



EMScan/KeyData™

Reference Manual

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Arkansas Version 1.10

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by

EMS Data Systems, Inc.
Scottsdale, Arizona

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1.0 EMSCAN/KEYDATA 2000 OVERVIEW

INTRODUCTION TO EMSCAN

EMScan is a fully-featured database and reporting package originally designed to integrate microcomputers with optical scanning technology, and since expanded to include other types of input technology. EMScan was developed for the Emergency Medical Services industry following years of design, testing, and field implementation, to permit the interpretation and analysis of scannable, prehospital run report data.

EMScan is designed to be flexible and easy to use, yet it allows for complicated analysis of virtually any data point found on the run report. EMScan and its related products such as EMScan/Keydata 2000 use a modular menu format that enables you to quickly learn and master the powerful features of the software.

EMSCAN/KEYDATA 2000

EMScan/KeyData 2000 is a Windows™-based software program that allows for keyboard entry and reporting of prehospital data. Prehospital data is key-entered, or obtained through other means of import technology, and processed into databases. Standard EMScan reports can then be created using any combination of date and unit ranges. Data can also be exported in ASCII format to the state to meet their reporting requirements, or to other software packages for billing, research, or other purposes.

LAYOUT OF THE EMSCAN/KEYDATA 2000 PROGRAM

EMScan/KeyData 2000 utilizes a pull-down menu format similar to other Windows™-based applications. After logging in to the program with the appropriate user name and password, all software functions can be accessed via the menu options listed at the top of the screen. In addition, the software's three primary functions – entering

patient care reports, reporting on data, and exporting data to the state – may also be conveniently accessed via three large buttons on the main start-up screen.

FILE MENU

The following functions may be accessed from this menu:

Enter Patient Care Reports

This function allows you to key-enter prehospital data directly into the system. As data is keyed in and processed, it is error checked and automatically sorted by the software into the appropriate database.

Enter Personnel Data

Use this option to enter personnel data, such as EMT name, certification number, certification level, expiration dates, etc. KeyData 2000 will use this information to validate crew member data as it is entered in each patient care report, and for reporting purposes.

Enter Destinations Data

This option lets you enter the names and ID numbers of the facilities where you transport patients.

Enter Ambulance Service Data

This function allows you to enter the names and ID numbers of the ambulance services that will be utilizing the software to enter patient care report data.

Enter Community Codes

Use this option to enter the names and ID numbers of the communities served by your agency.

Export Data To EMScan

This item allows you to export or re-export your data to the Arkansas Division of EMS & Trauma Systems.

REPORTS MENU

Standard reports may be run on your data using this menu. Currently, four standard reports are included in all

versions of the software except the Basic Key-Entry Only version: Incident Location & Type; Trauma; Treatment; and Unit Utilization. In addition, if you have the Query Module or the Network version of the software, you may also access Queries and Custom Reports with this menu.

UTILITIES MENU

The Utilities Menu lets you perform various administrative functions such as setting up new user passwords, re-indexing your database, setting up research code labels, and exporting data in ASCII format for billing, research, or other purposes.

USING THIS REFERENCE MANUAL

This manual was designed to provide useful instruction on the operation of the EMScan/KeyData 2000 software regardless of the user's technical ability. All chapters contain detailed explanations of the features available, as well as examples of certain menus and screens. If you have any questions or difficulties which are not explained in this manual, please call EMS Data Systems Technical Support at (520) 519-0239 or (480) 949-7646.

2.0 SYSTEM SETUP

ESSENTIAL COMPONENTS

In order to install EMScan/KeyData 2000, your computer must meet the following minimum system requirements:

Operating System:

- Windows 9x; Windows ME; Windows XP; Windows NT 4.0; or Windows 2000 (not DOS or Windows 3.x)

Hardware:

- Pentium 133MHz or better
- SVGA 800 x 600 dpi monitor or better
- 10MB available hard drive space to install, plus 1KB per record created for storage
- Sufficient memory to run the operating system
- Mouse or other pointing device
- CD drive
- Printer (Windows-compatible)

INSTALLING EMSCAN/KEYDATA 2000

EMScan/KeyData 2000 software uses a "limited-install" system of copy protection. This means that the software can only be installed on one hard drive or network at any one time, while still allowing copies of the master diskette to be made for back-up purposes. The software is encoded with specific record identification numbers (lithocodes) that are unique to that specific copy. If the software is installed on multiple hard drives or networks, multiple records with the same lithocode numbers will be created. This will cause the records to overwrite each other when they are combined into a single database for reporting purposes, or exported to the State's main database or other site (e.g., to billing).

Installation Instructions

1. Insert the EMScan/KeyData 2000 CD in your CD Drive and close the door. The installation program should autorun and perform the installation
2. If the installation does not autorun, click on your Start button, then on Run. Enter the drive letter of your CD drive (often D:\), followed by "setup" (e.g., d:\setup), then press Enter.
3. Setup suggests a subdirectory to install to. If that sub-directory is acceptable, press Enter. Otherwise, enter the subdirectory where you want the software installed and press Enter.
4. Installation will be completed automatically. It is recommended that you create a shortcut on your desktop in order to easily access the software. If the installation program did not automatically create the shortcut, then go into Windows Explorer, open the subdirectory where you installed the software, and drag the program's executable file (Keydata.exe) onto your desktop. An icon of the EMS Data Systems logo ((())) will appear on your desktop to represent the shortcut.

STARTING EMSCAN/ KEYDATA

When the initial installation process is completed, doubleclick on the icon for the shortcut you just created. The user login will appear on the screen, as illustrated in Figure 2.1.

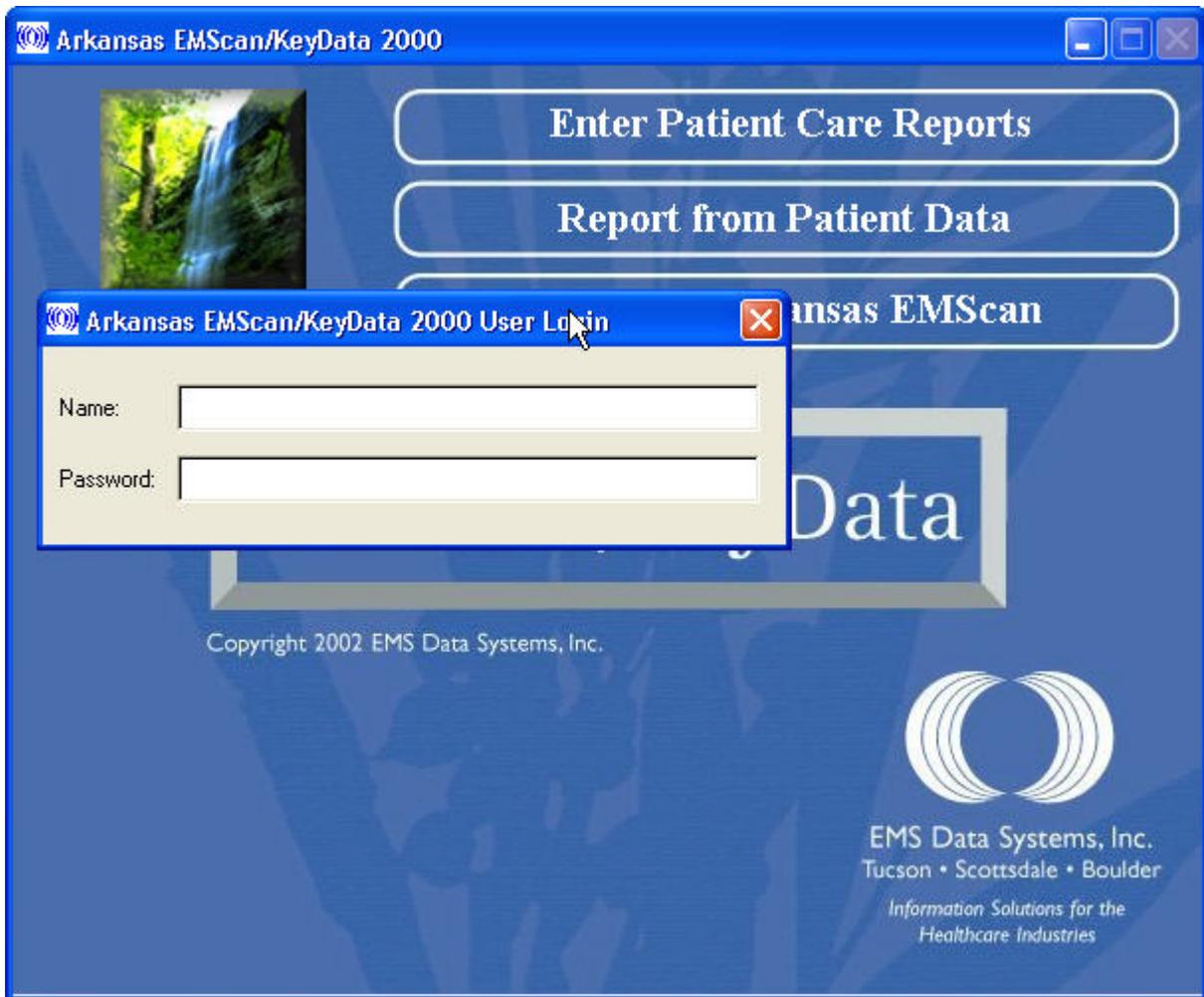


Figure 2.1

To log on to the system for the first time, enter a user name of "SUPERVISOR" with the password "EMSDATA". You must then perform the system setup tasks required prior to entering patient care data.

SYSTEM NAVIGATION

Moving through the menus and selecting options is designed to be easy. All menu choices can be selected by using your mouse or the arrow keys on your keyboard to highlight the desired choice. Certain menu screens will also allow selections to be made by typing the first letter of the command. In addition, <Cntrl><=> and <Cntrl><<> may be used to move quickly to the beginning or end of

any list window. Clicking on the option with your mouse, or pressing <Enter> on your keyboard, executes the highlighted choice. When this manual instructs you to "choose this option" or "select", it is understood to mean using your mouse or the appropriate arrow keys to move the highlight on your menu over the menu selection desired and then clicking with your mouse or pressing the <Enter> key.

To move from field to field within each screen, you may use your mouse to click on the desired field, or use the <Enter>, <Tab> and <Shift><Tab> keys to move back and forth from field to field.

In data entry windows (such as personnel data, patient care data, hospital data, etc.), several buttons at the bottom left of each window allow you to easily move back and forth from record to record. When you first select a data entry option such as "Enter Patient Care Data", the first record in the database appears in the pop-up window. To go to the next record in the database, simply click on the "Next" button at the bottom right. To return to the previous record, click on the "Prev" button. To jump to the last record in the database, click on the "Bottom" button. Click on the "Top" button to return to the first record in the database. You may move back and forth in this manner without deleting or changing any of the records in the database.

Search Utility

In addition to these options, EMScan/KeyData 2000 contains a search utility that allows you to find particular records by using the "Find" button (see Figure 2.2). The search utility allows you to enter specific field information for which you are searching (e.g., LITHOCODE equals 23946000 and PATIENT_NAME equals Jimmy Jones), and if there is a record meeting that criteria, it will be displayed on your screen.

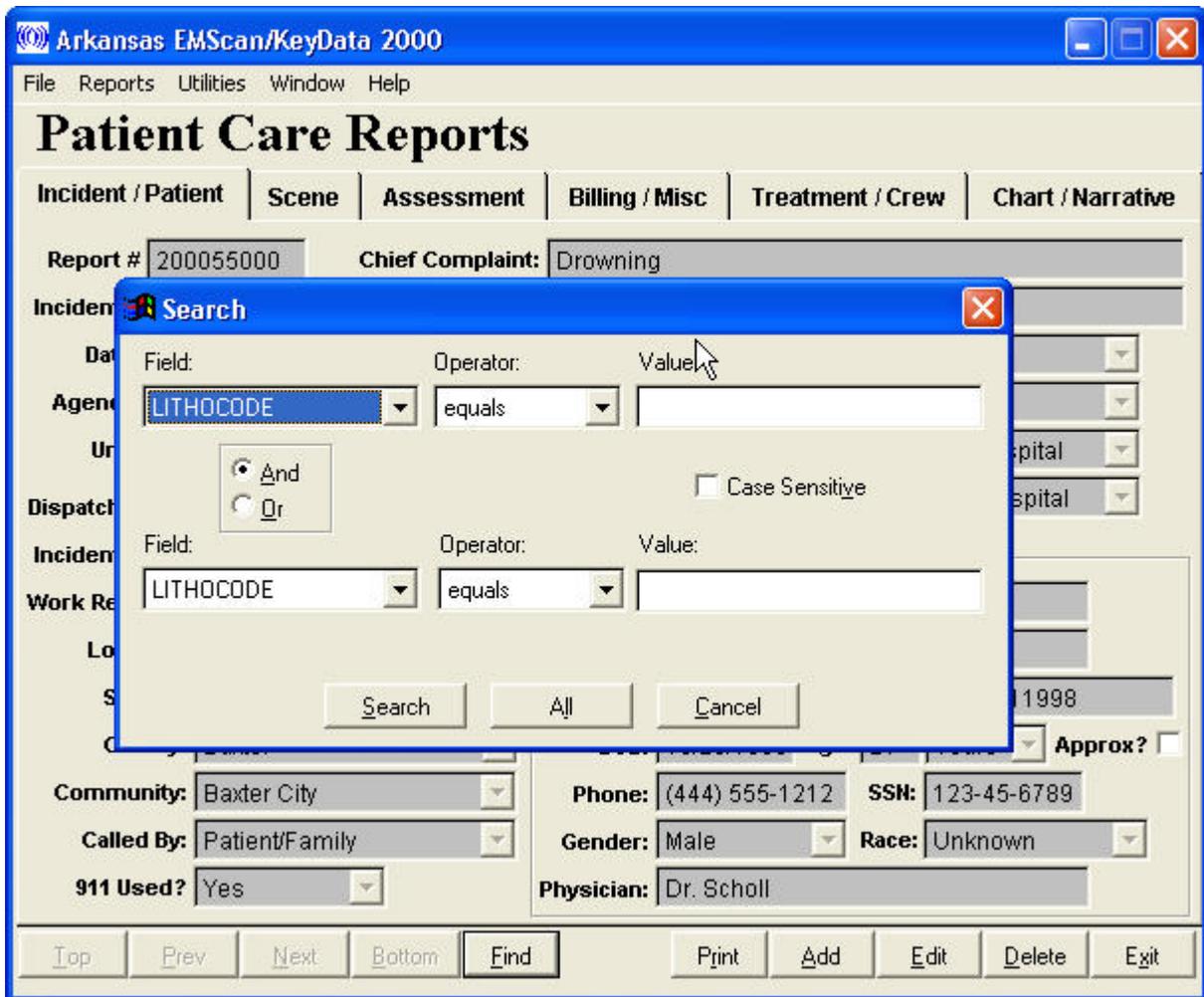


Figure 2.2

To search for a record, click the “Find” button at the bottom of the Patient Care Reports screen, and the screen shown in Figure 2.2 will be displayed. In the first line, click on the down arrow at the right of “Field” to view a list of all the possible datapoints within EMScan/KeyData that you may select from to define your search. Select the desired item, then click on the down arrow at the right of “Operator”. Note that you will see a list of items that define the parameters for your search. For example, if you only want a record if it specifically meets a certain criteria or value such as a specific agency or unit number or a specific dispatch time, you may wish to choose “equals” as the Operator. However, if you wish to search for a record within a range of values, then “more than”, “less than”,

“contains”, or “between” might be more appropriate choices. Once you have selected the appropriate operator, then type in the specific value of the field. If you are only using one search criteria, then click on the “Search” button. If a record is found meeting your criteria, it will be displayed on your screen. If you wish to specify another criteria for your search to further narrow the choices, then click the appropriate button to indicate whether the desired record must meet both conditions in order to be selected (the “and” button), or either condition in order to be chosen (the “or” button). Then enter the field, operator, and value for the second criteria of your search, and click “Search”. If no records are located that meet the specified conditions, you will see a message stating “No records were found which meet your query”.

