles meet the rigorous County standards of capability, maintenance, and staffing. The 9-1-1 Emergency Medical Services (EMS) Patient Care Continuum diagram has been included below to provide a brief summary of the intervals involved in this continuum. This report is specifically focused on the Patient Offload Interval, where the Ambulance Patient Offload Delays (APODs) occur.

The 9-1-1 Emergency Medical Services (EMS) Patient Care Continuum

9-1-1 Call

Public Education

1st PSAP
2nd PSAP
processing
Turnout
Response
Roll Time
(Travel Time)
Scene Time
Transport Time
Arrival at Hospital
Patient Offload Interval
Hospital
Discharge from Hospital

Knowing when to visit a clinic, an ER, or call 9-1-1 helps ensure EMS personnel and equipment are available when they are truly needed.

Public Safety Answering Points (PSAPs) are staffed by trained dispatchers. They assist callers and relay vital call and scene information to emergency responders.

"Turnout" is the time allotted for EMS crews to respond once they are dispatched by the PSAPs. Response times are mandated by the EMS Agency and monitored for compliance.

Scene time is from the time the crews arrive to when the patient leaves the scene en-route to the hospital. It encompasses treatments and stabilization done in the field prior to the transfer to a higher level of care. Transport times vary across a county this large.

EMS crews transfer care to Emergency Department staff and prepare for the next call. Specialty care patients are transported to specific hospitals based on illness and injury, with trauma patients going to trauma centers, stroke patients to stroke centers, etc.

Emergency medical response is a crucial service to the citizens and visitors of Riverside County. The EMS Agency has many roles in ensuring the high-quality, timely, cost-effective care of emergency patients, such as contracting for emergency services, setting provider performance standards, regulating EMS drugs and equipment, and continuous quality improvement for the EMS system. Having much-needed EMS resources is vital to system readiness, as EMS personnel must prepare for the next emergency – a child's asthma attack to a commuter train derailment.

9-1-1 Requests for emergency medical care are unpredictable, and the system must be ready for the unexpected.

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

APOD DEFINITIONS

The following diagram, Appendix A from the California Hospital Association whitepaper on Ambulance Patient Offload Delay, explains the intervals associated with the transfer of patient care from ambulance crews to the Emergency Departments.

Appendix A

Ambulance Patient Offload Timeline and Definitions
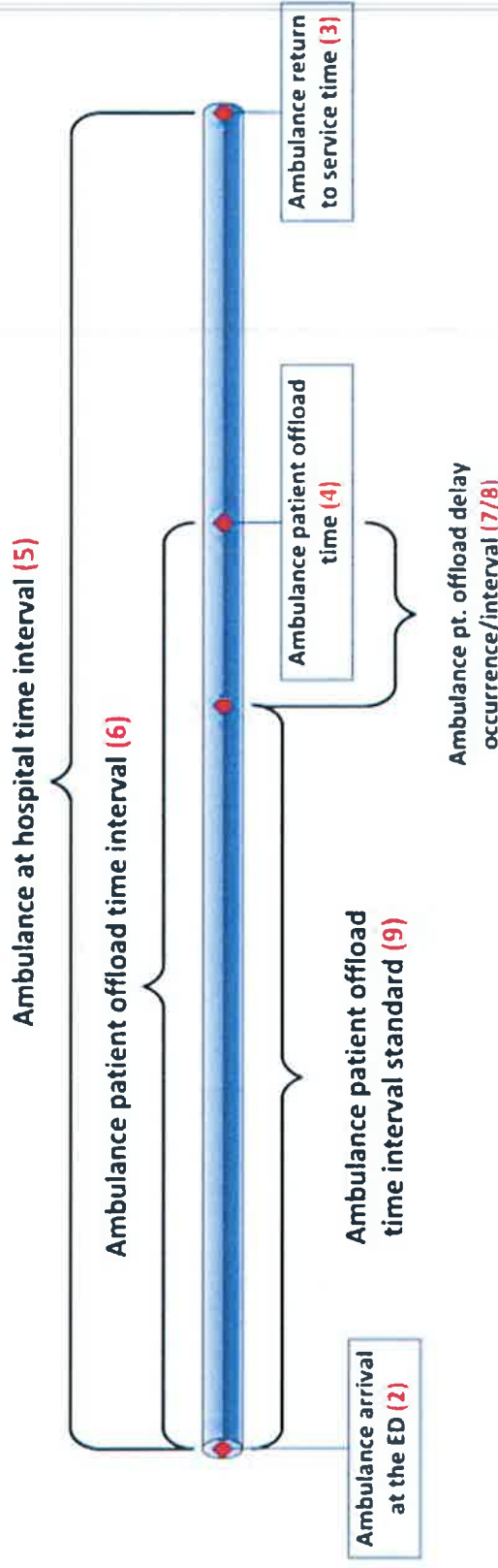
1. **Ambulance transport** – is defined as the transport of a patient from the prehospital EMS system by emergency ambulance to an approved EMS receiving hospital

