

EXECUTIVE SUMMARY

On April 6, 1989 the Emergency Medical Services Authority (Authority), the California Amateur Radio Emergency Service (CARES) radio station, and the Health and Welfare Data Center (Data Center) jointly conducted a statewide hospital bed availability communications exercise. All of the Regional Disaster Medical/Health Coordinators participated.

Twenty counties identified 9,261 hospital beds that would have been available that day if a major disaster had occurred outside of a major population center. Six different methods were used to communicate this information to the Authority in Sacramento including radio, computer, and FAX technology.

The exercise successfully demonstrated that:

1. The Authority, CARES, and the Data Center can establish multiple communication channels with Regional Disaster Medical/Health Coordinators (RDMHCs), and a significant number of unaffected counties within two hours of being notified that a disaster has occurred;
2. Twenty counties were able to generate hospital bed availability data within two hours after the Authority's request for it, and successfully communicate it to the Authority.

Numerous recommendations are made for improving each of the statewide communications systems, and presentation of the hospital bed availability data.

TABLE OF CONTENTS

- I. The Goal and Objectives
- II. Exercise Findings, Conclusions, and Recommendations
 - A. Exercise Participation
 - 1. Findings
 - 2. Conclusions
 - 3. Recommendations
 - B. Hospital Bed Availability
 - 1. Findings
 - a. Hospital Bed Reporting Mail Survey
 - b. Hospital Bed Availability During the Exercise
 - 2. Conclusions
 - 3. Recommendations
 - C. Accuracy of Hospital Bed Availability Data Provided by Various Communications Systems
 - 1. Findings
 - a. Voice Data Communications
 - b. Computer Data Communications
 - c. Radio Data Communications
 - d. FAX Machine
 - e. Computer Modem
 - 2. Conclusions
 - 3. Recommendations

D. County Communications Systems Capabilities, and Their Operation During the April 6th Exercise

1. Communications Systems Capabilities
 - a. Findings
 - b. Conclusions
 - c. Recommendations
2. Amateur Radio
 - a. Findings
 - b. Conclusions
 - c. Recommendations
3. Computer Communications
 - a. Health and Welfare Data Center PROFS
 - (1) Findings
 - (2) Conclusions
 - (3) Recommendations
 - b. EMSA Information Net
 - (1) Findings and Conclusions
 - (2) Recommendations
 - c. Computer-to Computer-Communications

Attachments:

1. State Health-Medical-Welfare Amateur Radio Communications Network
2. EMSA Hospital Bed and Communications Survey
3. Amateur Radio Communications Report -- EMSA Hospital Bed Availability Exercise
4. Computer-Based Communications Hospital Bed Reporting Form

AFTER ACTION REPORT AND RECOMMENDATIONS
FOR APRIL 6, 1989 HOSPITAL BED CAPACITY SURVEY
AND COMMUNICATIONS EXERCISE

I. Goal and Objectives

The primary goal of the exercise was to demonstrate the ability of RDMHCs and counties to collect and communicate hospital bed status and communications equipment information to state responders in Sacramento via radio, computer networks, and telephone FAX. The exercise was designed to be low key so that problems could be easily identified and perhaps resolved as the exercise proceeded.

Agencies invited by the EMSA to participate in the exercise were: CARES, RDMHCs, counties electing to participate who are most likely to receive casualties from a major disaster (Los Angeles, San Bernardino, Riverside, Ventura, and Orange in the South; and San Francisco/West Bay area, San Jose/South Bay area, Alameda/Contra Costa/East Bay area, Stockton, and Redding), and other agencies identified by CARES (Attachment 1).

The specific exercise objectives to accomplish this goal were:

- o To collect sufficient information to begin to formalize the policies and procedures for coordinating the distribution of disaster victims to hospitals in unaffected areas;
- o To demonstrate CARES radio, satellite, and computer communications; and,
- o To collect information about communication capabilities.

The Authority worked closely with CARES to develop a communications exercise that would meet both agencies' needs. The Authority's goals were to demonstrate CARES' ability to establish HF, VHF, and UHF voice and digital communications with county EMS agencies who elected to use radio and/or computer nets to forward their hospital data to Sacramento. More specifically they were:

- o To demonstrate the radio communications capabilities of the RDMHCs for at least two radio communication methods and frequencies to be used by CARES by transmitting voice and text files (non-radio computer communications would also be tested).

- o To demonstrate at least one method of radio or computer network communications for the other participants by transmitting voice and text files.
- o To demonstrate the ATS-3 satellite by communicating with the Red Cross in Burlingame and transmitting voice and text files.
- o To familiarize RDMHC and other organizations with the modes of communications, text files, operational procedures, and radio frequencies and the like that the Authority intends to use in a real disaster.
- o To encourage exercise participants to develop capabilities in areas where they are currently deficient so that they have at least two reliable means for communicating with CARES if a disaster should occur.

CARES, in addition to these goals, planned to:

- o Test communications between radio stations in the proposed State Health/Medical/Welfare Emergency Communications Net (HMW) (see Attachment 3 for description of the net), which includes the State Blood Bank System, Red Cross, State and Regional OES, Kaiser Permanente Hospitals, and the Sacramento City Communications Reserve;
- o Gather information on the staffing and equipment of emergency HMW Amateur Radio Stations; and,
- o Pass any traffic that has been prearranged between the Authority and county EMS agencies.

A mail survey was also conducted as part of the exercise to:

- o Determine if counties can collect information about the current status of hospital beds.
- o Determine how counties currently collect hospital bed information and if it is compatible with ASMRO categories.
- o Determine how long it takes counties to collect information.

Each of the exercise objectives will be reviewed in turn. Exercise findings, conclusions, and recommendations for improving the communications network are proposed.