SETTING UP SYSTEM USERS AND PASSWORDS

Immediately after you enter the EMScan/KeyData program for the first time, go to the Utilities Menu and setup new user names and passwords for all authorized system users.

Click on the Utilities option at the top of your screen, then choose “New Password Entry”. A small window will appear entitled “Add/Update User Information”, as displayed in Figure 2.3.

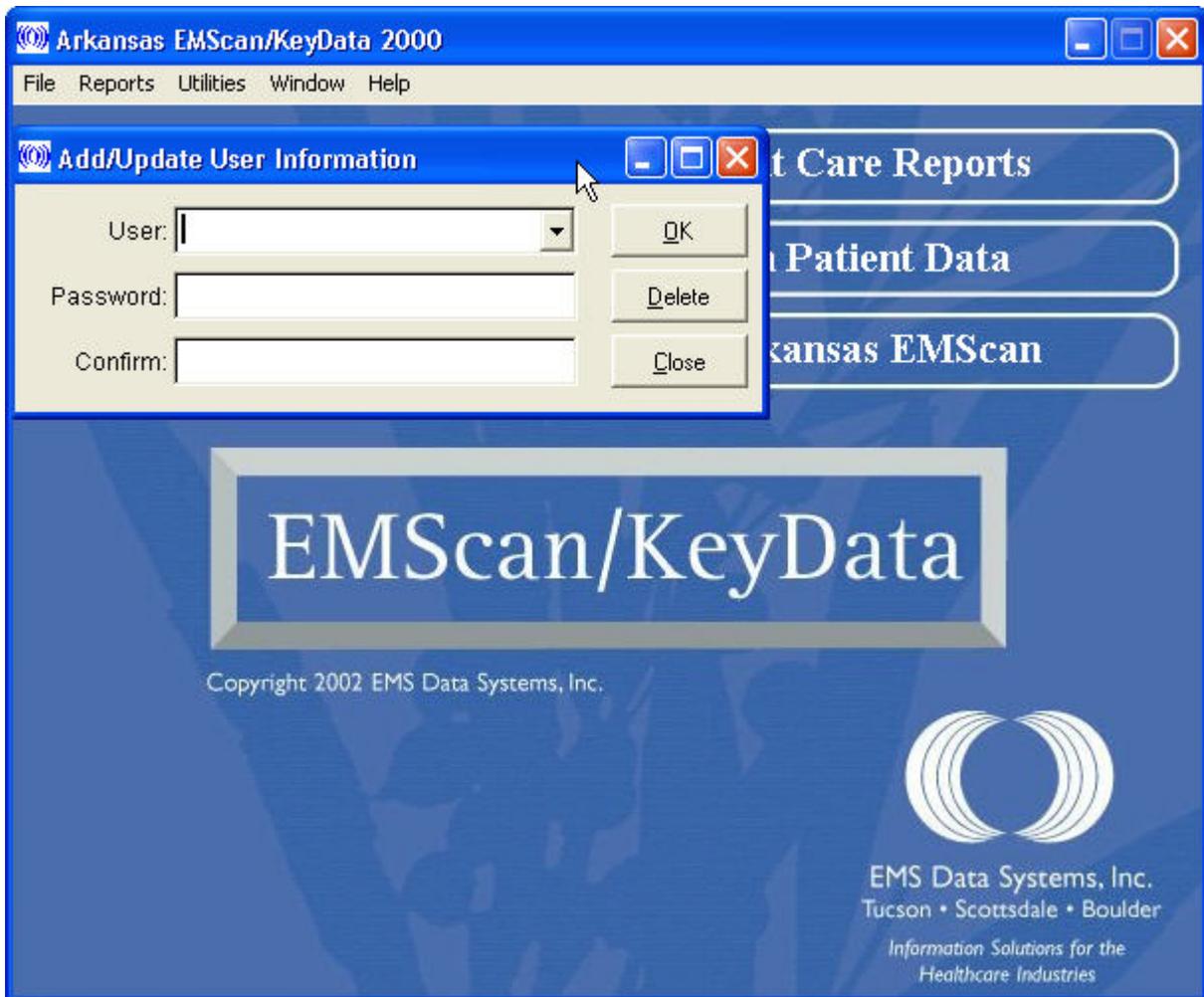


Figure 2.3

Click on the down arrow at the right of the User field, and you will see a list of all system user names that have already been entered. Select "SUPERVISOR", then click and enter a new password. Type the same password again in the "CONFIRM" field, then click on "OK". The next time you log in as SUPERVISOR, you will be required to use the new password you just entered. Don't forget to keep a secure record of this password, as well as all other assigned user names and passwords.

After changing your supervisor password, continue entering user names and passwords for all authorized system users. Each time you enter a new user name and password and click on OK, a pop-up window will appear saying "User not listed. Do you want to add a new user?".

Click “Yes” to add the new user. Click “No” to cancel the action and enter a different user name or password.

NOTE: YOU MUST LOG IN AS "SUPERVISOR" WITH THE APPROPRIATE PASSWORD IN ORDER TO ACCESS THE "NEW PASSWORD ENTRY" OPTION ON THE UTILITIES MENU.

System users who do not log in as “SUPERVISOR”, are only allowed to change their own passwords. Upon selecting “New Password Entry” from the Utilities Menu, these users see a pop-up window that prompts them to enter and confirm a new password for their user name only.

SETTING UP PERSONNEL DATA

The next step in setting up your EMScan/KeyData software is to enter personnel data for all personnel who will be involved in providing patient care. Click on the File option at the top of your screen, then choose “Enter Personnel Data”. A screen like the one shown in Figure 2.4 will appear.

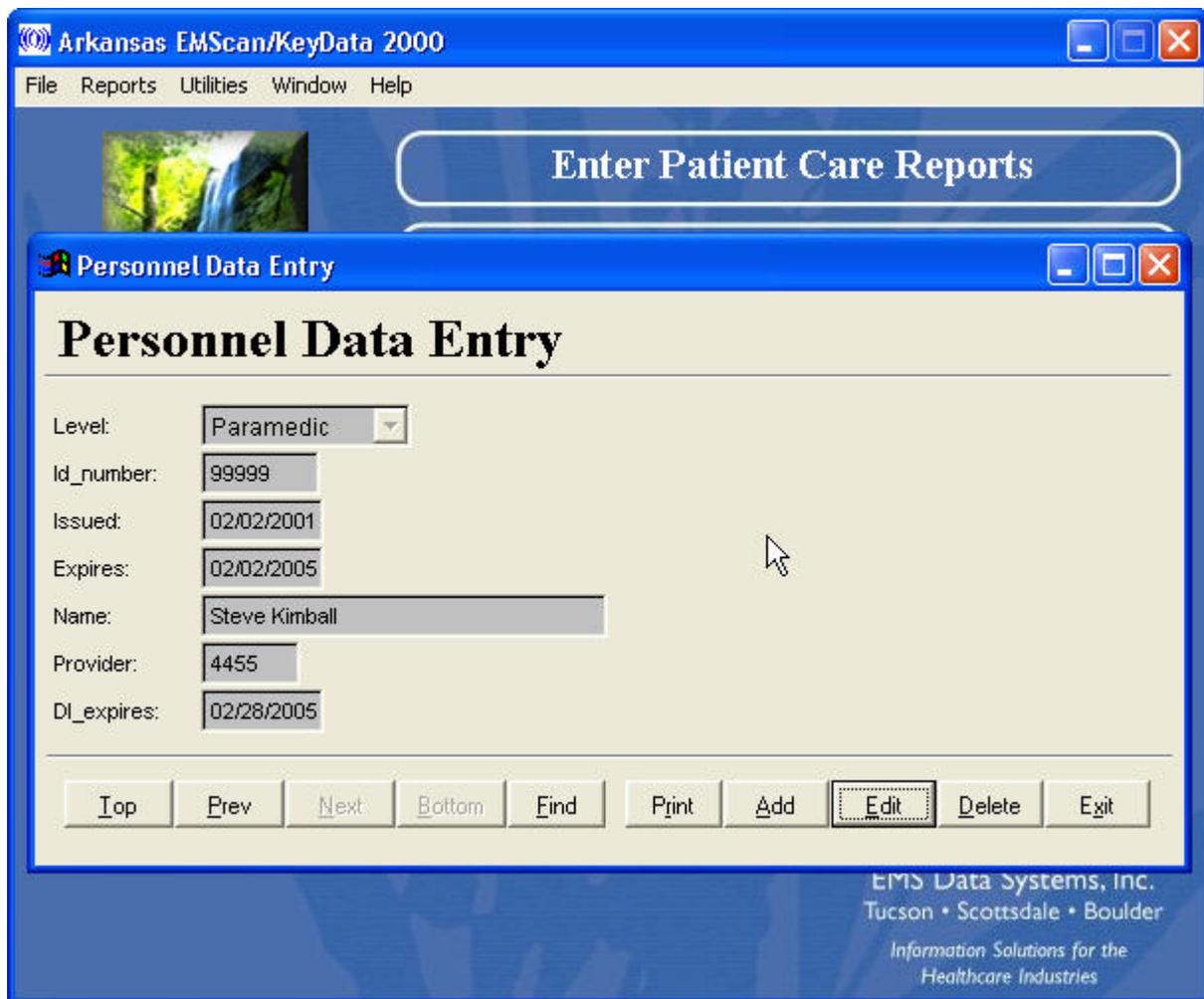


Figure 2.4

If any personnel data has previously been entered, the first record in the Personnel Database will be displayed in the window that appears. If no data has been entered, the data entry fields will be blank.

To add a new record, click on the “Add” button at the bottom right of the window, then enter the following information for each crew member:

Level – Click on the down arrow at the right of this field and select the crew member’s certification level.

ID# - Enter the crew member’s 5-digit EMT certification or license number or other assigned identification number (e.g., for RN’s, MD’s or other staff).

Issue Date – Enter the date the crew member's certification was issued, in the format MMDDYYYY.

Expiration Date – Enter the expiration date of the crew member's certification.

Name – Enter the crew member's name as you want it to appear in your reports. You may use any format you wish (e.g., John Smith; John J. Smith; Smith, John J.; etc.); however, we recommend that you establish a standard format and use it consistently for all crew data that you enter. This will make it easier to find and update, modify, or report on crew records in the future.

Provider # - Enter the 4-digit identification number of the agency where the crew member is employed.

Driver's License Expiration Date – Enter the expiration date of the crew member's driver's license. If you choose not to track this information, enter a default date of 12/31/2999 in order to prevent error messages for expired driver's licenses.

Once you are satisfied that all information is correctly entered, click on the "Save" button at the bottom right of the window. Note that at a minimum, a level and valid ID number must be entered for each crew member, and you must enter a unique ID number and name for each crew member entered. If you inadvertently enter duplicate ID numbers or names, you will get an error message saying "Failed to update table: Unique index violation", and the record will not be saved.

After you have entered personnel records, you may print or edit the data at any time. Simply find the desired record in the database, then click on the "Print" or "Edit" buttons at the bottom right. When editing data, do not forget to save your changes before exiting the window. If you do not want to save your changes, click on the "Revert" button at the bottom right or simply close the window using the X button at the top right.

When you have finished entering personnel data, click on the "Exit" button at the bottom right, or close the window using the X button at the top right.

SETTING UP DESTINATIONS DATA

After all personnel data is entered, select “Enter Destinations Data” from the File menu, and the screen illustrated in Figure 2.5 will appear.



Figure 2.5

Similar to the manner in which you entered personnel data, click on the “Add” button, and enter the names and identification numbers of all hospitals or receiving facilities to which you transport patients. Also enter the names and ID numbers of any other ambulance services (ALS, Lifelight, etc.) to which your crew members may transfer patient care. Note that you must enter the correct, valid state identification numbers for any licensed facilities that

you add to your list, and you must not duplicate names or identification numbers already entered. If you do, you will get a “Unique index violation” error message. Your software may contain a preloaded, complete list of all destination facilities for the State of Arkansas. However, you may wish to modify this list by deleting facilities out of your transport area, or by adding new facilities or agencies to which you transport or transfer care.