2. **Ambulance arrival at the ED** - is defined as the time ambulance stops (actual wheel stop) at the location outside the hospital ED where the patient is unloaded from the ambulance.

3. **Ambulance return to service time** – is defined as the time the ambulance is response ready after transporting a patient to a hospital ED.

4. **Ambulance patient offload time** – is defined as the time the patient is physically removed from the ambulance gurney to hospital equipment.

5. **Ambulance at hospital time interval** – defined as the period of time between ambulance arrival at the hospital ED and ambulance return to service time.

6. **Ambulance patient offload time interval** – is defined as the period of time between ambulance arrival at the ED and ambulance patient offload time.

7. **Ambulance patient offload delay interval** – is the resulting period of time produced when the ambulance patient offload time interval exceeds the established ambulance patient offload time interval standard. That is to say it is the time accumulated when a patient remains on the ambulance gurney in excess of the offload time interval standard.

8. **Ambulance patient offload delay occurrence** – the occurrence of an ambulance patient remaining on the ambulance gurney beyond the ambulance patient offload time interval standard.

9. **Ambulance patient offload time interval standard** – is the established system performance standard for the period of time between ambulance arrival at the ED and ambulance patient offload time.

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

APOD DATA IN 2015

This table includes 2015 Ambulance Patient Offload Delays, hours of delay, total time the ambulances and patients were delayed, ALS transports received by each hospital, compliance, and average delay time per occurrence. "Delay Hours" include any time after the initial 30 minutes in the ED have passed; "Total Delay Time" sums both the delay and the initial 30 minutes. "Compliance" represents the percentage of ALS ambulance transports that were not held on Offload Delay. The data for 2014 is included on the following page.

Ambulance Patient Offload Delay Data, 2015 Jan.-Apr. – Transports and Occurrences - ALS Units Only

Hospital	Offload Delay Hours	Total Delay Time*	Total ALS Transports	Offload Delay Occurrences	Compliance%**	Avg Delay/Occurrence*
RCH	1616:11:47	3185:11:47	6020	3138	47.9%	1:00:54
Kaiser	164:09:32	418:39:32	2066	509	75.4%	0:49:21
Parkview	979:13:18	1613:43:18	2070	1269	38.7%	1:16:18
RCRMC	513:47:10	1148:17:10	4637	1269	72.6%	0:54:18
Corona	1303:06:33	1990:06:33	2358	1374	41.7%	1:26:54
Moreno Valley	197:55:15	434:55:15	1139	474	58.4%	0:55:03
Menifee	295:23:32	536:53:32	1393	483	65.3%	1:06:42
LLUMC–Murrieta	414:34:52	773:04:52	1933	717	62.9%	1:04:42
Inland Valley	304:46:49	633:46:49	3335	658	80.3%	0:57:47
Rancho Springs	37:33:08	93:33:08	1536	112	92.7%	0:50:07
Temecula Valley	154:00:17	350:30:17	1546	393	74.6%	0:53:31
Hemet	1139:35:45	2145:05:45	5024	2011	60.0%	1:04:00
San Gorgonio	151:56:41	364:56:41	2189	426	80.5%	0:51:24
Eisenhower	17:52:03	65:52:03	1553	96	93.8%	0:41:10
Desert	22:44:23	85:14:23	3838	125	96.7%	0:40:55
JFK	50:19:16	131:49:16	1284	163	87.3%	0:48:31
Totals	7,363:10:21	13,971:40:21	41,921	13,217	68.5%	1:03:26

* Includes the first 30 minutes of each Offload Delay.

** Compliance % represents the percentage of ALS ambulance transports not on Offload Delay (data includes only 9-1-1 contractual provider).

