



San Joaquin County

Emergency Medical Services Agency



<http://www.sjgov.org/ems>

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Unusual Occurrence Case #06489

Public Report

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San Joaquin County Emergency Medical Services Agency
EMS Agency Unusual Occurrence Case #06489
Date of Incident 10/21/06

Introduction:

The San Joaquin County Emergency Medical Services (EMS) Agency's mission includes ensuring the efficient and effective delivery of emergency medical services to the citizens and visitors of San Joaquin County. The San Joaquin County EMS Agency is the government agency with statutory authority for the oversight of the San Joaquin County EMS System.

Under Health and Safety Code, Division 2.5, Chapter 4, Article 1, Section 1797.204 the local EMS Agency is required to "plan, implement, and evaluate an emergency medical services system". This includes and obligates the local EMS Agency to evaluate incidents within the EMS system which may threaten public safety, or hinder the "readiness and response services" provided by pre-hospital care personnel.

Investigative Results:

On October 21, 2006, at approximately 1210 hours, a local woman collapsed on the floor of her home. She was discovered sometime thereafter by her 16 year-old daughter. The home had no land line telephone service so her daughter ran outside and asked a neighbor (Neighbor 1) who was working outside in his yard to call 9-1-1. Neighbor 1, used his cellular telephone to call 9-1-1.

The neighbor's cellular phone call was answered by the California Highway Patrol's Stockton Communication Center (CHP Communications) at approximately 1214 hours. Neighbor 1 requested that an ambulance be sent to [REDACTED] Keyser Drive (pronounced Kee'zer). Neighbor 1 also spelled the name of the street for the CHP call taker as "K-E-Y-S-E-R". The CHP call taker restated the street name with the pronunciation as Kaiser (Ki'zer), at which time Neighbor 1 confirmed this pronunciation as correct. The CHP call taker did not obtain a cross street.

Due to either the cellular service provider's equipment or Neighbor 1's cellular telephone being non-compliant with enhanced 9-1-1 service (E911) requirements, Neighbor 1's location was not automatically identifiable. When enhanced 9-1-1 services are not available 9-1-1 call takers do not receive computerized automatic number information (ANI) or automatic location information (ALI). All landline 9-1-1 telephone services in San Joaquin County provide enhanced 9-1-1 service. When enhanced 9-1-1 ANI/ALI information is available this information automatically accompanies a 9-1-1 transfer to another public safety answering point (PSAP).

Approximately 62 seconds after Neighbor 1 first placed the 9-1-1 call, CHP Communications transferred Neighbor 1 to the Lifecom EMS and Fire Dispatch Center in Salida (Lifecom). The CHP call taker announced the transfer to the Lifecom call taker stating: "CHP with a medical transfer on Keyser" (pronounced Ki'zer). The CHP call taker did not repeat the spelling of the street name as originally provided by Neighbor 1.

1 The Lifecom call taker asked Neighbor 1 for the address of the emergency. Neighbor 1
2 stated the address as [REDACTED] Keyser Drive (pronounced Ki'zer). The Lifecom call taker asked
3 Neighbor 1 for the name of the nearest cross street but apparently did not hear or understand
4 Neighbor 1 when he stated the cross street as Fred Russo. The Lifecom call taker instead
5 asked Neighbor 1 to confirm that the nearest cross street is Mariposa Road. Neighbor 1
6 responded: "This is Mariposa Community." The Lifecom call taker mistook Neighbor 1's use
7 of "Mariposa Community" for confirmation of the cross street as Mariposa Road. The Lifecom
8 call taker did not ask Neighbor 1 to spell the name of the street. Note: Mariposa Community
9 is apparently a reference to an unofficial neighborhood identifier.

10
11 The Lifecom call taker, believing that the address had been confirmed by the CHP call taker
12 and Neighbor 1, incorrectly assigns the location of the emergency to [REDACTED] Kaiser Road (a
13 valid location in the County GIS database) with a cross street of Mariposa Road, resulting in
14 the dispatch of the Collegeville Fire Department and AMR Medic 77 at 1218 hours.

15
16 The Lifecom dispatcher provided call information to the Collegeville Fire Department and
17 AMR Medic 77, while the Lifecom call taker remained on the line with Neighbor 1 attempting
18 to provide CPR instructions as directed by the Pro QA EMD card for cardiac arrest. Note:
19 Despite the Lifecom call taker's ongoing attempts to provide CPR instructions, no bystander
20 CPR was performed on the unconscious and unresponsive patient.