SETTING UP AMBULANCE SERVICE DATA

Next, select “Enter Ambulance Service Data” from the File menu to display the screen shown in Figure 2.6.



Figure 2.6

Enter the names and identification numbers of all ambulance services for which you will be entering patient care data. If your units provide patient care, then transfer care to other services (e.g., ALS, Lifelight, etc.), then the names and ID numbers of those services should be entered in Hospital Data, rather than in this area.

SETTING UP COMMUNITY CODES

Select “Enter Community Codes” from the File menu (Figure 2.7). For each community within your area, enter the code number and name or description of the community associated with that code.

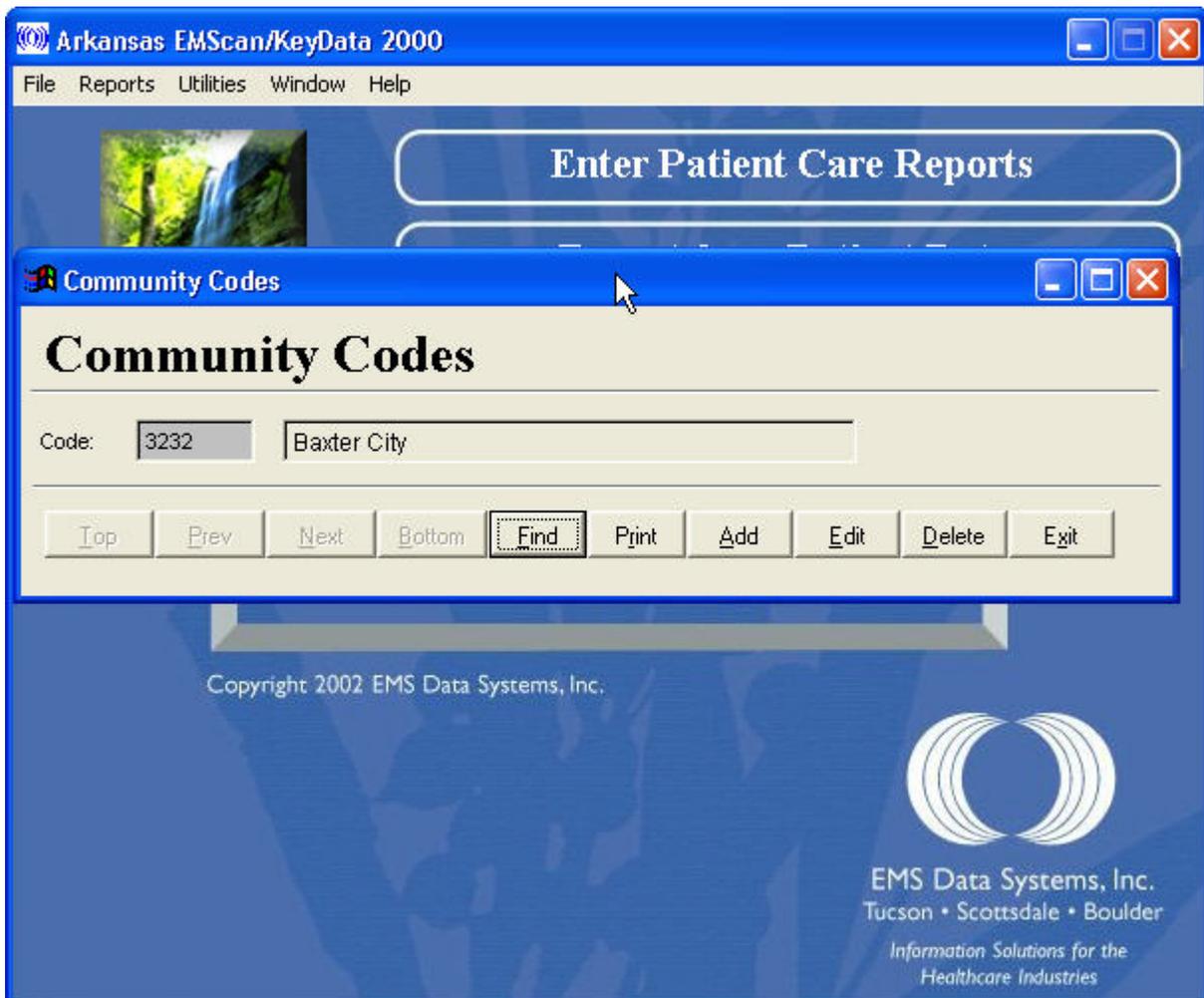


Figure 2.7

You have now completed the system setup process and may begin entering patient care records.

3.0 ENTER PATIENT CARE REPORTS

OVERVIEW

This option serves as the primary means of entering data into the system. At the main screen, click on “Enter Patient Care Reports” or choose that option from the File Menu. A Patient Care Report is displayed, consisting of a series of screens containing key prehospital fields (see Figure 3.1). These fields collect the same information and datapoints that are found on the scannable Arkansas EMS Prehospital Care Report form, plus additional narrative and billing information. Once the report is completed, clicking the “Save” button error checks the information, lists errors for correction, and upon correction, creates a new patient care record in the master database.

GENERAL LAYOUT

Patient Care Report screens are presented with information grouped in sections. These sections are represented by tabs, and include the following:

- INCIDENT/PATIENT
- SCENE
- ASSESSMENT
- BILLING/MISCELLANEOUS
- TREATMENT/CREW
- CHART/NARRATIVE

To begin entering patient care data in a new record, click on the “Add” button.

Figure 3.1

REQUIRED INFORMATION

There are twelve fields in the Patient Care Report which MUST be completed in order for the record to be accepted into the database. These fields are:

- INCIDENT NUMBER
- DATE
- AGENCY
- UNIT NUMBER
- COUNTY
- OUTCOME
- RESPONSE/TRANSPORT MODE
- DISPATCH TIME
- ENROUTE TIME

IN SERVICE TIME
CREW MEMBER #1 ID
CREW MEMBER #2 ID

When you click on the Save button, if any of these fields are incorrect or incomplete, a window appears at the bottom of the screen listing the first error, and your cursor is automatically placed in that field. Simply enter the appropriate information for that item, then click the "Next Error" button at the bottom of the screen. The next error message will appear and your cursor will jump to that field, allowing you to enter or correct that data. When you have correctly entered all required data, click on the "Save" button again.

This feature is particularly useful for entering data on calls where minimal information is required (i.e., cancelled, false, and standby calls). You can simply click "Add", then "Save", and the system will guide you through completion of these required fields. Note, however, that certain types of calls (e.g., trauma calls) or calls involving patient contact, may require completion of additional fields.

INCIDENT/PATIENT INFORMATION

This screen (Figure 3.1 above) includes the following fields:

Report #

The Report # is a unique number which identifies the record in the database. The range of Report Numbers which will be assigned to each new patient care report is pre-set by EMS Data Systems. The EMScan/KeyData software is hard-coded so that a new report number within the pre-assigned range will automatically appear on the screen for each new patient care report, thus eliminating the need to manually enter this number.

Incident #

Record the actual number petitioned from the dispatcher for the incident to which you are responding, i.e., the "ambulance run number". **ENTER THIS INFORMATION FOR EVERY CALL, INCLUDING**

CANCELLED CALLS. If another unit transports your patient, a separate Incident Number is required. A maximum of 5 digits may be entered. After entering a 5 digit number, your cursor will automatically move to the next field.

Zip If known, enter the zip code where the incident is located.

Date Enter the date that the call was **received**. If the call is received at 2357, then that is the date you use, despite the fact that the majority of the call occurs the following day. The format of the date must be MMDDYYYY. Do not omit 0's when entering the month or day; i.e., the third day of January must be entered as 01/03 or 0103. If appropriate, you may click the "Use Today's Date" button to automatically fill in the current date.

Agency Enter the name of your agency by selecting the appropriate name from the pull-down list. Note that you may also type the first letter of the desired agency name. If more than one agency begins with the same letter, pressing that letter repeatedly will take you to the next item in the list that begins with that letter. Press <Tab> or <Enter> to move to the next field, or use your mouse to click in the next field.

Unit # Enter the four-digit vehicle decal number of the unit responding to the call. This field **MUST BE COMPLETED** for every call.

Dispatch Type & Incident Type

Document the type of incident to which you were dispatched, as well as what type of incident you actually found upon arrival at the scene. These may or may not be the same. In each field, select the appropriate choice from the pull-down list. Refer to the Arkansas Prehospital Care Report Instruction Manual for detailed definitions of the data elements in these and other fields throughout the Patient Care Report.

Scheduled & Mutual Aid	If your unit was performing a scheduled inter-facility transfer, click in the box next to "Scheduled?". If your unit's response was for the purpose of providing assistance to another city, town or department, click the box for "Mutual Aid?".
Work-Related?	Indicate whether or not the incident was work-related, i.e., the patient was working at the time the incident occurred. If you are unable to determine whether or not the patient's illness/injury occurred while they were working, select "Unknown".
Incident Location	Using the selection lists, document the location of the incident to which you were dispatched, as well as type of setting (e.g., rural or urban).
County	Enter the county in which the incident occurred.
Community Code	Enter the community code for the community where the incident occurred.
Called By	Using the selection list, indicate who placed the call for EMS assistance.
911 Used?	Indicate whether or not the 911 system was used in placing the call for EMS assistance.
Chief Complaint	Enter a brief description of the patient's chief complaint in narrative fashion.
Person Receiving Patient	Record the name and title of the person receiving the patient at the hospital or other receiving facility.
Outcome	This section identifies disposition of the call. If you transported a patient, select the choice that reflects the

type of the facility receiving the patient (i.e., emergency department, trauma center, extended care facility, direct admit to hospital, etc.).

Chosen By

Indicate how the choice of the receiving facility was made.

**Receiving Facility
& Type**

Enter the name of the **receiving hospital or facility** (or other ambulance service) to which you transported the patient. Also indicate whether it was a hospital, ambulance, or other type of facility.

**Patient
Information**

Use this area to record, in narrative fashion, the patient's name, address, date of birth, age, phone number, social security number, gender, race, and name of personal physician. When entering age for patients younger than one year of age, record their age in months and use the pop-up screen to change the default "Years" to "Months". If you are estimating the patient's age, click in the "Approx?" field.

**SCENE
INFORMATION**

Patient Care Reports

Incident / Patient | **Scene** | Assessment | Billing / Misc | Treatment / Crew | Chart / Narrative

Mode:

To Scene: [Dropdown] Delayed?

From Scene: [Dropdown] Delayed?

Times

Received: [Time] Depart Scene: [Time]

Dispatched: [Time] Arrive Dest: [Time]

Enroute: [Time] Depart Dest: [Time]

Arrive Scene: [Time] In Service: [Time]

Patient Protection

Shoulder/Lap Belt Personal Flotation Device

Shoulder Belt

Lap Belt

Air Bag None Used

Safety Seat Unavailable

Helmet Unknown

Patient Location: [Dropdown]

Rescue/Extrication Equipment

RS-10 Spreader Air Chisel

Come Along Air Bags

Hydraulic Spreader Jaws of Life

Other

Assist | Arrest / CPR | Contributing Fx | ET's

No Assist?

Update List

Procedure	Rendered By

Top Prev Next Bottom Find Print Save Revert Delete Exit

Figure 3.2

**Response/
Transport Mode**

Indicate the mode in which you responded to the scene and from which you transported the patient to the hospital or receiving facility. Also indicate whether or not a delay occurred.

Protection

In this area, click all applicable choices to indicate the type of safety devices that the patient was using at the time of injury. This information is critical and applies to

all motor vehicle, motorcycle, bicycle, and recreational vehicle accidents.

Patient Location Select the appropriate choice from the pull-down list to indicate where the patient was originally located in/on the vehicle.

Rescue/Ext. Equip. If an extrication was performed, indicate the type of equipment used. Multiple selections may be made.

Time Fields In the following fields, enter a time of day in military format:

- RECEIVED
- DISPATCH
- ENROUTE
- ARRIVE SCENE
- DEPART SCENE
- ARRIVE DESTINATION
- DEPART DESTINATION
- IN SERVICE

NOTE: To mark a time as MIDNIGHT fill in '2400' or '0000'. Keep in mind that any of the "times" fields marked as '0000' will be interpreted by the computer system as midnight. **Leave the field blank if no time is to be recorded.**

Assistance This section is used to document any prior aid or assistance on scene by other parties. If no prior aid or assistance occurred, click on "No Assist?". If assistance did occur, click on "Update List" to display a matrix of possible data elements, as shown in Figure 3.3. Using your mouse, click in all applicable boxes to indicate the type of assistance provided and by whom. Click the "Save" button to record your data and return to the main data entry screen. You will note that the selections you made are now listed in the section.