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

Ambulance Patient Offload Delay Data, 2014 Jan. – Dec. – Transports and Occurrences - ALS Units Only

Hospital	Offload Delay Hours	Total Delay Time*	Total ALS Transports	Offload Delay Occurrences	Compliance%**	Avg Delay/ Occurrence*
RCH	2984:29:25	6728:29:25	17358	7488	56.9%	0:53:55
Kaiser	201:38:58	575:38:58	5426	748	86.2%	0:46:11
Parkview	1694:56:01	3138:26:01	6100	2887	52.7%	1:05:14
RCRMC	1007:19:37	2280:49:37	12541	2547	79.7%	0:53:44
Corona	1845:33:25	3301:33:25	6866	2912	57.6%	1:08:02
Moreno Valley	545:55:06	1175:25:06	3478	1259	63.8%	0:56:01
Menifee	733:35:51	1425:05:51	4290	1383	67.8%	1:01:50
LLUMC–Murrieta	963:34:24	1841:34:24	5472	1756	67.9%	1:02:55
Inland Valley	432:21:44	988:21:44	9080	1112	87.8%	0:53:20
Rancho Springs	76:31:30	200:01:30	4289	247	94.2%	0:48:35
Temecula Valley	139:03:35	362:03:35	3907	446	88.6%	0:48:42
Hemet	3112:04:15	5805:34:15	15148	5387	64.4%	1:04:40
San Gorgonio	157:47:22	399:17:22	6389	483	92.4%	0:49:36
Eisenhower	24:15:55	98:45:55	3809	149	96.1%	0:39:46
Desert	40:12:27	146:42:27	10207	213	97.9%	0:41:20
JFK	79:52:57	248:22:57	3536	337	90.5%	0:44:13
Totals	**14,039:12:32**	**28,716:12:32**	**117,896**	**29,354**	**75.1%**	**0:58:42**

* Includes the first 30 minutes of each Offload Delay.

** Compliance % represents the percentage of ALS ambulance transports not on Offload Delay (data includes only 9-1-1 contractual provider).

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

EFFECTS OF APOD ON THE EMS SYSTEM

APOD has links to patient safety, timeliness of patient care, patient and provider satisfaction and ED throughput and efficiency. When ambulances are delayed in the ED, they are out of service, thereby decreasing the EMS system's ability to provide lifesaving support to the community. Ambulance providers have continuously added resources to compensate for the operational impact of APOD. At times when the EMS system is experiencing high 9-1-1 call volume, commensurate increases in APOD negatively impact ambulance response times, timely transport of patients to definitive care and scene times for first responders. APOD occurs in varying degrees at most Hospitals in Riverside County. Notable exceptions are the Desert Zone hospitals (Desert Regional, Eisenhower, John F. Kennedy and Palo Verde) that have little APOD. The Northwest Zone and Hemet/San Jacinto Zone hospitals have the greatest number of APOD occurrences, cumulative hours of APOD and the greatest number of extended APOD (defined as 90 minutes or more after arrival at the hospital). Cases of APOD up to eight (8) hours have been investigated by the Riverside County EMS Agency (REMSA).

