

DATE ISSUED: April 18, 2001

REPORT NO. 01-074

ATTENTION: Public Safety & Neighborhood Services Committee  
Agenda of April 25, 2001

SUBJECT: Emergency Medical Services (EMS) Program  
Priority 4 Level Dispatch

REFERENCE: City Manager Report 01-020, dated January 31, 2001  
City Manager Report 00-198, dated September 29, 2000

### SUMMARY

Issue - Should the Public Safety and Neighborhood Services Committee approve an amendment to the City and Rural/Metro Agreements to modify response times for Unscheduled, Non-Emergency Priority 4 calls from 15 to 25 minutes 90% of the time for designated types of 9-1-1 calls as determined by the City EMS Medical Director?

Manager's Recommendation - Direct the City Manager to amend necessary agreements to change response times for Unscheduled, Non-Emergency Priority 4 calls from 15 to 25 minutes 90% of the time for specific 9-1-1 call types identified by the EMS Medical Director.

Other Recommendations - None

Fiscal Impact - None

### BACKGROUND

In 1996, the City Council directed the redesign of the City's Emergency Medical Services (EMS) System. This redesign project resulted in a system which was configured to provide optimal EMS service to citizens while establishing fiscal viability of the system to ensure continued service. The EMS design envisioned partnering with managed care organizations as well as a four-level priority system of dispatch to maximize resources. At the onset of the current agreements with the EMS system provider, San Diego Medical Services Enterprise (SDMSE), efforts were concentrated on providing quality service for the 9-1-1 system. The procurement of managed care contracts for non-emergency medical transportation were not fully initiated until Fiscal Year 2000. In addition, only two levels of priority dispatch were initially utilized in the 9-1-1 system as stipulated by the contracts.

The current EMS system design and the agreements (City Agreement and Rural Agreement) with SDMSE identify four levels of dispatch priority responses. Response Priorities 1 and 3 were implemented at the start of the contracts on July 1, 1997, providing a

Code response (lights and siren use while driving) for ambulance and engine for Priority 1, and a no-Code ambulance only response for Priority 3. The City EMS Medical Director, Dr. James Dunford, was directed by the Public Safety and Neighborhood Services (PS&NS) Committee on May 5, 1999, to develop additional priority guidelines for ultimate implementation of all four levels of EMS dispatch envisioned in the EMS system design and subsequent Agreements. Response Priority 2 was implemented on July 1, 1999, providing a Code ambulance response with the engine available upon request by the responding paramedic.

The current City and Rural/Metro Agreements set the following response criteria by a transport ambulance:

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Priority 1 - Life threatening emergency: Response of a paramedic ambulance on the scene within 12 minutes and zero seconds not less than 90% of the time in each of the four zones (First Responder is also dispatched to these calls)

Priority 2 - Non-life threatening emergency: Response of a paramedic ambulance on the scene within 12 minutes and zero seconds not less than 90% of the time in each of the four zones (First Responder is dispatched to these calls if requested by ambulance paramedic)

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Priority 3 - Urgent requests: Response of a paramedic or other ambulance on the scene within 15 minutes and zero seconds not less than 90% of the time in each of the four zones

Priority 4 - Unscheduled Non-emergency requests: Response of an ambulance on the scene within 15 minutes and zero seconds not less than 90% of the time in each of the four zones

## DISCUSSION

On February 7, 2001, PS&NS approved a 90-day trial period to study Unscheduled, Non-emergency Priority 4 calls during which certain call types would be dispatched a Basic Life Support (BLS) ambulance, rather than a paramedic-staffed ALS ambulance. This level of response includes calls such as animal bites, sunburn, psychiatric problems and "sick person" which includes everything from boils to toothaches. A complete listing of the types of calls is included as Attachment 1 to this report.

The City of San Diego system has tracked the level of acuity of patients transported to hospitals for many years. Through evaluation of this clinical data, Dr. Dunford has been able to anticipate a person's level of actual medical acuity based on the chief complaints described to the dispatch call takers at the time the 9-1-1 call is received. This information, along with many years of emergency medical experience, has enabled him to determine the most appropriate response for calls which he has identified as Priority 4.

During this trial study, analysis has been completed on all calls triaged as Priority 4 level calls. Each call was reviewed to ensure the appropriate response was activated according with existing protocols for each patient's condition, for compliance with the 20 minute response criteria includes a review of the transportation codes as well as the chief complaint identified by the call takers at the 9-1-1 dispatch center.

Compliance data for the first 41 days of this study is provided on a citywide basis. Of the 314 responses, 281 or 89.5%, were responded to within the 20 minute time frame. Compliance data reflects manual selection of BLS ambulance resources by the system

status controller to respond to incidents. Installation of AVL equipment in the BLS fleet would further enhance response times through automatic unit selection and would also increase the number of calls to which BLS ambulances could be dispatched further enabling availability of ALS ambulances.