21
22 At approximately 1226 hours, the Collegeville Fire Department and AMR Medic 77 began
23 reporting to Lifecom dispatchers that they were having difficulty locating the residence at
24 [REDACTED] Kaiser Road. The Lifecom dispatchers asked the Lifecom call taker to obtain additional
25 information from the reporting party regarding the residence. By approximately 1227 hours,
26 13 minutes after the initial call was received at CHP Communications, it became clear to
27 Lifecom dispatchers that Collegeville Fire and AMR Medic 77 were unable to locate the
28 emergency.

29
30 The Lifecom call taker interrupted her attempts to provide CPR instructions and began asking
31 Neighbor 1 a series of questions to better ascertain the location of the emergency. The
32 Lifecom call taker asked Neighbor 1 if he could hear sirens and instructed him to send
33 someone outside to meet the ambulance. The Lifecom call taker re-confirmed the address
34 as [REDACTED] Kaiser (pronounced Ki'zer) and then asked Neighbor 1 to confirm Mariposa Road as
35 the cross street. Neighbor 1 clearly responds "Yeah; right. Mariposa Community." The
36 Lifecom call taker again asks if he can hear sirens.

37
38 At approximately 1228 hours, in response to continued questions asked by the Lifecom call
39 taker, Neighbor 1 stated clearly that the house is at the corner of Fred Russo. The Lifecom
40 call taker appeared to take note of this cross street information and began asking more
41 detailed information on major thoroughfares, to which Neighbor 1 stated that they were near
42 March Lane. The Lifecom call taker then clarified that Mariposa Road is not the cross street.
43 Neighbor 1 stated: "No, no, no, no. Not Mariposa, no. This is Mariposa Community."
44 Questioning about the location continued, including a brief conversation with the patient's
45 daughter.

1 At approximately 1236 hours, a new neighbor came onto the line (Neighbor 2) and clearly
2 stated that the name of the street was Keyser (pronounced Kee'zer). The Lifecom call taker
3 asked Neighbor 2 to spell the street name and Neighbor 2 responded "K-E-Y-S-E-R".
4

5 Note: During her interview the Lifecom Supervisor who was on duty and involved directly in
6 this call, stated that the address of [REDACTED] Keyser Drive did not register as a valid hit in the
7 Lifecom CAD geographic data files. The Lifecom dispatch supervisor stated that neither she
8 nor the Lifecom call taker attempted to validate Keyser Drive or Fred Russo in the on-line
9 County GIS database or in any other mapping tool readily available at the time of the call.
10

11 At approximately 1239 hours, some 25 minutes after the original 9-1-1 call was received by
12 CHP Communications, the Lifecom dispatch supervisor contacted the Stockton Fire
13 Department Emergency Communications Division (SFDECD) to verify whether SFDECD had
14 a Stockton address for [REDACTED] Keyser Drive. SFDECD confirmed [REDACTED] Keyser Drive as a valid
15 address with a cross street of Fred Russo. Lifecom provided SFDECD with the call
16 information and requested the response of Stockton Fire Department First Responders. No
17 information about the delay was provided to SFDECD at that time.
18

19 Following the confirmation with SFDECD, AMR Medic 77 and Colleagueville Fire were
20 cancelled and AMR Medic 15 was dispatched to [REDACTED] Keyser Drive in Stockton. AMR Medic
21 15 and Stockton Fire Engine 13 arrived on scene at approximately 1245 hours, 6 minutes
22 after being dispatched and some 31 minutes after the original 9-1-1 call was received at CHP
23 Communications.
24

25 At approximately 1240 hours, SFDECD personnel contacted Lifecom to verify that the full
26 arrest on Keyser Drive was the same call that SFDECD had just heard Colleagueville Fire
27 Department respond to on Kaiser Road on the County Fire Radio "orange channel".
28

29 Note: It is unclear if personnel at SFDECD understood the correct location of the emergency
30 while monitoring the events on the County Fire "orange channel" or whether SFDECD
31 personnel were in a position to provide assistance earlier in the call. The EMS Agency was
32 not able to clarify this point due to the SFD's denial of the EMS Agency's request to interview
33 the involved SFDECD personnel.
34

35 At approximately 1301 hours the patient was transported by ambulance Code 3 to St.
36 Joseph's Medical Center where she was subsequently pronounced dead.
37

38 **Investigation Methods:**

39

40 The EMS Agency was initially notified of this incident on October 23, 2006 via email
41 correspondence from Stockton Fire Department. After verifying that the incident was a
42 potential sentinel event, the case was referred to Anna Valdez, RN, MSN the EMS Agency
43 Quality Improvement / Trauma System Coordinator for investigation.
44

45 On November 8, 2006 Stockton Fire Department Investigator, Mark Lujan faxed a summary
46 of his investigative findings regarding this incident to the EMS Agency. Prior to November 8th
47 and the receipt of Mark Lujan's letter, no unusual occurrence report, patient care records,

audio files, or any other documentation had been submitted to the EMS Agency by Stockton Fire Department or Lifecom Medical Dispatch.