Factors Contributing to APOD

Ambulance patient offload delays are a concern in the healthcare community throughout the State and Nation. In a national study involving 200 cities, the national average for handing off ambulance patients more than doubled from 20 minutes to over 45 minutes between 2006 and 2012, resulting in the loss of nearly 5 million hours of EMS system productivity. APOD is linked to and shares drivers in common with the larger healthcare issues of ED overcrowding, ED patient boarding and hospital patient throughput. Factors identified by the healthcare community include:
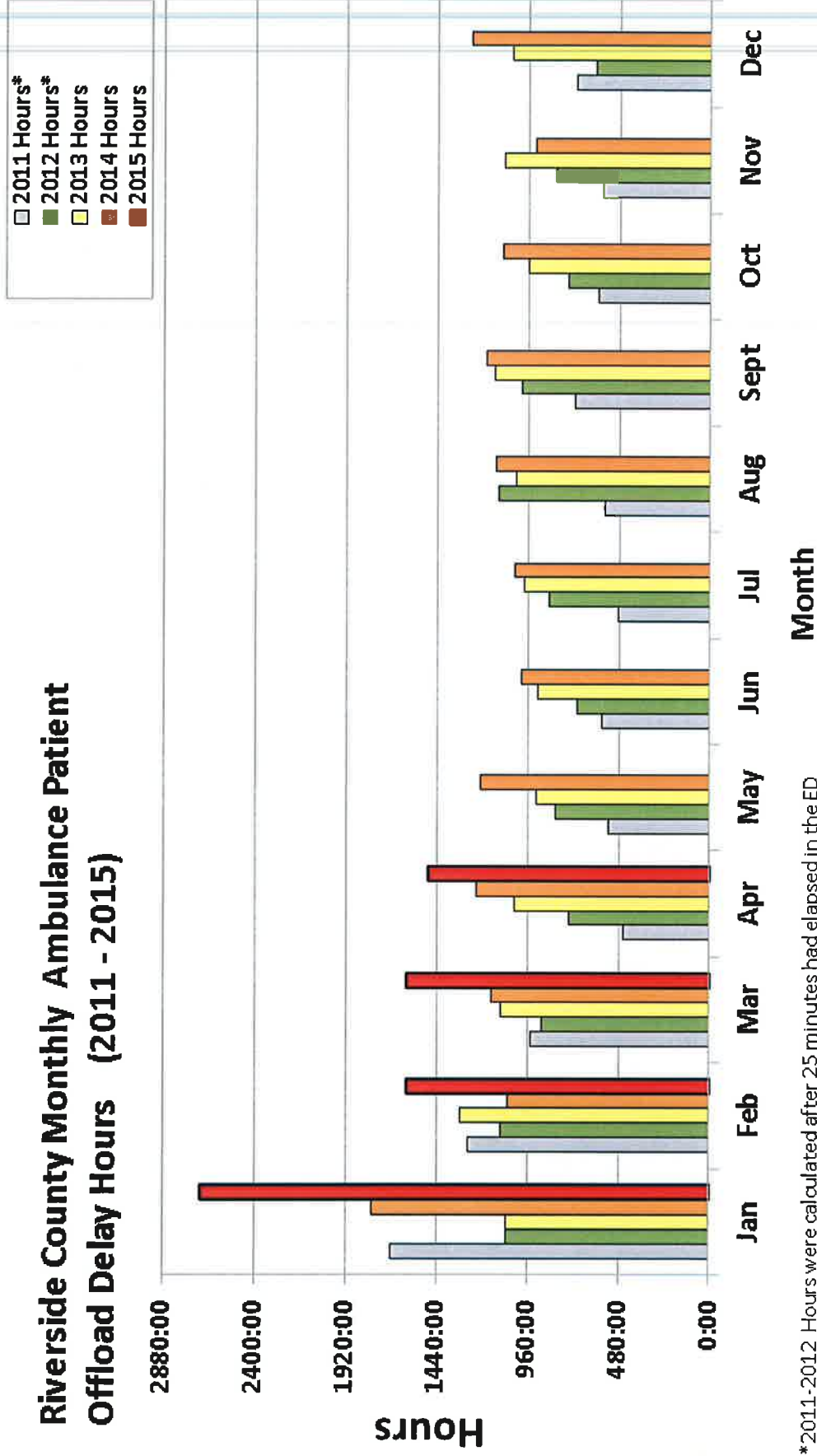
- Lack of hospital beds
- Nurse to patient ratios
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- Increasingly complex medical conditions
- Dramatically increasing demand for mental health care placed on the hospitals
- Lack of access to primary care
- Hospital physician, nurse, laboratory and specialist staffing shortages
- Decreasing hospital reimbursement
- Physical limitations and regulatory complexity of increasing hospital size
- Increasing difficulty in placement of patients for follow-up care

The common endpoint is that the ED becomes the safety net for the healthcare system. ED beds are full, including admitted patients, and the ED cannot free beds and staff to accept new patients arriving by ambulance. A comprehensive discussion, analysis and mitigation strategies are contained in the "Toolkit to Reduce Ambulance Patient Offload Delays in the Emergency Department: Building Strategies for California Hospitals and Local Emergency Services Agencies", it can be accessed on the REMSA website at rivcoems.org.

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

In Riverside County, the offload standard is thirty minutes after arrival of the ambulance to the emergency department. Any time accrued after those first 30 minutes is counted as offload delay time. Hours of offload delay time are depicted in the following chart, which includes hours by month for the past several years and 2015 to date. When year-over-year data is compared per month, it is apparent that although seasonal trends occur, the hours have increased for each respective month (with few exceptions) since 2012.