Transportation are codes used in the EMS system to designate the level of care provided to the patient during the transport to the hospital. Inclusion of these codes in the analysis of this study enable the clinical evaluation of the accuracy of the dispatcher to obtain sufficient information from the calling party to predict the patient's acuity and level of medical care required. The transport codes are as follows:

- Code 10 - Acute status patient. Transport to hospital in Code-3 status, with multiple ALS skills and treatment provided.
- Code 20 - Moderate status patient. Transport to the hospital in No Code status, with IV, oxygen, or medications given. ALS treatment provided.
- Code 30 - Mild status patient. Transport to the hospital in No Code status, with IV indicated, BLS treatment provided.
- Code 40 - Stable status patient. Transport to the hospital in No Code status, with only BLS treatment provided.
- Code 50 - Very stable patient. Transportation to the hospital only provided - no medical intervention required. Other transport method could have more appropriately been used (e.g. private vehicle, taxi, etc.)

It was expected that accurate dispatch of Priority 4 calls would result in transport acuity levels of Code 40 or Code 50 for the majority of the patients. During the first 41 days of this study, this was found to be true in almost 90% of the calls dispatched as Priority Level 4.

During the first 41 days (March 1 to April 10, 2001 ) there were 314 responses to the type of calls identified as Priority Level 4. Of those 314 responses, 240 (76.4%) resulted in transportation to the hospital. In the remainder of the responses, 74 patients, or 23.6 % of the total patients accessing 9-1-1 for medical aid, refused care when the crews arrived or in some cases, the paramedics were unable to locate a patient upon arrival at the caller's address.

The transport codes identified the following acuity levels of the 240 patients transported:

Transport Code	# of Patients	% of Total Patients
40 and 50	212	88.2%
30	21	8.8%
10 and 20	7	3.0%

Attachment 2 provides complete details of all calls studied to date.

Priority 4 calls generally could be handled by any provider of Basic Life Support (BLS) medical transportation. Rather than accessing a private company where medical transportation will be provided for a fee, the caller accesses 9-1-1 instead. There are a variety of reasons why this occurs including a lack of understanding how to contact a BLS company, the lack of funds or insurance to pay for a private company transport or that it is simply easier to dial 9-1-1 than look up a seven-digit number.

The types of calls identified as Priority Level 4 calls were originally referred to BLS companies on a rotational basis in the City of San Diego EMS system prior to 1993. At that time, American Medical Services (AMS) was awarded the City's EMS Contract and requested that they be allowed to respond to all calls placed to 9-1-1, even those that had been handled on the referral basis for years. As the City's EMS system has evolved, these calls have continued to be responded to by ALS ambulances until now. The increasing numbers of requests for medical care through 9-1-1 for non-emergency complaints has made it necessary to once again utilize BLS ambulances to ensure availability of ALS resources. The increasing numbers of uninsured and under insured citizens and visitors results in more and more people using the 9-1-1 system as their primary health care provider. As a result, it is critical that the system have the flexibility to dispatch ambulances to callers with non-emergency needs. This change in EMS contract will enable that flexibility.

City Manager Report 00-198, presented at PS&NS Committee on October 4, 2000 and at City Council on December 11, 2000 originally recommended a response time of 25 minutes 90% of the time. Between the December hearing and the February 7, 2001 hearing, discussions occurred between City staff, the managers of SDMSE, Fire Fighters Local 145 and Dr. Dunford. An agreement was reached to conduct the study through a 90-day trial period with the recommended a response time of 20 minutes, rather than 25 minutes, 90% of the time originally recommended by Dr. Dunford. It has been determined by Dr. Dunford during this study that the original 25 minute response time is appropriate for Level 4 calls. As such, the recommended contract change on Level 4 calls is from 15 to 25 minutes, 90% of the time for BLS ambulances. One operational augmentation was developed to insure ALS unit availability. There will be times when a BLS ambulance is not available to respond to a Priority 4 call, and it will be necessary to dispatch an ALS ambulance. When this occurs, the call will revert to a Priority 3 call, with a 15 minute, 90% of the time, response time. This was done to insure ALS units will be used effectively and be returned to available status more quickly.

The goal of the City's 9-1-1 system is to insure the highest level of medical care and medical transportation services to the citizens of the San Diego in a fiscally efficient manner. The use of resources appropriate to the need of the patient is critical to the viability of the current EMS system. The recommended change in Priority 4 response time will enable SDMSE to more effectively meet the non-emergency transportation needs of callers accessing the 9-1-1 system for their general transportation needs and increase the availability of ALS ambulances for life- threatening calls. The recommended change of response time criteria for Priority Level 4 dispatches (from 15 minutes to 25 minutes) will allow the City's provider, SDMSE, to maintain the highest level of service while utilizing BLS ambulances to respond to the 9-1-1 calls for Priority Level 4 calls.