Over the next two months, the EMS Agency conducted a comprehensive sentinel event investigation into the case. The investigation included a review of all relevant documents, review of all audio files, and interviews with some of the involved personnel. The extended length of the investigation was at least in part due to the refusal of the Stockton Fire Department to make personnel available for interviews.

Investigative Findings, Recommendations and Action Taken:

The main factor resulting in delay of prehospital care to the patient in this incident was human error by the Lifecom call taker and the Lifecom Dispatch Supervisor. These errors were compounded by other factors resulting in a failure to properly identify the location of this emergency and subsequently dispatch an emergency ambulance to the correct location.

Findings regarding factors that contributed to delay of prehospital care to the patient in this incident are listed below.

1) *The lack of Enhanced 9-1-1 ANI/ALI information contributed to the mis-assignment of this call to Kaiser Road with a cross of Mariposa Road.*

Had the cellular service and cellular telephone used to contact 9-1-1 been capable of enhanced 9-1-1 service or if the call had been placed from a landline telephone, the correct spelling of the street name, along with the telephone number and the address would have automatically appeared on the ANI/ALI computer screens at both CHP Communications and Lifecom.

Recommendation:

Local government and other providers of 9-1-1 service in San Joaquin County should actively encourage Federal and State legislative efforts to require all cellular technology and cellular service providers to provide enhanced E911 capability as soon as possible in order to ensure the availability of ANI/ALI information.

2) *The CHP call taker misstates the name of the street as Kaiser (Ki'zer) and fails to provide Lifecom with the spelling of the street name during the call transfer.*

The reporting party originally pronounced the street name as Keyser (Kee'zer) Drive and spelled the name K-E-Y-S-E-R for the CHP call taker. Upon transfer of the medical call, the CHP call taker identified the location of the call as Kaiser (Ki'zer) and failed to provide Lifecom with the correct spelling of the street address as provided by the reporting party.

Recommendation:

The California Highway Patrol Stockton Communications Center should review call transfer guidelines with all personnel and ensure that complete address information is

1 obtained and relayed to the secondary PSAP during call transfer. CHP
2 Communications should ensure that specific policies are in place to guide call takers in
3 obtaining location information when ANI/ALI information is unavailable.
4

5 **3) *The Lifecom call taker failed to follow policy and protocol.***
6

7 The Lifecom call taker failed to follow Lifecom policies while communicating with
8 reporting party. The Call taker made the following errors:

- 9 a. Failed to properly complete case entry information, including failure to verify the
10 spelling of the street address in a timely manner.
11 b. Failed to listen attentively to the reporting party's answers. [While this failure
12 may have been in part caused by a language barrier, there were no specific
13 references made by Lifecom personnel regarding a language barrier and no
14 attempts were made to seek available translator assistance during the call.]
15 The reporting party clearly stated at the beginning of the Lifecom call intake that
16 the cross street was Fred Russo.
17 c. Failed to utilize all available resources including computerized and hard copy
18 map sources to correctly identify the location of the emergency.
19

20 **Corrective Action Taken and in Progress:**
21

22 Lifecom terminated the call taker involved in this incident for failure to adhere to
23 established policies. Lifecom has developed and initiated enhanced procedures for
24 instances when responding resources are unable to locate (UTL) the scene of the
25 emergency. These procedures are designed to guide Lifecom personnel in the steps
26 to be taken during a call when the responding resources are unable to locate the
27 scene of a known medical emergency. The EMS Agency shall continue to monitor
28 Lifecom's training and performance through the EMS Agency's Continuous Quality
29 Improvement Program.
30

31 **4) *The Lifecom supervisor failed to follow policy and protocol.***
32

33 The Lifecom supervisor on duty at the time of the call failed to intervene in a timely
34 fashion as required by Lifecom policy when the location of the emergency could not be
35 accurately determined. The Lifecom supervisor also failed to intervene in a timely
36 fashion when the Lifecom call taker experienced significant difficulty in providing pre-
37 arrival medical instructions, specifically CPR instructions to the reporting party.
38