Riverside County Monthly Ambulance Patient Offload Delay Hours (2011 - 2015)
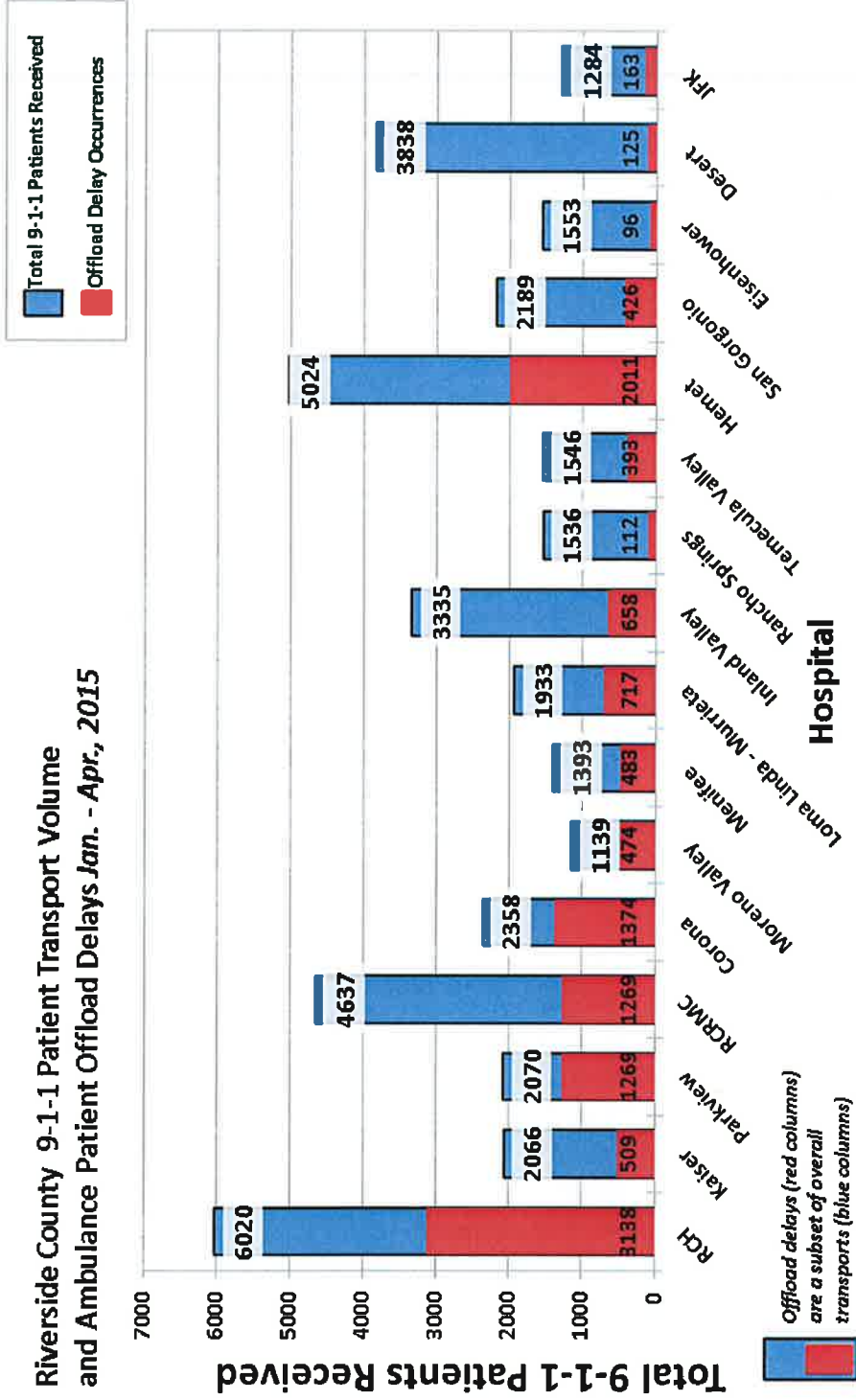

Legend:
- 2011 Hours*
- 2012 Hours*
- 2013 Hours
- 2014 Hours
- 2015 Hours

Y-axis: Hours (0:00, 480:00, 960:00, 1440:00, 1920:00, 2400:00, 2880:00)

X-axis (Month): Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sept, Oct, Nov, Dec

*2011-2012 Hours were calculated after 25 minutes had elapsed in the ED

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

AMBULANCE PATIENT OFFLOAD DELAYS AND OVERALL COMPLIANCE

The chart below includes the patients transported via the 9-1-1 system by American Medical Response (AMR), the county's primary contracted 9-1-1 transport provider. Although Riverside County Fire Department transports patients in Indio and the Cove Communities the Desert Zone (see map on page 2, response areas referred to are The Coves and Indio), ambulance patient offload delays (APODs) are not currently impacting the Desert Zone providers. The incidence of APOD is the lowest in the Desert Zone than anywhere in Riverside County. By contrast, the Northwest Zone (containing the cities of Riverside, Corona and Norco) experiences the preponderance of APODs in the County.