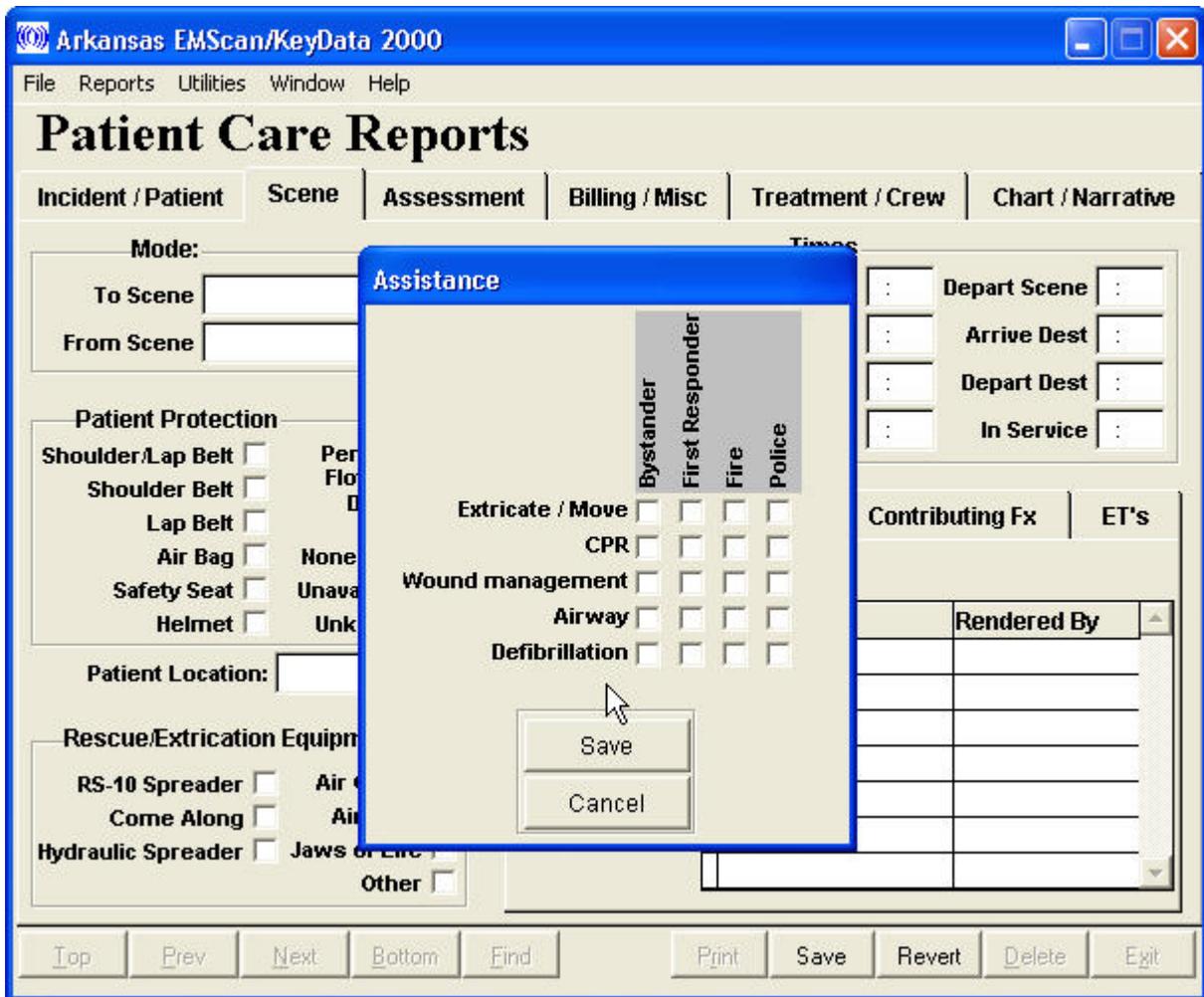


Figure 3.3

Arrest/CPR

If the incident involved a cardiac arrest and/or if CPR was performed by anyone, complete this section. Click on the CPR tab to display a data entry window such as the one in Figure 3.4. Use the best available estimate when selecting the appropriate times from the available choices.



Figure 3.4

Contributing Factors

Click on the "Contributing Fx" tab, click "Update List", then with your mouse, click on as many of the categories as applicable that could be considered to have potentially aggravated the patient's condition or contributed to the patient's injury or illness (see Figure 3.5). Click the "Save" button to record the information and return to the data entry screen. You will note that your selections are now listed in this section.

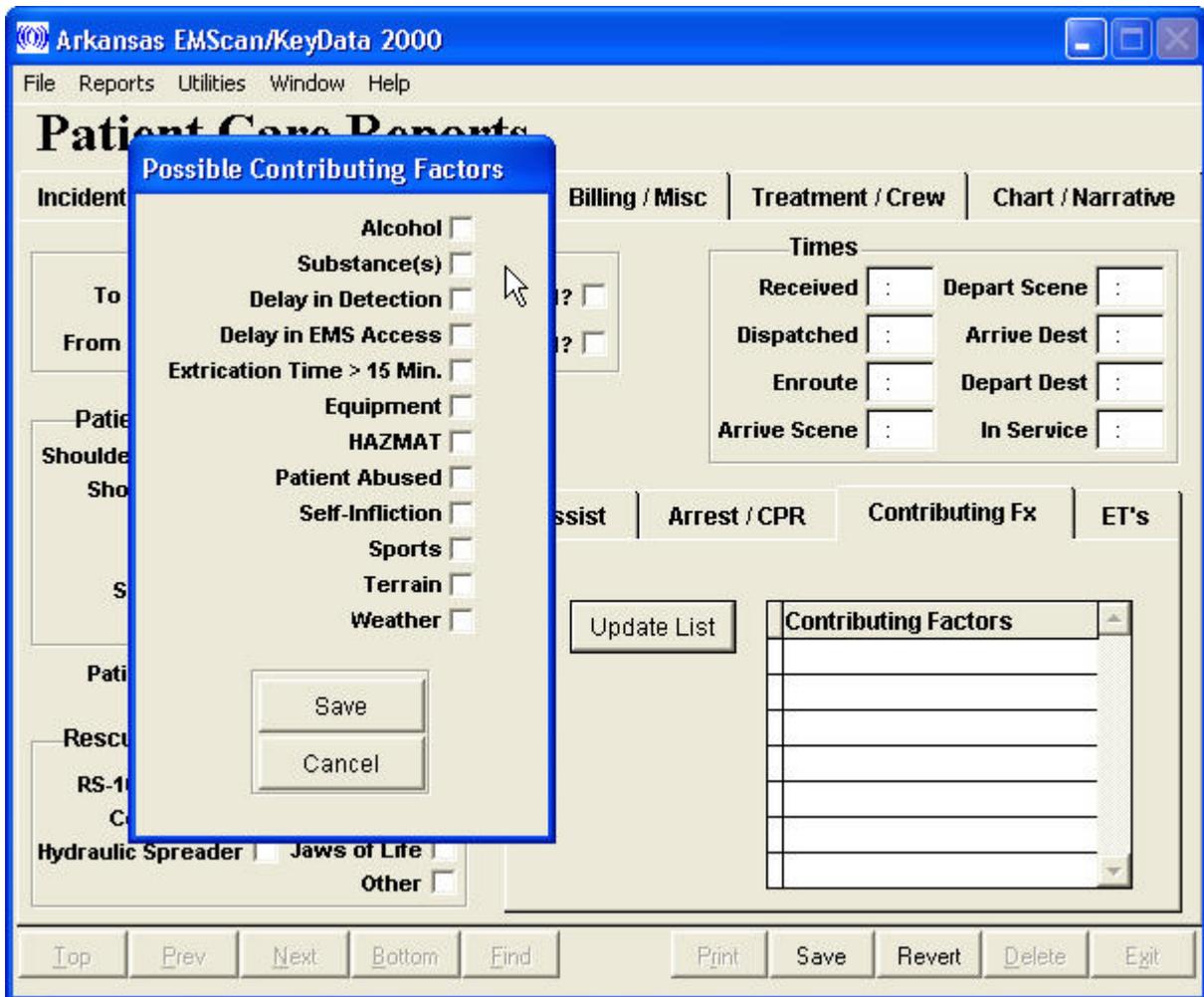


Figure 3.5

ET's

This section contains elapsed times which are automatically calculated by the system based on the information you recorded in the time fields above. **DO NOT MAKE ANY ENTRIES IN THIS FIELD.**

**ASSESSMENT
INFORMATION**

The screenshot shows the 'Patient Care Reports - Arkansas EMScan/KeyData 2000' application window. The 'Assessment' tab is active. The form contains several sections:

- Why No Vitals?**: A dropdown menu.
- Pediatric Weight:** A dropdown menu.
- Skin moisture:** A dropdown menu.
- Ped. Capillary Refill:** A dropdown menu.
- Skin Color:** A dropdown menu.
- Temp:** A dropdown menu.
- W/S:** A text input field.
- Current Meds:** A text input field.
- Allergies:** A text input field.
- Primary Illness:** A dropdown menu.
- Glasgow Coma Scale:** A section with dropdowns for 'Eyes', 'Verbal', and 'Motor', and a 'Score' input field.
- Pupils:** A section with dropdowns for 'Constriction' (Left and Right) and checkboxes for 'NR' and 'Prosthetic'.
- Injury Site/Type:** A table with columns for 'Injury Site' and 'Type', and a 'No Injury?' checkbox.
- Research Data:** A section with a list of radio buttons and a large text area.

 At the bottom, there are navigation buttons: Top, Prev, Next, Bottom, End, Print, Save, Revert, Delete, and Exit.

Figure 3.6

Why No Vitals?

If vital signs were not taken, select either "Unable to Take" or simply "Not Taken".

**Skin Moisture,
Skin Color &
Temp**

Using the pull-down lists, click on the appropriate choices.

Current Meds

In narrative fashion, briefly record any medications the

patient has recently taken, or takes regularly or occasionally. Space is limited, so use abbreviations if possible. Include both prescription and non-prescription ("over-the-counter") products. If the patient reports taking no medications, write "Pt States None". If you are unable to ascertain whether the patient has taken any medications (i.e., for an unconscious patient), indicate "Unknown".

Allergies

List any known allergies or reactions to medications, foods, etc. that patient or relative might be aware of. Include any history of rashes, nausea/vomiting or anaphylaxis to prescription or non-prescription products. If the patient reports no allergies, indicate "Pt States None". If you are unable to ascertain whether the patient has any allergies (i.e., patient unconscious), enter "Unknown".

**Primary
Illness**

For medical calls, use these fields' look-up tables to enter the type of medical problem which best describes the patient's condition. Choose only one primary item, even though several choices may apply to the patient's condition. Your choice should take into account the patient's medical history and your findings through the initial patient assessment.

Pupils

Record the patient's pupil status as normal, dilated or constricted for both left and right pupils. If appropriate, also check non-reactive for each pupil. If the patient has a known eye prosthesis, check the "Prosthetic" box.

Pediatric Weight

If the patient is between the ages of newborn and fourteen years of age, use the pull-down list to enter their weight in this section. This information is important as it is utilized to calculate the pediatric trauma score.

**Pediatric Cap
Refill**

If the patient is between the ages of newborn and fourteen years of age, indicate whether their capillary refill is normal or delayed.

**Revised Trauma
Score (RTS)**

Based upon the patient assessment information you enter (vitals, GCS, etc.), the system will automatically calculate the patient's Revised Trauma Score. Do not make an entry in this field.

**Glasgow
Coma Scale**

Enter the patient's response to stimuli utilizing the Glasgow Coma Scale. A selection must be made from the pull-down lists for Eyes, Verbal, and Motor functions. The total Glasgow score will automatically be calculated by the software based on your selections. This field must be completed if a selection is made in the **Injury Site/Type** field.

Injury Site/Type

If the incident involves a trauma call, this field must be completed. If the patient did not sustain any injuries, click the "No Injury?" box. To record any injuries, click the "Update List" button. As shown in Figure 3.7, a matrix will be displayed in which each individual injury can be broken down into type of injury and physiological location. It should only be used for patients that have sustained a traumatic injury. More than one column or row can be used since the matrix is set up to categorize multiple injury patients as well as patients with only one particular complaint.

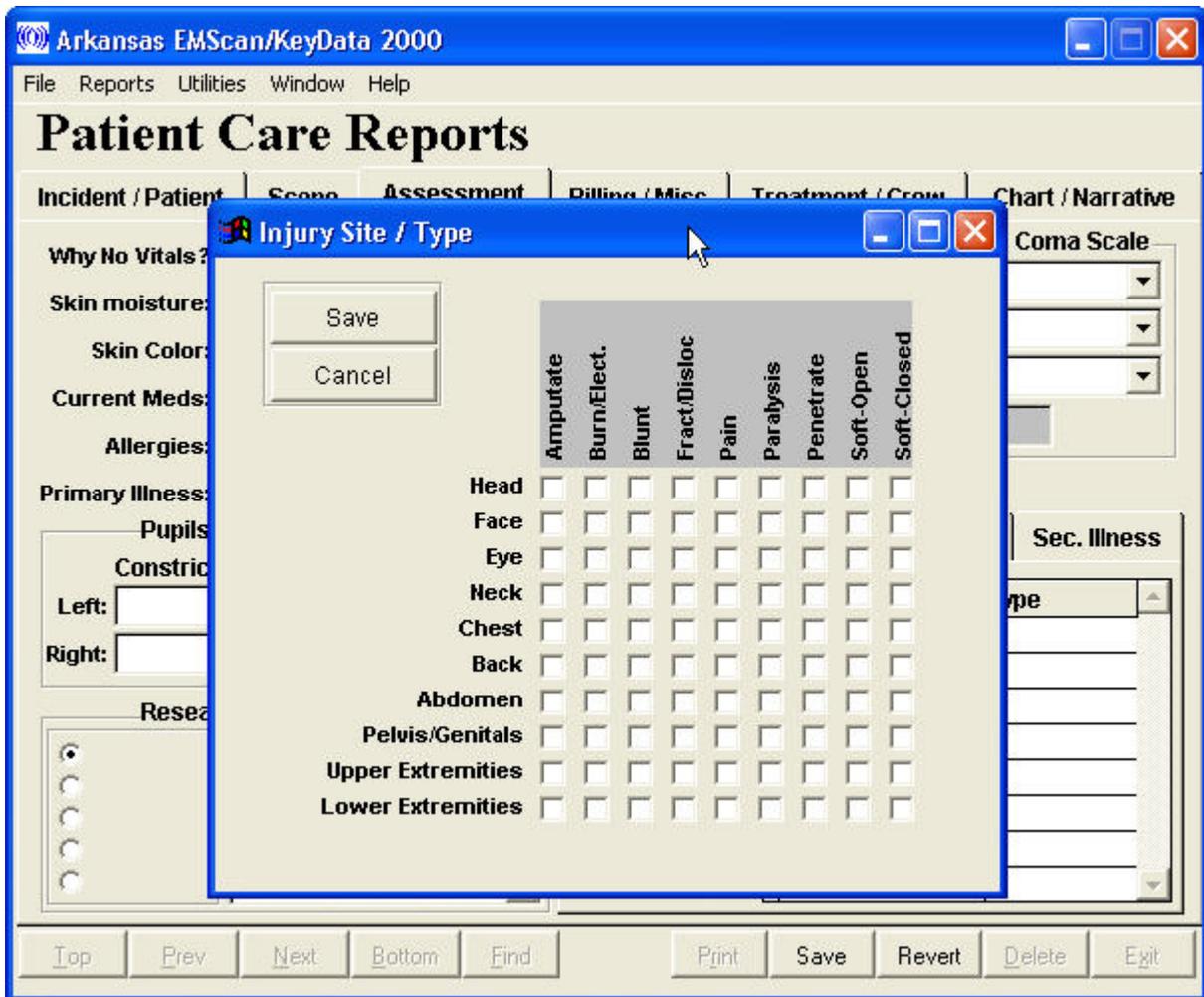


Figure 3.7

Click on all applicable boxes to record the patient's injuries. Click on the "Save" button when you are through. The data you entered will now be listed on your screen.