39 **Corrective Action Taken and in Progress:**
40

41 Lifecom has terminated the dispatch supervisor involved in this incident for failure to
42 adhere to established policies. Lifecom provided supplemental training to all other
43 supervisors on the policies and procedures related to the role of dispatch supervisor.
44 The EMS Agency shall continue to monitor Lifecom's training and performance
45 through the EMS Agency's Continuous Quality Improvement Program.
46
47
48

1 **5) *Integration of County and City GIS data into the Lifecom geographical database***
2 ***was not complete at the time of the incident.***
3

4 At the time of this incident Lifecom had not completed an EMS Agency required
5 comparison of the commercial geographic database used by Lifecom and the
6 geographic databases produced by the County of San Joaquin and the City of
7 Stockton. The call taker's failure to obtain a valid hit when the correct spelling of the
8 streets Keyser Drive and Fred Russo were entered in the CAD system added to the
9 call taker's confusion and further delayed the process of determining the true location
10 of the emergency.
11

12 **Corrective Action Completed and in Progress:**
13

14 Lifecom started the GIS comparison in July 2006, and installed the updates generated
15 by the comparison of the San Joaquin County GIS data and the City of Stockton's GIS
16 data in November 2006. Lifecom has developed a policy requiring monthly
17 comparisons with County and City GIS sources. San Joaquin County GIS and the City
18 of Stockton GIS data is made available monthly in its entirety without an index
19 specifying the changes in the data.
20

21 **Recommendation:**
22

23 The EMS Agency should conduct periodic audits of the geographic database used by
24 all PSAP that dispatch EMS resources including Lifecom and the Stockton Fire
25 Department Emergency Communications Center. San Joaquin County and the City of
26 Stockton should produce an index of monthly changes in the GIS data for all of the
27 public safety answering points serving San Joaquin County.
28

29 **6) *It is not known if Stockton Fire Department Emergency Communication Division***
30 ***personnel had the knowledge to provide assistance earlier in the call.***
31

32 The EMS Agency is unable to determine whether SFDECD personnel had determined
33 the correct location of the call and were in a position to provide assistance prior to
34 being contacted by Lifecom. The report submitted to the EMS Agency by the Stockton
35 Fire Department Investigator revealed that SFDECD personnel were listening to the
36 call in real-time. It is unclear if personnel at SFDECD understood the correct location
37 of the emergency while monitoring the events on the County Fire "orange channel" or
38 whether SFDECD personnel were in a position to provide assistance earlier in the call.
39 The EMS Agency was not able to clarify this point due to the SFD's denial of the EMS
40 Agency's request to interview the involved SFDECD personnel.
41

42 **Recommendation:**
43

44 As an EMS provider of service the Stockton Fire Department should immediately make
45 personnel available for interview by the EMS Agency. In addition the Stockton Fire
46 Department should make all records concerning the monitoring of County Fire radio
47 frequencies available to the EMS Agency.
48

1 **Medical Findings:**

2
3 **7) *Lack of bystander CPR provided to the patient.***

4
5 If no delay had occurred, the projected time from the initial call to the arrival of
6 advanced life support personnel was estimated at 8 minutes. There is strong scientific
7 and clinical evidence that the length of time following collapse to delivery of effective
8 CPR, for a patient suffering sudden cardiac arrest caused by ventricular fibrillation, is a
9 critical factor in the successful resuscitation of the patient when the time to cardiac
10 defibrillation exceeds five minutes. In this case, the patient was without respirations
11 and a pulse for an undetermined amount of time before being found and then went
12 without bystander CPR being performed, despite ongoing instructions provided by the
13 Lifecom call taker. Had no delay occurred and advanced life support (ALS) resources
14 arrived within 8 minutes from time of first report to CHP, the patient would have
15 remained without CPR for at least 8 minutes following sudden cardiac arrest caused
16 by ventricular fibrillation. (Bossaert & Van Hoeyweghen, 1989; Dunne et al, 2007;
17 Futterman & Lemburg, 1993; Larsen, Eisenberg, Cummins & Hallstrom, 2005;
18 Valenzuela et al, 1997.)
19

20 **Corrective Action Recommended:**

21
22 All emergency medical service providers should implement and provide public
23 education and awareness programs regarding the importance of learning and
24 performing layperson CPR.
25