The chart to the left illustrates the relationship between overall 9-1-1 patients received by each hospital and the patients and ambulance crews that are held on offload delay, a subset of the overall transports. Although higher volume offers more opportunity for offload delays to occur, the data shows that high volume does not make offload delays inevitable. The three hospitals on the right side of the chart are in the Desert Zone, where the 9-1-1 system is not significantly impacted by APODs. Compliance percentages and the underlying data for this and the next chart are available on pages 5 and 6.

Riverside County 9-1-1 Patient Transport Volume and Ambulance Patient Offload Delays *Jan. - Apr., 2015*

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

2014 Data is summarized below, including the compliance of each hospital in offloading patients within the 30-minute standard. Offload delay occurrences are again a subset of total 9-1-1 patients transported to each facility, and the relationship of those metrics gives a hospital's compliance for patient offload. The data for this graph is available on page 6 of this report.

Riverside County Ambulance Patient Offload Delays vs. 9-1-1 Volume and Compliance, Jan. - Dec. 2014
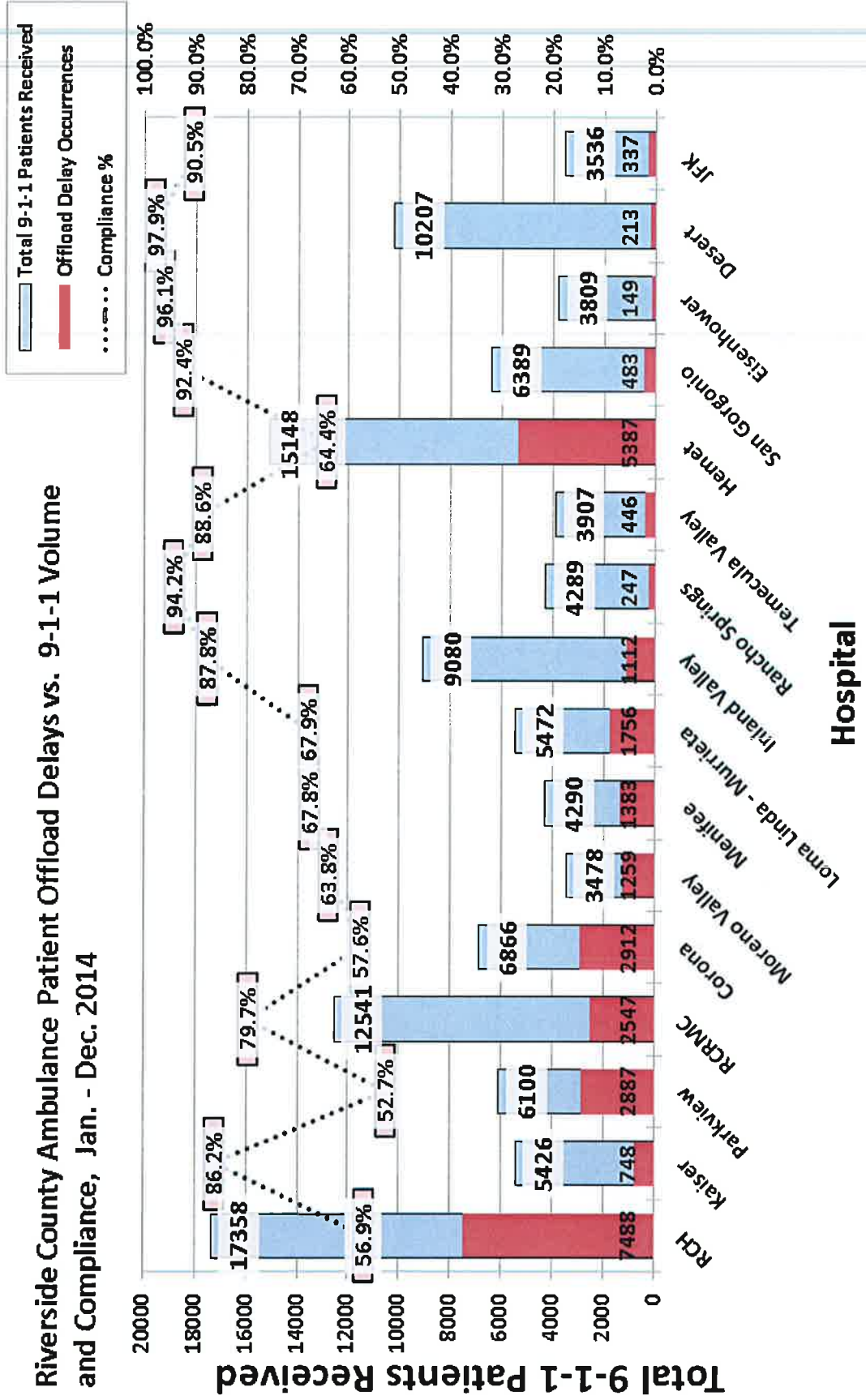
RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