Injury Criteria

For trauma calls, use this field to document all injury criteria that apply. Click on the "Criteria" tab, then on the "Update List" button. Click on all appropriate selections, then click "Save". The injury criteria you selected will now be listed on your screen. If no choices apply or if the incident is not trauma-related, leave this field blank.

Medical History

Use this section to document any prior medical conditions that the patient may have. Click on the "Med Hx" tab, then on the "Update List" button. Click on all selections that apply. Mark "Pt. States None" if the patient claims to have no pertinent medical history. If you are unable to determine the patient's medical history (i.e., for an unconscious patient), mark "Unknown". Mark "Other" and document in the narrative section if the patient indicates medical conditions other than those listed. When you are finished, click the "Save" button and your choices will be listed in your patient care record.

Secondary Illness

In the Secondary Illness section, you may document as many secondary conditions as are applicable, for either medical or trauma calls. Click on "Update List", then click on all choices that apply. When you are finished, click the "Save" button and your choices will be listed on the screen.

**BILLING / MISCELLANEOUS
INFORMATION**

Figure 3.8

Bill To

If the patient is the one the bill is going to, and the patient's mailing address is **EXACTLY** the same as the address that you have already documented, then click the "Set Bill-To Info to same as Pt". If it differs in any way, then enter all applicable information, including any Medicare/Medicaid numbers and insurance information. Additional narrative space is provided at the bottom to enter any pertinent details.

Research Code

This field allows for customized reporting of data not already being collected. It will be used when special studies are conducted to track certain patient records. Contact your supervisor, EMS Coordinator, or Arkansas Department of Health for current uses of this field.

Mileage

In this field, you may either manually calculate your mileage to the scene and from the scene to your destination, or you may enter your actual mileage and let the system calculate it for you. To do this, click the “Calc” button on the right, and in the popup window, enter the starting mileage, mileage at scene, and ending mileage, then click “Calc” button at the bottom right of the popup window (see Figure 3.9). The system will automatically make the necessary computations to arrive at TOTAL MILEAGE for the run, and fill in the correct figures on your screen.

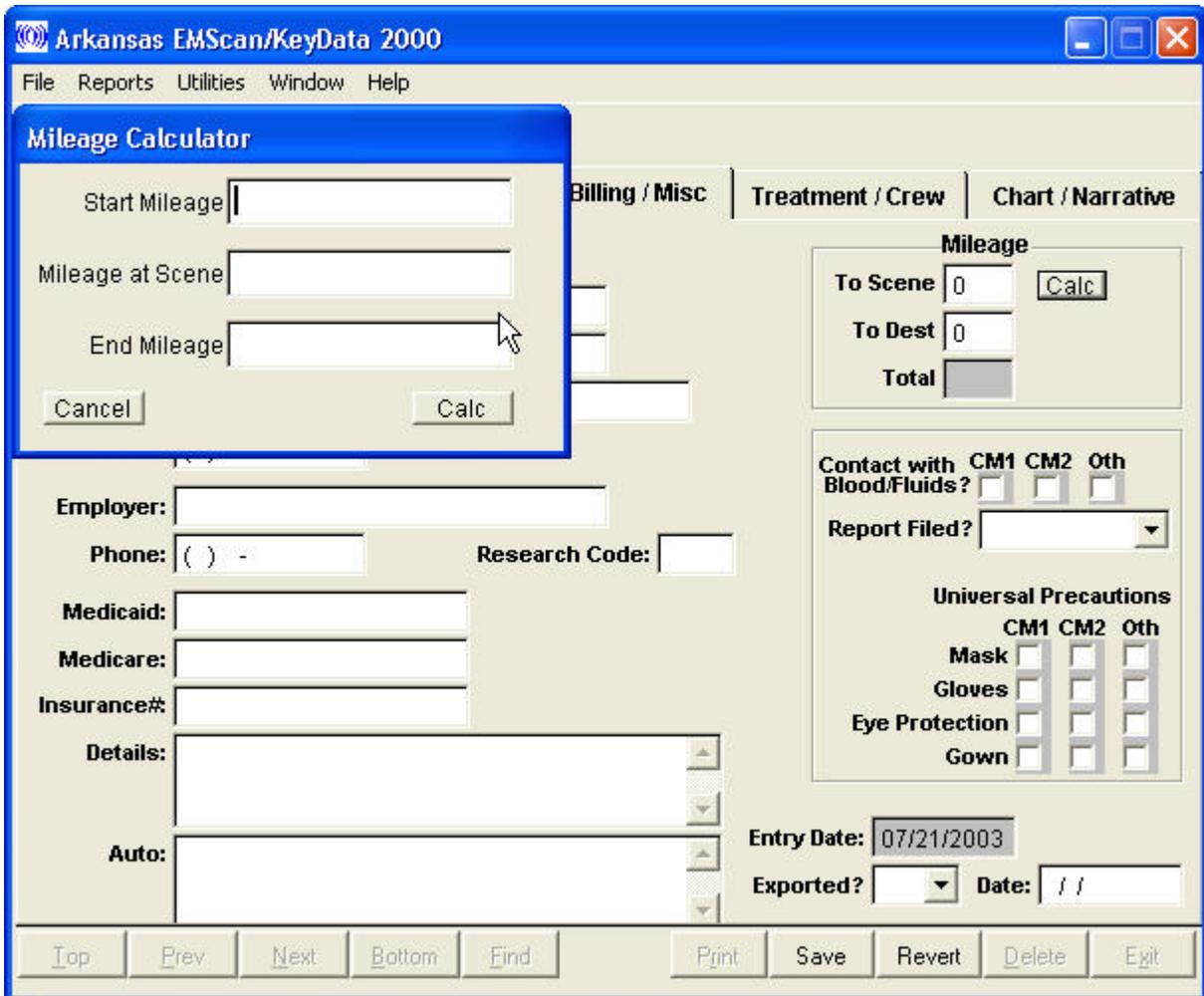


Figure 3.9

**Contact with
Blood/Fluids**

Use this section to document any contact with blood or body fluids. Identify any and all crew member(s) who had contact with blood or body fluids. If an exposure took place, indicate whether or not an exposure report was filed.

**Universal
Precautions**

In addition to documenting any exposure, click on all applicable fields to indicate what universal precautions (mask, gloves, eye protection, or gown) were used by which crew members.

**Entry Date
and Exported**

Do not make any entries in these fields. They will be automatically completed by the software.

**TREATMENT / CREW
INFORMATION**

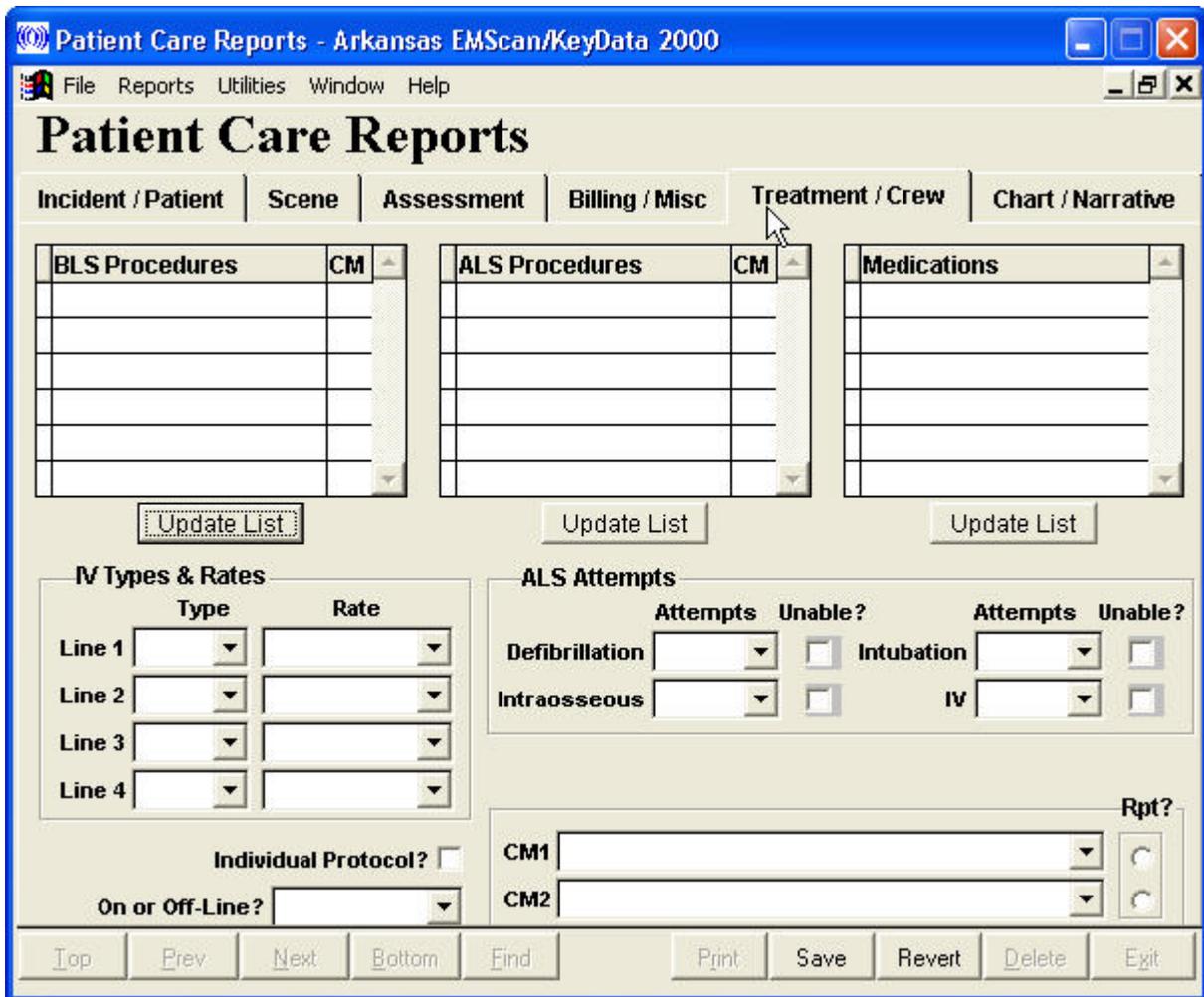


Figure 3.10

BLS Procedures This field contains a list of approved procedures for BLS personnel. At least one BLS procedure should be indicated for every call in which patient contact was made (i.e., Assessment). Click on "Update List" to display a matrix of BLS procedures, as shown in Figure 3.11.

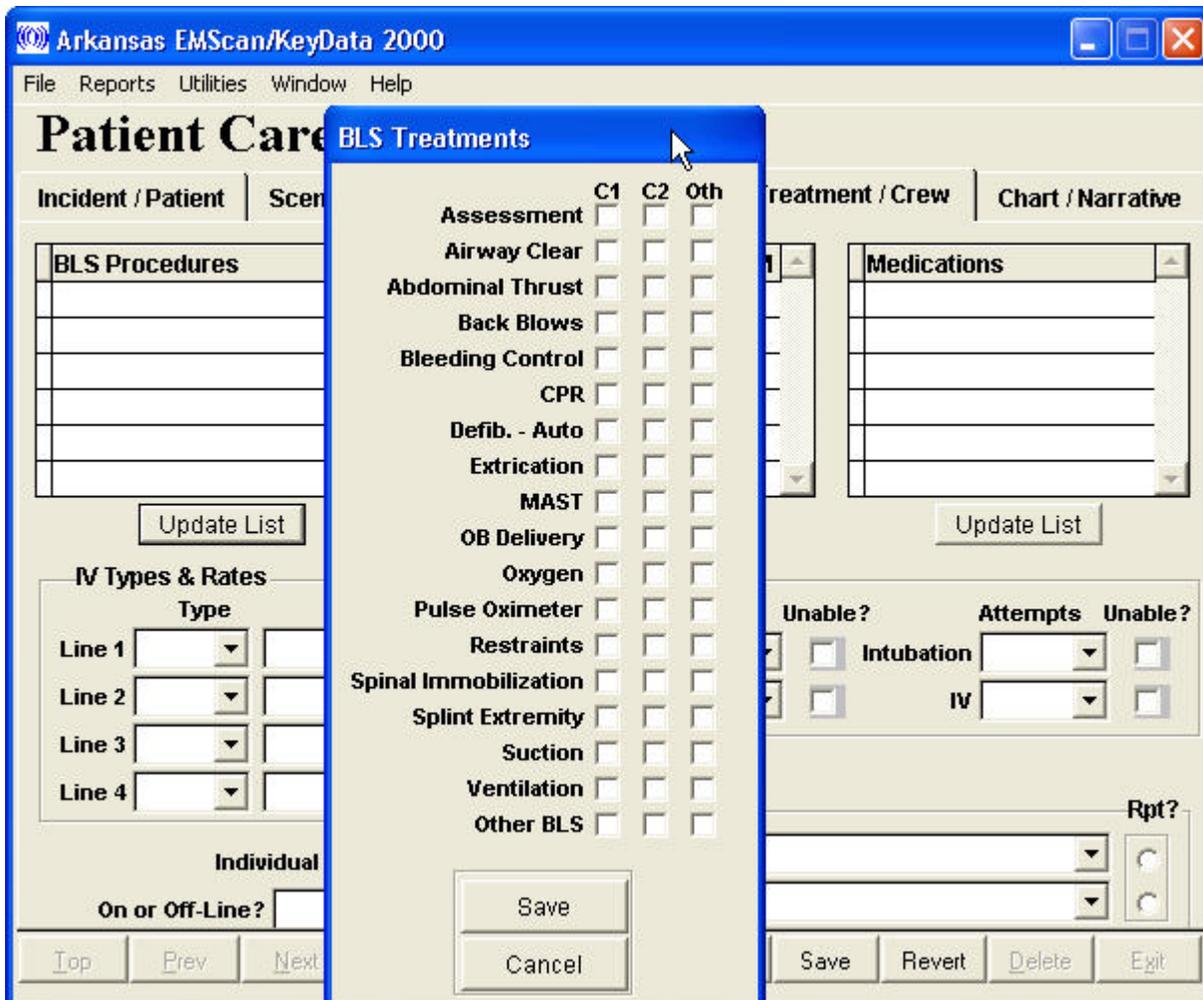


Figure 3.11

In the matrix, click in the box for each crew member who performed a particular procedure. Remember that both ALS and BLS personnel can perform BLS treatment. If procedures other than those listed were performed, click on the appropriate crew member next to "Other BLS" and document in the narrative section.