26 **Cause of Death:**

27
28 No autopsy was performed in this case due to family request and a known medical
29 history of the patient. However, an external exam was conducted by a Medical
30 Examiner at the San Joaquin County Coroner's Office. The Medical Examiner
31 determined the cause of death to be ventricular fibrillation due to prolonged QT
32 interval, hypertension, and renal failure.
33

34 **Ancillary Investigative Findings:**

35
36 The investigation into the October 21, 2006 incident on Keyser Drive also revealed findings
37 beyond those that contributed to the delay in prehospital care to the patient.
38

39 Findings regarding factors deemed harmful to the EMS system and, therefore, to overall
40 patient care and public safety are listed below.
41

42
43 **8. *Failure to fill out an Unusual Occurrence Report, per EMS Policy 540.01.***

44
45 Lifecom and the Stockton Fire Department Emergency Communications Division failed
46 to follow San Joaquin County EMS Agency policy for the reporting of unusual
47 occurrences.
48

1 **Corrective Action Recommended:**

2
3 The EMS Agency should develop stricter reporting requirements for sentinel events
4 with specific repercussions for EMS providers who fail to report.

5
6 **9. *Stockton Fire Department Interference with the EMS Agency's Investigation.***

7
8 The EMS Agency is granted the statutory authority to evaluate the EMS system. The
9 Stockton Fire Department intentionally interfered with the EMS Agency's ability to
10 conduct a timely and comprehensive investigation into this case by withholding crucial
11 information about the incident during and after the Stockton Fire Department's own
12 investigation, failing to facilitate requests for interviews with Stockton Fire Department
13 personnel in a timely manner, and by releasing information shared for continuous
14 quality improvement (CQI) purposes outside the CQI process.

15
16 **Corrective Action to be taken:**

17
18 The EMS Agency shall place the Stockton Fire Department's Paramedic Services
19 Agreement on probation for a period of 2 years. The Stockton Fire Department shall
20 be required to stipulate to the following probation requirements:

- 21 a. Abide by the April 9, 1986 Paramedic Services Agreement between the
22 County and the City of Stockton;
23 b. Adhere to all San Joaquin County EMS Agency Policies and Procedures;
24 c. Make personnel and documents available upon request;
25 d. Not abridge the EMS Agency's authority.

26
27
28 **Relevant Law and Regulation:**

29
30 **Health and Safety Code, Division 2.5, Section 1797. 200**

31 Each county may develop an emergency medical services program. Each county
32 developing such a program shall designate a local EMS agency which shall be the county
33 health department, an agency established and operated by the county, an entity with which
34 the county contracts for the purposes of local emergency medical services administration, or
35 a joint powers agency created for the administration of emergency medical services by
36 agreement between counties or cities and counties pursuant to the provisions of Chapter 5
37 (commencing with Section 6500) of Division 7 of Title 1 of the Government Code.

38
39 **Health and Safety Code, Division 2.5, Section 1797.204**

40 The local EMS agency shall plan, implement, and evaluate an emergency medical services
41 system, in accordance with the provisions of this part, consisting of an organized pattern of
42 readiness and response services based on public and private agreements and operational
43 procedures.

44
45 **Health and Safety Code, Division 2.5, Section 1798**

46 The medical direction and management of an emergency medical services system shall be
47 under the medical control of the medical director of the local EMS agency.

- 1 **California Code of Regulations, Title 22, Division 9, Chapter 12, EMS System Quality**
2 **Improvement**
3
4 **Relevant San Joaquin County EMS Agency Policies and Procedures:**
5
6 San Joaquin County EMS Agency Policy No. 540.01, Unusual Occurrence
7
8 San Joaquin County EMS Agency No. 3001, Guidelines for EMS Call Screening by Primary
9 Public Safety Answering Points
10
11 San Joaquin County EMS Agency No. 3001A, PSAP Call Type Flow Sheet
12
13 San Joaquin County EMS Agency No. 3101, Emergency Ambulance Service Provider
14 Dispatch Requirements
15
16 San Joaquin County EMS Agency No. 6620, Continuous Quality Improvement Process
17
18
19 **Relevant Lifecom EMS & Fire Dispatch Policies and Procedures:**
20
21 MPDS Implementation and EMD Call Processing
22
23 Emergency Call Taking and Law Enforcement/Fire/First Responder Call Notification
24
25 GIS/GEO File Troubleshoot Procedure
26
27 Sentinel Event Notification Matrix