MITIGATION

As the incidence of offload delay has increased over the past several years, the impact to the system has not gone unnoticed. Data collection and reporting back to stakeholders on a routine basis has been ongoing since 2005, with increased activities for the hospitals impacting the EMS System the most. REMSA has established performance metrics for each hospital and the EMS system. These reports and the occurrence of APOD is reviewed and discussed with all hospitals and EMS system participants quarterly in multiple venues including the Emergency Medical Care Committee (EMCC), Prehospital Medical Advisory Committee (PMAC), EMS Zone Meetings and at the Hospital Association of Southern California (HASC) Inland Empire Regional Meetings. Hospital CEOs of facilities that experience high APOD receive letters from REMSA with detailed reports on their individual hospital performance.

Progress and improvements have been made at several hospitals, however many have worsened in this area, citing a range of reasons for the shift, several listed earlier in this report. The EMS Agency continues to collaborate with stakeholders at the local level, on regional initiatives (such as the ICEMA/REMSA Redirection Pilot Program), and at the State level.

Local activities to mitigate APODs include:

- Data reporting to stakeholders at both public meetings and zone-specific meetings
- Programs to validate data collected, including a time-stamped card trial in 2008
- Purchase and partial voluntary implementation of specialized software for hospitals to monitor current and incoming ambulances (FirstWatch Transfer of Care)
- Compliance letters and specialized charts for hospitals with low compliance of timely patient offload
- EMS Duty Officer and Duty Chief involvement to address the excessive holding of ambulances by local hospitals
  - EMS Duty Officers provide 24-hour coverage for the EMS System, and APOD-related activities include:
    - Real-time communication with hospital administrators at facilities holding multiple patients and crews over one hour
    - Physical presence to validate reports of excessive APODs and suspected gross non-compliance of offload delay standards
    - Ambulance destination redirection to adjust to excessive offload delays
  - EMS Duty Chiefs communicate directly with hospital CEOs when APOD issues are not addressed in a timely fashion
- Individual meetings with hospital CEOs and Hospital Association of Southern California representatives

As part of the EMS System Evaluation completed by The Abaris Group, an EMS System Strategic Plan goal was developed to focus on decreasing APOD. REMSA, in cooperation with the Inland Counties EMS Agency (ICEMA), established a regional APOD workgroup to develop strategies to decrease the occurrence of APOD at Inland Empire hospitals. The workgroup is a regional collaboration that includes REMSA, ICEMA, HASC, selected hospital CEOs, Fire Chiefs, ED physicians, Chief Nursing Officers (CNO), American Medical Response (AMR) and other affected ambulance providers. The workgroup developed an APOD redirection pilot program that was implemented May 1, 2015. The redirection pilot program establishes

RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD DELAYS

operational criteria whereby ambulances are temporarily diverted away from hospitals that have extended APOD (90 minutes or greater at the hospital) to the next closest appropriate hospital that does not have extended APOD. The pilot project is a first step in what will be a series of activities to decrease the occurrence of APOD at Inland Empire hospitals. While the pilot project is in the early phases, most hospitals appear to be implementing APOD reduction strategies and preliminary data is trending toward positive improvement in occurrence and duration of extended APOD (90 minutes or greater at the hospital) overall.

APOD data for this report was provided by American Medical Response (AMR) to the Riverside County EMS Agency for review and analysis. The data represents only AMR 9-1-1 ALS resources and does not include any other ambulance companies or BLS-level service.