ALS Procedures

This field contains a list of approved procedures for ALS personnel, and functions in the same manner as the BLS Procedures section described above.

Medications

Use this field to record what medications were

administered to the patient during treatment. Click on "Update List" to display a list of approved medications, as illustrated in Figure 3.12.

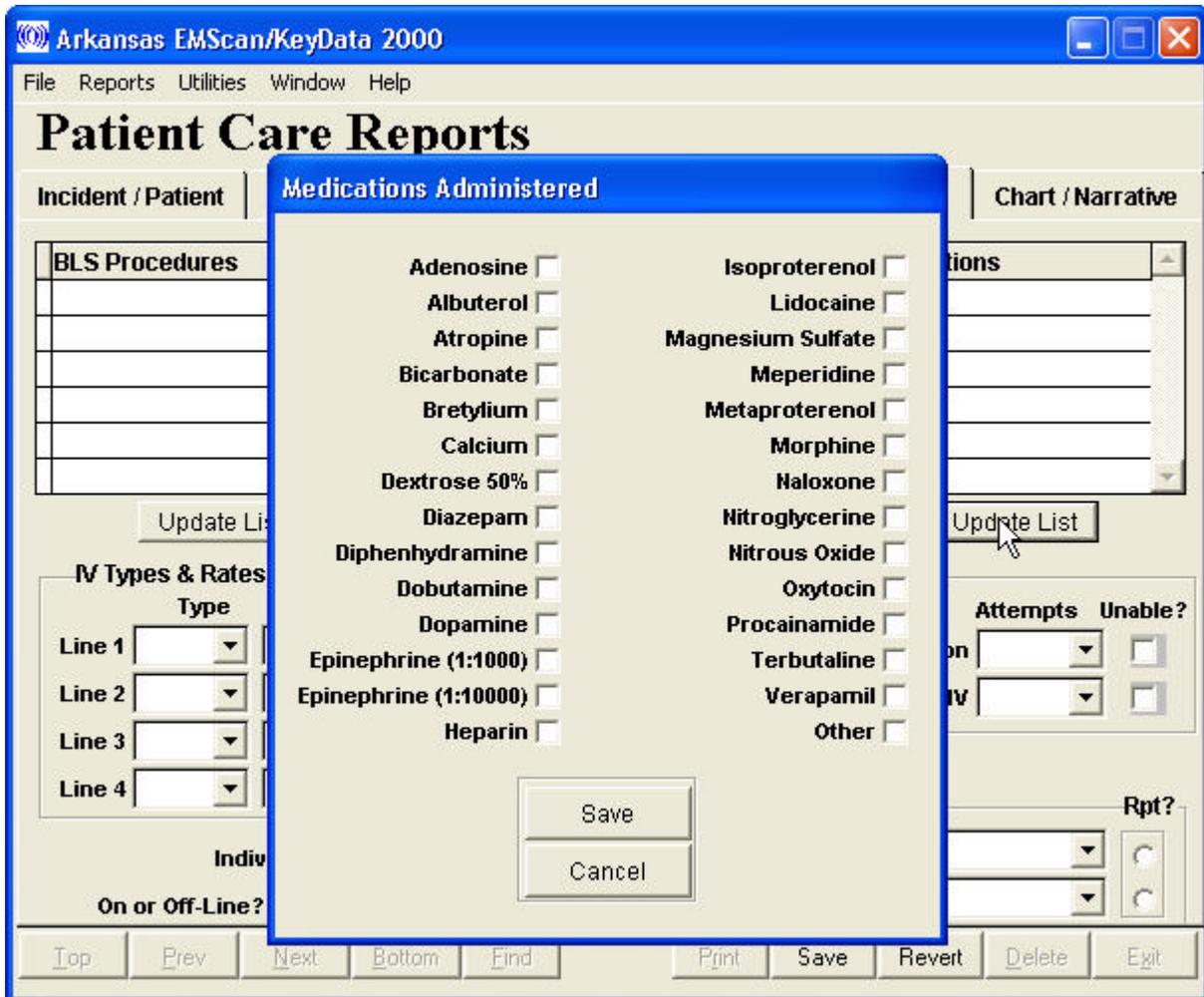


Figure 3.12

Click on all medications administered by your unit. Only record any drug therapy given to the patient in the field, and not medications that the patient may have taken prior to the unit's arrival on the scene. If medications other than those listed were administered, click on the box for the appropriate crew member next to "Other Medication", and document in the narrative.

IV Types/Rates

In this section, for each IV line started, document the

type of IV fluid administered and the rate of administration.

Attempts

This section is to be used to document the **TOTAL** number of attempts performed (by all personnel) on the various procedures listed. Document the number of attempts (1, 2, or 3+) and whether you were unable to successfully perform the attempted procedure (U).

Medical Control

Indicate the method by which orders for procedures were issued, whether individual protocol, off line, or on-line.

Crew Members

Use the pull-down selection list to identify Crew Member #1 and Crew Member #2 on the call. Also indicate which crew member completed the report. While it is recognized that other EMS personnel, from other EMS agencies, may also participate in the care of the patient, this section is strictly for use by the personnel of your vehicle. Other participants (additional personnel from your own or other agencies) should be mentioned in your narrative description.

CHART / NARRATIVE

The screenshot shows the 'Patient Care Reports - Arkansas EMScan/KeyData 2000' application window. The title bar includes standard Windows window controls. The menu bar contains 'File', 'Reports', 'Utilities', 'Window', and 'Help'. The main window title is 'Patient Care Reports'. Below the title is a tabbed interface with the following tabs: 'Incident / Patient', 'Scene', 'Assessment', 'Billing / Misc', 'Treatment / Crew', and 'Chart / Narrative'. The 'Chart / Narrative' tab is selected and highlighted. Below the tabs is a data table with the following columns: Time, BP, Dia, P, Resp, Irr, Pulse, Irr, EKG, PEA, PVC, Ox, Treatment, CM, and Comment. The table is currently empty. Below the table are three buttons: 'Add', 'Change', and 'Delete'. Below these buttons is a large, empty text area for entering the chart narrative. At the bottom of the window is a navigation bar with buttons for 'Top', 'Prev', 'Next', 'Bottom', 'Find', 'Print', 'Save', 'Revert', 'Delete', and 'Exit'.

Time	BP	Dia	P	Resp	Irr	Pulse	Irr	EKG	PEA	PVC	Ox	Treatment	CM	Comment

Figure 3.13

Chart

In this section, document in chronological order, repeated vital signs, important events, treatments, medications, etc. with any changes in patient condition noted. To enter chart data, click on the "Add" button below the chart. A data entry window will appear (see Figure 3.14), allowing you to record the time, patient's vital signs, EKG reading, treatment, crew member, and comments.

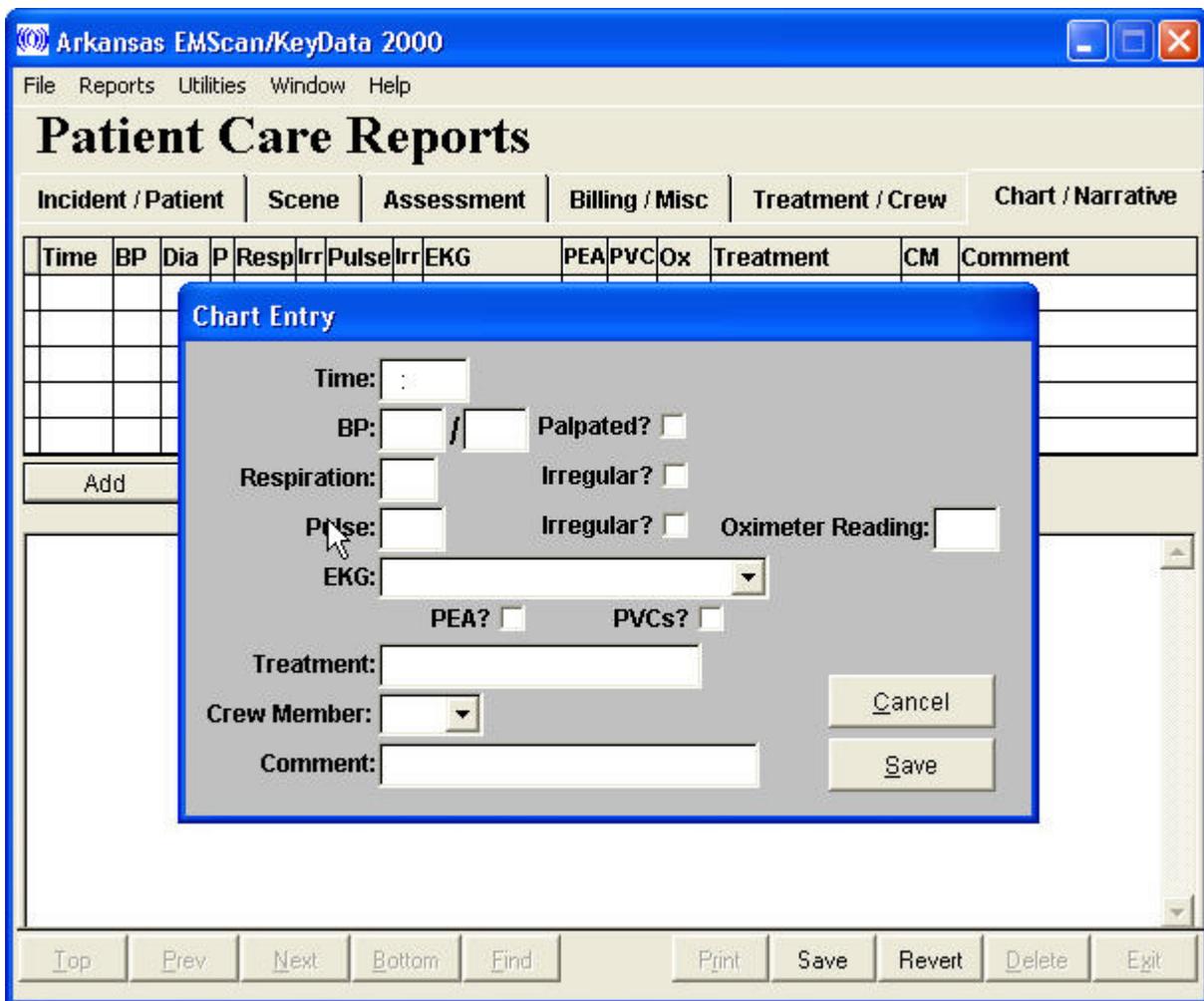


Figure 3.14

Click “Save” when you are through and the data will appear on the chart. To edit previous entries, position your cursor in the row you wish to modify, and click on the “Change” button.

Narrative

The narrative section is provided to document specific information and pertinent actions by EMS providers that are not covered elsewhere in the patient care report. Summarize important events that are not reflected in the previous components of the record, and provide additional explanations of any treatments, medications, patient response, etc.

SAVING YOUR DATA

Once you have completed key-entering data for this patient care report, click on the "Save" button to save and process the information. If no corrections are necessary, the data will disappear from your screen and you may click on "Add" to enter another record. If you wish to end your data entry session, click on "Exit" to return to the main screen.

If the information in your patient care report is incomplete or has been entered incorrectly, an error message will be displayed, as shown in Figure 3.15. Any missing or incorrect required fields will be listed one at a time in a window at the bottom of your screen, and your cursor will automatically be placed in those fields so that corrections may be made directly to those fields, as previously described in this chapter. Again, once all data is correct, click on "Save", and the record will be accepted into the database, and a fresh screen will be displayed.

Patient Care Reports - Arkansas EMScan/KeyData 2000

File Reports Utilities Window Help

Patient Care Reports

Incident / Patient | Scene | Assessment | Billing / Misc | Treatment / Crew | Chart / Narrative

Report # 210700000 Chief Complaint: _____

Incident # _____ Zip: _____ Person Receiving Pt: _____

Date: / / Use Today's Date Outcome: _____

Agency: _____ Chosen By: _____

Unit: _____ Receiving Facility: _____

Dispatch Type: _____ Scheduled? Type: _____

Mutual Aid?

Incident Type: _____

Work Related? _____

Location: _____

Setting: _____

County: _____

Community: _____

Called By: _____

911 Used? _____

Patient Information

Name: _____

Addr: _____

DOB: / / Age: _____ Approx?

Phone: () - _____ SSN: - -

Gender: _____ Race: _____

Physician: _____

Incident Date is Blank Next Error Save Partial Cancel

Figure 3.15

4.0 REPORTS

OVERVIEW

The "Reports" option allows you to produce a variety of previously defined reports on a range of unit identification numbers (Unit ID's) and dates. All reports can be produced in either full or summary versions.

REPORT FORMATS

Full reports detail individual unit activity by day within the specified ranges. While this report provides very exact information, the resulting report can be **quite lengthy**.