The City EMS Medical Director, Dr. Dunford, will continue to monitor these calls to ensure appropriate resources for the need of the patient are dispatched and make changes as deemed necessary to insure quality clinical care is provided.

## SUMMARY

The implementation of Dispatch Priority 4 was envisioned during the design of the EMS system in 1995. The types of calls included

in this recommendation have been developed through the evaluation of three years of data, input and discussion with system participants, the clinical knowledge of the City's Medical Director, and the trial study. The types of calls designated to each of the four dispatch priorities is a continually evolving science determined through data analysis, clinical education and changes in the practice of paramedicine. The Medical Director will continue to evaluate the City's EMS system dispatch priorities and make adjustments where clinical quality designates.

By approving an amended response time to 25 minutes 90% of the time for these non-emergency calls, the ability to dispatch BLS ambulances to these types of calls, will continue to improve the availability of ALS paramedic ambulances for truly life threatening 9-1-1 calls.

ALTERNATIVES:

1. Do not accept the recommendation of the City Manager to direct the EMS Program Manager to amend the contract response time for Unscheduled, Non-Emergency Priority 4 calls to 25 minutes 90% of the time for specific 9-1-1 call types identified by the EMS Medical Director.

This is not recommended because fiscal viability of the EMS system requires appropriate resource allocation and this will enable the managers of the EMS system and the medical director to make appropriate resource allocations to ensure quality medical care to the citizens and visitors of San Diego.

Respectfully submitted,

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EMS Program Manager  
Emergency Medical Services Program

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Deputy City Manager

Patricia H. Nuñez

Approved:  
Patricia T.  
Frazier

NUÑEZ/PN

Attachments: 1.Spreadsheet of Priority 4 Level Determinate Codes -FY2001 Data  
2.Spreadsheet of Trial Study Data for Level 4 Dispatch

**PROPOSED LEVEL 4 DISPATCH  
DETERMINANT CODE TYPE  
FISCAL YEAR 2001**

<b>01</b>	<b>DESCRIPTION</b>	<b>#RU NS</b>	<b>#TR AN</b>	<b>%</b>	<b>10</b>	<b>%10</b>	<b>20</b>	<b>%20</b>	<b>30</b>	<b>%30</b>	<b>40</b>	<b>%40</b>	<b>50</b>	<b>%50</b>
4	ANIMAL BITE (SUPERFICIAL)	214	89	42%	0	0.0%	2	0.0%	5	2.3%	50	23.4%	32	15.0%
4	ANIMAL BITE (SPIDER/INSECT)	71	34	48%	1	1.4%	1	1.4%	9	12.7%	11	15.5%	12	16.9%
4	ASSAULT/RAPE (NON RECENT >6 HRS)	134	78	58%	3	2.2%	1	2.2%	15	11.2%	31	23.1%	28	20.9%
4	BACK PAIN (TRAUMATIC, > 6HRS.)	265	217	82%	0	0.0%	5	0.0%	31	11.7%	99	37.4%	82	30.9%
4	BURNS (SUNBURN OR MINOR)	86	44	51%	5	5.8%	6	5.8%	4	4.7%	18	20.9%	11	12.8%
4	EYE PROBLEMS (MINOR)	151	82	54%	1	0.7%	1	0.7%	8	5.3%	31	20.5%	42	27.8%
4	PSYCH/BEHAV (NON VIOLENT+ NONSUICIDAL)	1051	534	51%	7	0.7%	9	0.7%	66	6.3%	143	13.6%	309	29.4%
4	SICK PERSON (NO PRIORITY SX)	4200	2910	69%	44	1.0%	154	1.0%	977	23.3%	929	22.1%	808	19.2%
4	SICK PERSON (BOILS)	34	20	59%	0	0.0%	0	0.0%	3	8.8%	8	23.5%	9	26.5%
4	SICK PERSON (BUMPS)	12	8	67%	0	0.0%	0	0.0%	1	8.3%	5	41.7%	2	16.7%
4	SICK PERSON (CAN'T SLEEP)	66	37	56%	0	0.0%	4	0.0%	5	7.6%	15	22.7%	13	19.7%
4	SICK PERSON (CAN'T URINATE)	103	78	76%	2	1.9%	4	1.9%	26	25.2%	22	21.4%	24	23.3%
4	SICK PERSON (CATHETER)	81	58	72%	1	1.2%	2	1.2%	5	6.2%	32	39.5%	18	22.2%
4	SICK PERSON (CONSTIPATION)	108	76	70%	2	1.9%	3	1.9%	18	16.7%	29	26.9%	24	22.2%
4	SICK PERSON (CRAMPS/SPASMS)	196	136	69%	1	0.5%	4	0.5%	36	18.4%	56	28.6%	39	19.9%
4	SICK PERSON (REMOVE RING)	5	0	0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4	SICK PERSON (DEAFNESS)	0	0	0%	0	0.0%	0	0.0%	0	0.0%	0	0%	0	0%
4	SICK PERSON (DEFECATION)	49	39	80%	1	2.0%	0	2.0%	23	46.9%	8	16.3%	7	14.3%
4	SICK PERSON (EARACHE)	69	37	54%	1	1.4%	1	1.4%	0	0.0%	11	15.9%	24	34.8%
4	SICK PERSON (ENEMA)	7	4	57%	0	0.0%	0	0.0%	0	0.0%	3	42.9%	1	14.3%
4	SICK PERSON (GOUT)	5	4	80%	0	0.0%	0	0.0%	0	0.0%	2	40.0%	2	40.0%
4	SICK PERSON (HEMORRHOIDS)	18	12	67%	0	0.0%	0	0.0%	0	0.0%	2	11.1%	10	55.6%
4	SICK PERSON (HEPATITIS)	12	6	50%	0	0.0%	0	0.0%	1	8.3%	2	16.7%	3	25.0%
4	SICK PERSON (HICCUPS)	4	4	100%	0	0.0%	0	0.0%	0	0.0%	4	100.0%	0	0.0%
4	SICK PERSON (HUNGRY)	8	5	63%	0	0.0%	1	0.0%	4	50.0%	0	0.0%	0	0.0%
4	SICK PERSON (NERVOUS)	75	37	49%	1	1.3%	1	1.3%	9	12.0%	10	13.3%	16	21.3%
4	SICK PERSON (OBJ STUCK EAR, NOSE, ETC)	75	34	45%	0	0.0%	0	0.0%	3	4.0%	9	12.0%	22	29.3%
4	SICK PERSON (OBJ SWALLOWED, NO CHOKING)	35	14	40%	0	0.0%	1	0.0%	0	0.0%	5	14.3%	8	22.9%