Summary reports generally display overall activity for the specified ranges.

Specifying Report Parameters

From the Reports Menu, select the desired report. Currently, four standard reports are available: Incident Location & Type; Trauma; Treatment; and Unit Utilization. Some versions of the software also contain a Custom Report option. After choosing your report, a window will appear in which you may specify the desired parameters for your report.

Enter the following parameters for each report:

Date Range - Enter the desired date range for the report. Date ranges must be entered in a DDMMYYYY format as follows:

Date: January 19, 2003
Enter: 01192003

Service ID# Range - Enter the desired service identification number range for the report. Acceptable Service ID's range from 0 to 9999.

Unit ID# Range - Enter the desired Unit identification number range for the report. Acceptable Unit ID's range from 0 to 9999.

Full Report or **Summary** - Select **(F)**ull or **(S)**ummary report options.

Click on "Go" to lock in the report definition and begin processing. The report will automatically be sent to the printer. Press <Esc> to abort report processing. If no records were found within the specified range of dates or Unit IDs, no report will be generated and the message "No Records in Selected Range" will be displayed on the screen.

INTERPRETING EMSCAN/KEYDATA REPORTS

Below are descriptions of each standard EMScan/KeyData report, along with basic guidelines for interpretation. Keep in mind that the accuracy and usefulness of your reports depends upon the quality of the data entered into your database, as well as the attention given to proper report definition. If you have utilized the extensive error-checking features of the KeyData software during the data collection process, as well as properly specified the desired report parameters, then your reports will precisely reflect the reported activities within your EMS system.

Each EMScan/KeyData report contains a header that appears on every page. This header identifies the title of the report, page number, the unit and date ranges specified for the report, and the date and time that the report was printed.

INCIDENT LOCATION/TYPE REPORT



Figure 4.1

The Incident Location/Type Report offers information on the locations and types of calls to which units have responded. Included in the report are:

- 1) Incident Location frequency and percentage.
- 2) Type of Call frequency and percentage.

In "full" format, this report lists each vehicle number within the specified date and unit range, and provides the number and percentage of calls that the individual units

responded to at each location, the number and percentage of incident types, and the total number of calls for each unit. A summary indicating total number and percentage of calls for each incident location and each incident type is furnished after the listing of individual vehicle information. If "summary" format is specified during report definition, this summary of total numbers and percentages is the only information printed.

This data is of particular importance in injury prevention research. For example, run against a database comprised of children 0-14 years, this report is a quick and accurate depiction of where and how kids are being injured.

TRAUMA REPORT

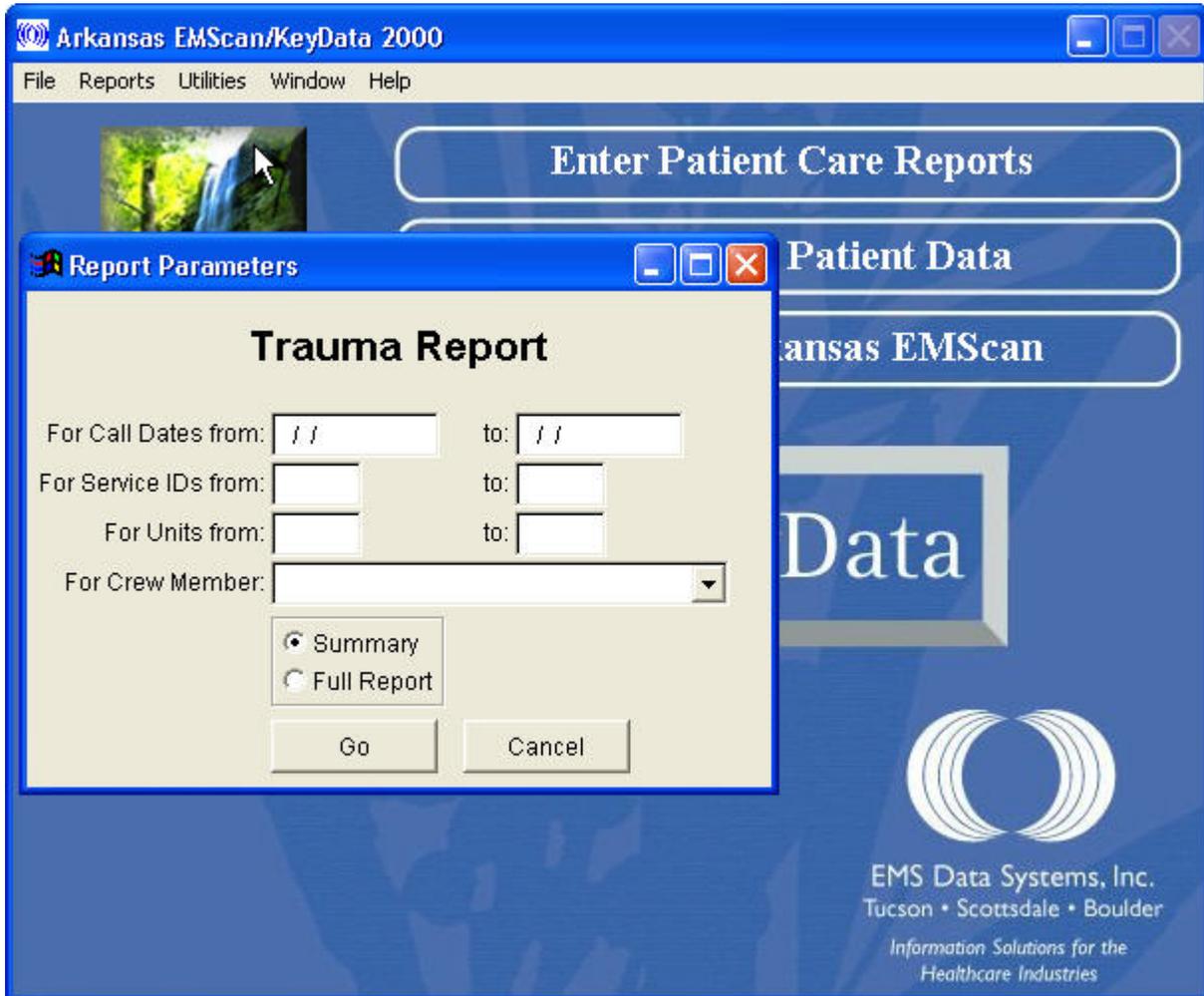


Figure 4.2

The Trauma Report furnishes detailed information on trauma calls within an EMS system. Included are:

- 1) Injury Site and Type frequency and percentage.
- 2) Revised Trauma Score frequency and percentage.
- 3) Glasgow Coma Scale frequency and percentage.

Note: The values in this report are derived only from calls in which the Injury Site/Type matrix or Mechanism of Injury fields were marked.

Injury Site/Type

In reporting frequency and percentages for injury sites and types, both the full and summary formats of the Trauma Report show the total number of times that each data point on the injury site/type matrix was marked (e.g., total number of blunt injuries to the head, total number of lacerations to the head, total number of fractures to the arm, etc.). The number and percentage at the right of each row in the matrix indicates the total number and percentage of **calls** involving an injury to that particular anatomical location. **Note that the total number of injuries reported will not necessarily equal the total number of calls**, since a single call may involve more than one type of injury to a single anatomical location (e.g., blunt head injury with scalp lacerations and pain equals three types of injuries to the head, but constitutes only one patient with a head injury).

The totals and percentages listed at the bottom of each column represent the total number and percentage of **calls** involving a particular type of injury to any anatomical location. Again, the total number of injuries reported will not necessarily equal the total number of calls, since a single call may involve the same type of injury to more than one anatomical location (e.g., lacerations to the face, neck, chest, and hands).

This information provides essential training information to determine what types of injuries your crews are seeing in the field, but still provides an accurate accounting of the numbers of general injury types.

The report also identifies the total number of calls within the specified unit and date range, and indicates how many of those calls were trauma-related.

Revised Trauma Score

In "full" format, the Trauma Report lists on the horizontal axis, the full range of possible Revised Trauma Scores (0-12), and on the vertical axis, lists by vehicle the number and percentage of patients with trauma-related injuries at each RTS level. In "summary" format, only overall totals and percentages are provided.

Glasgow Coma Scale

In the same fashion as Revised Trauma Score, the full range of possible Glasgow Coma Scale (3-15) readings are listed on the horizontal axis, with number and percentage of injured patients at each GCS level listed by vehicle on the vertical axis. Note that these numbers are based only on trauma calls, and do not include GCS scores on medical calls.

TREATMENT REPORT



Figure 4.3

The Treatment Report provides very detailed information concerning the procedures performed by each unit and each medic within a specified date and unit range. The information includes:

- 1) BLS Treatment frequency and percentage.
- 2) ALS Treatment frequency and percentage.
- 3) ALS Treatment Attempts/Success frequency and percentage.

4) Medication Administered frequency and percentage.

5) IV Type and Rate frequency and percentage.

For each unit within the specified range, the full Treatment Report first lists all BLS Procedures performed by that unit and identifies the number and percentage of times that each medic performed or assisted on each procedure. At the right, the total number of times each procedure was performed is listed, along with a total percentage for each procedure as it relates to total number of calls overall (**not** total number of procedures performed). Also note that since two or more people can assist in a single procedure, the "Procedures Done" total is usually LESS than the sum of the "Number of Assists" columns. ALS Procedures for each unit are listed in the same fashion following BLS Procedures, after which the frequency and percentage of IV Types and Rates is provided.

If your system captures data concerning attempts and success rates for various ALS Procedures, then this information is provided for each unit in the next section of the report.

The report concludes with an overall summary of all of the above information for all units within the specified range. Here again, when applied against a database of specific types of calls, such as cardiac calls, you have an easy depiction of what types of treatments are being performed in such situations.

UNIT UTILIZATION REPORT

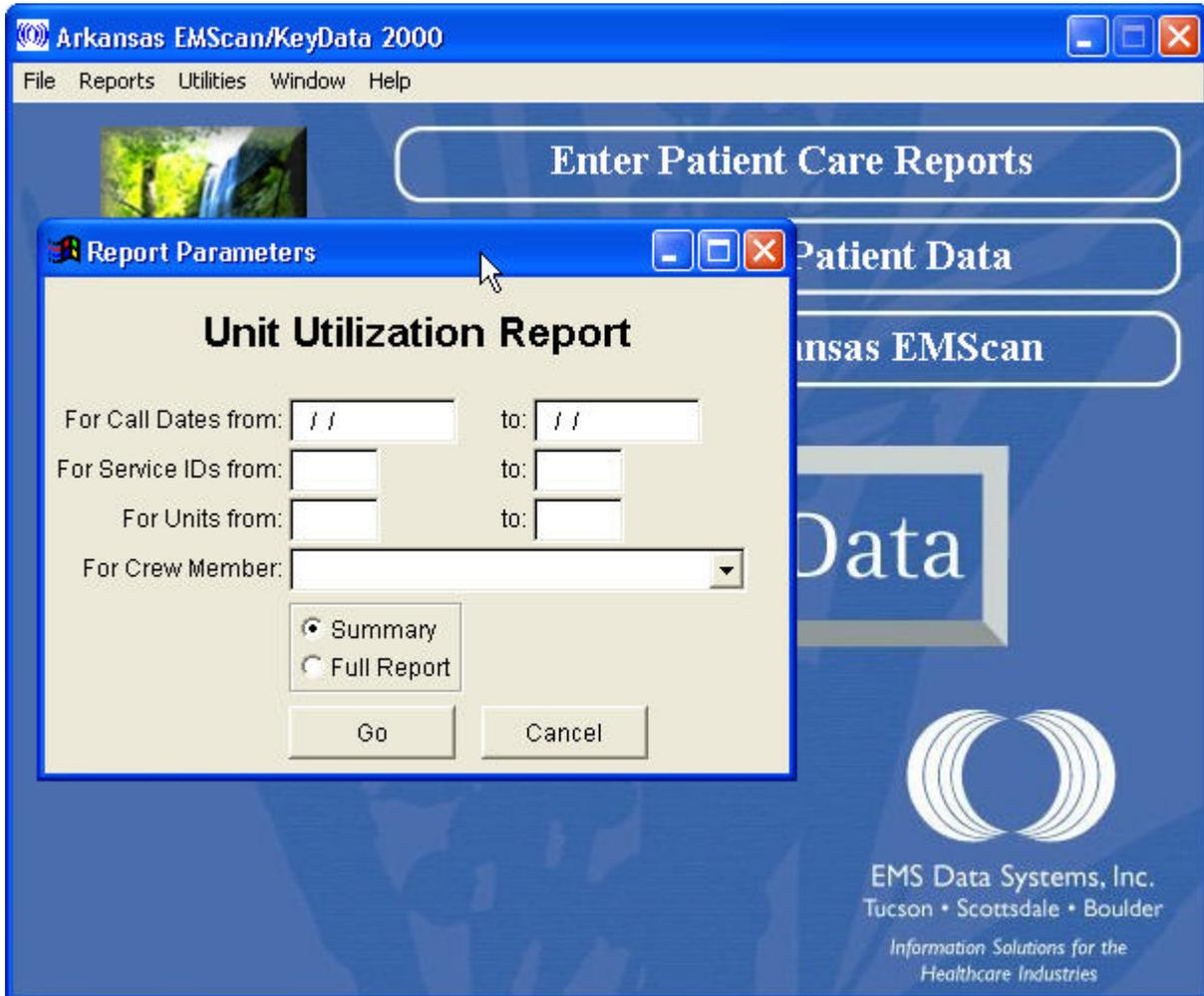


Figure 4.4

The Unit Utilization Report provides operational information on all of an EMS system's units, a group of particular units, or an individual unit. The information available includes:

- 1) Call frequency for 24-hour period with **average** time per call.
- 2) Calls by Response (Call) Outcome.

- 3) Calls by Hour by Day of Week.
- 4) Response and Transport modes.
- 5) **Median** elapsed times for all time fields, as well as median time per call.
- 6) Elapsed time percentiles.