26A16	SICK PERSON (HEPATITIS)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A17	SICK PERSON (HICCUPS)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A18	SICK PERSON (HUNGRY)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A19	SICK PERSON (NERVOUS)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A2	SICK PERSON (BOILS)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A20	SICK PERSON (OBJ STUCK EAR, NOSE, ETC)	3	2	66.7%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	33.3
26A21	SICK PERSON (OBJ SWALLOWED, NO CHOKING)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A22	SICK PERSON (PENIS PROBLEMS)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A23	SICK PERSON (RASH, SKIN PROBS)	1	0	0.0%	1	100.0	0	0.0%	0	0.0%	0	0.0%	1	100.0	0	0.0%
26A24	SICK PERSON (VENEREAL DISEASE)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A25	SICK PERSON (SORE THROAT)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A26	SICK PERSON (TOOTHACHE)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A27	SICK PERSON (TRANSPORT ONLY)	44	11	25.0%	33	75.0%	1	2.3%	1	2.3%	5	11.4%	11	25.0	15	34.1
26A28	SICK PERSON (WOUND INFECTED)	3	1	33.3%	2	66.7%	0	0.0%	0	0.0%	0	0.0%	1	33.3	1	33.3
26A4	SICK PERSON (CAN'T SLEEP)	2	2	100.0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A5	SICK PERSON (CAN'T URINATE)	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0
26A6	SICK PERSON (CATHETER)	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0	0	0.0%
26A7	SICK PERSON (CONSTIPATION)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
26A8	SICK PERSON (CRAMPS/SPASMS)	3	0	0.0%	3	100.0	0	0.0%	0	0.0%	0	0.0%	2	66.7	1	33.3
26A9	SICK PERSON (REMOVE RING)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
27A1	GSW/STAB (> 6 HR, PERIPHERAL WOUNDS)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
29A1	TRAFF ACC (1ST PARTY, - DANGER INJURY)	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
30A2	TRAUMA INJ (NON-RECENT ≥ 6HRS)	18	2	11.1%	16	88.9%	0	0.0%	1	5.6%	2	11.1%	5	27.8	8	44.4
MISC	MISCELLANEOUS	18	5	27.8%	13	72.2%	0	0.0%	0	0.0%	0	0.0%	6	33.3	7	38.9
<b>SUBTOTAL</b>	<b>MARCH 1 THRU APRIL 10,</b>	<b>314</b>	<b>74</b>	<b>23.6%</b>	<b>240</b>	<b>76.4%</b>	<b>3</b>	<b>1.3%</b>	<b>4</b>	<b>1.7%</b>	<b>21</b>	<b>8.8%</b>	<b>106</b>	<b>44.1</b>	<b>106</b>	<b>44.1</b>