Call Frequency

When a Unit Utilization Report is printed in "Full" format, the first section of the report lists, for the entire range of dates and units specified, the following details:

- Date
- Total number of calls for that date
- Vehicle identification numbers of all units within the specified unit range that responded to calls on that date, along with the individual number and percentage of calls to which each vehicle responded on that date
- For each vehicle, a breakdown of the number and percentage of responses within each 8-hour shift over the 24-hour period
- For each vehicle, the **average** time per call for that 24-hour period

At the end of this section, the total number of calls is given along with the number and overall percentage of responses within each 8-hour time period.

Note that if this report is printed in a "Summary" format, then this section will show only the total number of calls for the specified date range, along with the total number and overall percentage of calls for each shift.

Calls by Response Outcome

The next section of the Unit Utilization Report lists by vehicle (unit) identification number, the following information within the specified date and unit range:

- Total number and percentage of calls within the specified period for that unit
- For each vehicle, a breakout of the number and percentage of calls by response outcome (e.g., number and percentage of cancelled calls responded to by a particular unit).

Note that the percentages listed for each vehicle are calculated based on the total responses by that unit only, not on the total number of responses overall. At the end of the section, the total number of calls is given along with the number and overall percentage of each response outcome.

Summary by Hour and Day of Week

The next segment of this report provides a summary of calls by hour for each day of the week. A table with days of the week on the horizontal axis and hours in the day on the vertical axis shows the total number and percentage of calls received by the specified units during each hour of each day of the week for the specified date range.

Note that the hourly percentages are calculated based on the total number of calls received for that day of the week. An overall summary of calls by day of the week is furnished at the bottom of this section.

Response and Transport Modes

Unit response and transport modes are indicated in the next area of the Unit Utilization Report. For each vehicle within the unit and date ranges specified, the following information is provided:

- Total number of calls for each vehicle
- Number and percentage of those calls which were non-emergency vs. emergency responses
- Number and percentage of those calls which resulted in non-emergency vs. emergency transports

Overall numbers and percentages are shown at the bottom of each column. As an example, if you wanted to determine the total percentage of calls that went out "hot" and returned non-emergent, you would look at the figures at the bottom of the column for "Emergency" Response Mode and the bottom of the column for "Emergency" Transport Mode to see, for instance, that of 2708 total calls, 26.8% (727) were emergency responses, but only 2.1% (57) were emergency transports. Thus, you can extrapolate that at best, only 7.8% of your hot calls resulted in emergency transports and the remainder returned non-emergent.

Unit Time Utilization Profile

This final section of the Unit Utilization Report is one of the most useful features of the report. For each vehicle within the specified date and unit range, the time utilization profile lists the following information:

- The total number of calls for each vehicle
- Median elapsed times (in minutes) for each time field (e.g., from time call received to time dispatched; from time dispatched to time enroute; from time enroute to time of arrival on scene; etc.)
- Median time per call (in minutes)

Overall median elapsed times and median time per call are indicated below the individual vehicle profiles.

Note that **median** times are used, not average times. A median is defined as a value in an ordered set of values above and below which there are an equal number of values. Using statistical medians rather than averages in determining elapsed times helps eliminate the skewing effect of aberrational calls and presents a clearer picture of your overall system response capabilities. For example, calculating the statistical median of a series of response times such as (8, 3, 2, 45, 3, 7, 5, 7, 2) results in a median elapsed time of 5 minutes. However, the average elapsed time is 9 minutes, due to the effect of the one abnormally long response time. The end result is more accurate information being reported about your operation's

performance.

This section of the report can provide valuable assistance in resource deployment, quality improvement, training, and identifying potential problem areas by allowing you to determine which vehicles have longer response times, which are "on scene" longer, which take longer to reach their destination, etc.

Elapsed Time Percentiles

Finally, the chart of elapsed time percentiles appears below the Unit Time Utilization Profile. This chart is calculated upon the total number of calls within the specified range, and for each time field, indicates the percentage of responses that were X number of minutes **or less**.

For example, in the chart illustrated below, the Time to Scene was 2 minutes **or less** on 10% of the calls within the specified range, 6 minutes **or less** on 50% of the calls, 16 minutes **or less** on 90% of the calls, and 45 minutes **or less** on 100% of the calls. The longest elapsed time will always be represented in the hundredth percentile. Looking at Total Elapsed Time below, 60% of the specified calls were completed within 59 minutes or less, but at least one call took 144 minutes.

Percentiles: Min.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Recd to Dispatch	1	1	1	1	1	2	2	3	4	8
Disp.-Responding		1	1	1	1	2	2	2	2	2
Time to Scene	2	3	3	5	6	7	10	12	16	45
Assessment Time	1	1	1	1	1	1	2	2	2	40
Total Scene Time	6	9	11	12	14	16	17	20	26	49
Scene to Dest.	4	6	8	10	13	16	20	26	35	49
At Destination	10	13	15	16	17	20	24	26	37	78
Tot Elapsed Time	17	27	37	45	51	59	62	72	88	144

This type of data is useful in determining, for example, an organization's ability to meet contractual obligations concerning response time. Should an operation be under contractual obligation to respond to a scene in less than eight minutes 80% of the time, the above chart

demonstrates that it is responding to the scene in 12 minutes or less 80% of the time, and thus is not within the acceptable parameters for the contract.

CUSTOM REPORT

The Custom Report feature allows you to report the contents of any field contained within the database. The fields are reported along with text descriptors of their contents, thereby allowing for the development of narrative-style reporting on specific calls. For example, if you desire to view the Unit ID, Date, Time at Scene, Type of Call, and Treatment for every call within a specific period of time, you can easily specify those fields for output in a Custom Report.

Specifying Custom Report Parameters

Select the "**Custom Report**" option from the Reports Menu. You will be prompted for the report parameters (date range, unit ID number range, etc.) just as in all other reports.

The **Full** or **Summary** option for the Custom Report is unique. Choosing **Full** will result in the complete listing, by selected sort order, of all chosen fields. The non-numeric fields will then be totaled at the conclusion of the report. Choosing **Summary** will result in the totaling of non-numeric fields only. In simple terms, **Full** will give you all information requested, while **Summary** will simply give you totals of fields requested. Remember, numeric fields are not totaled in the summary report.

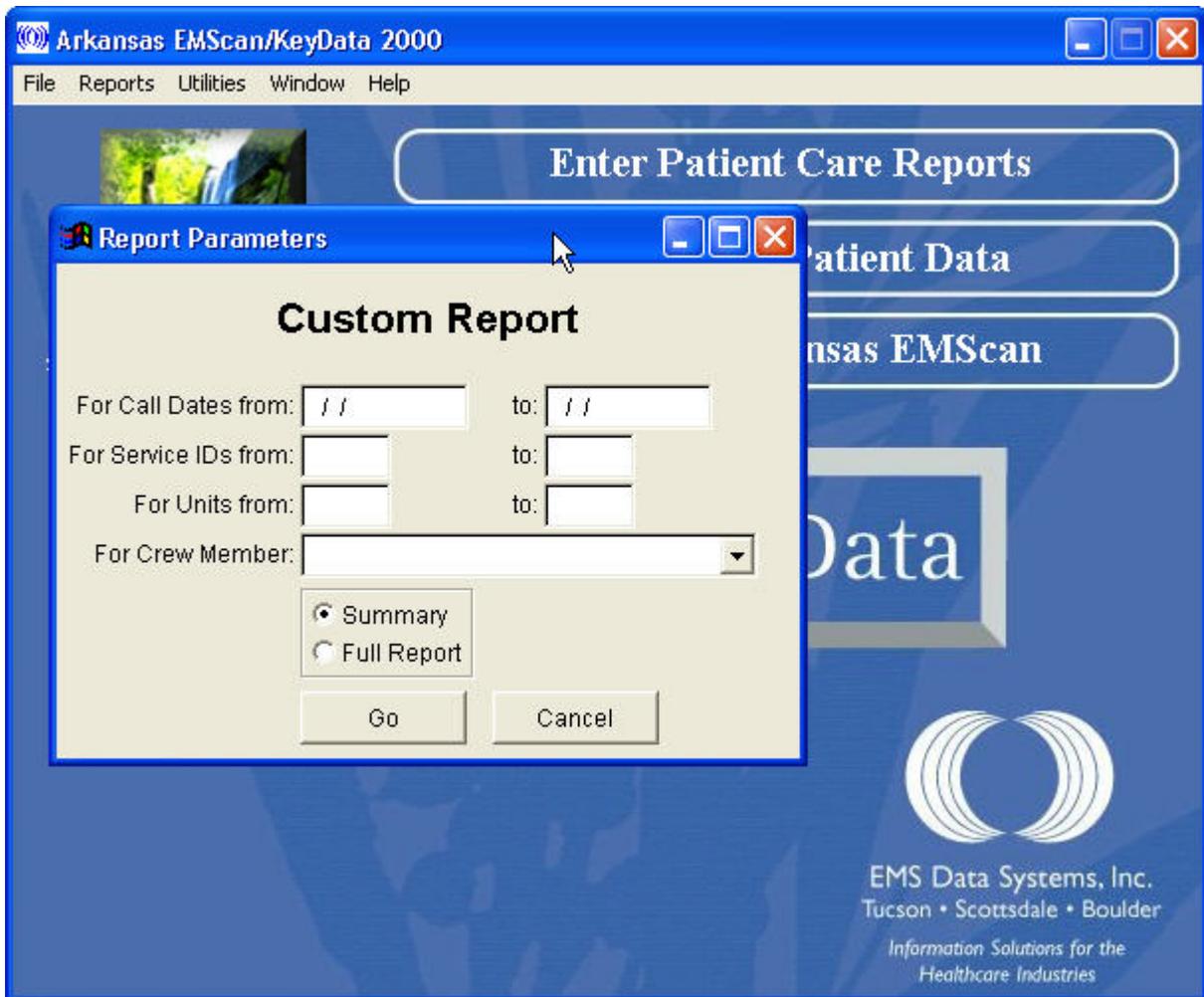


Figure 4.5

After specifying the general report parameters as described above, you will be presented with the screen shown in Figure 4.6. Any previously specified custom reports will be listed, and you may choose to edit or run one of those reports by clicking on the appropriate button at the bottom of the screen.

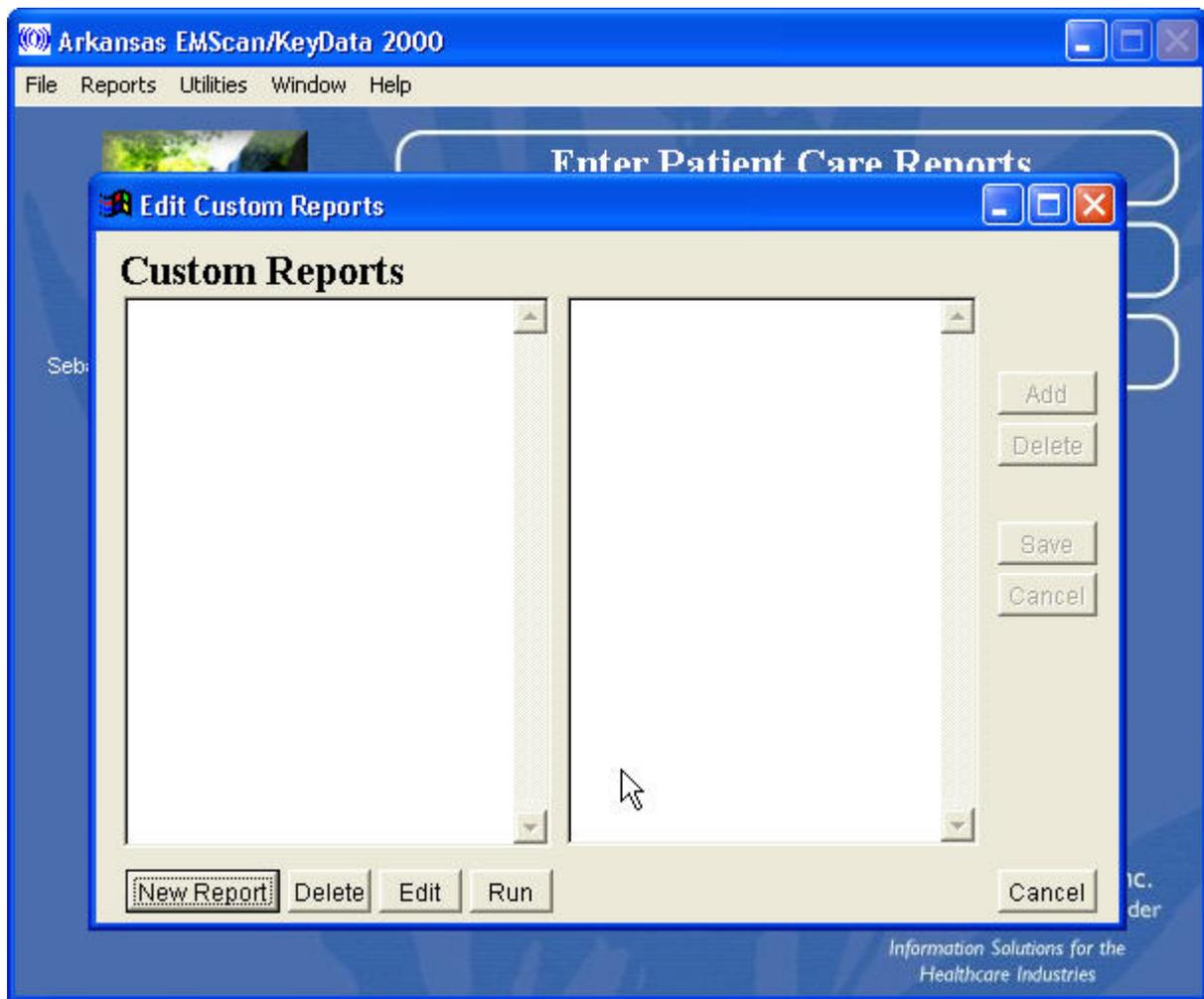


Figure 4.6

To develop a new custom report, click on “New Report” and enter the name of your new report as shown in Figure 4.7.

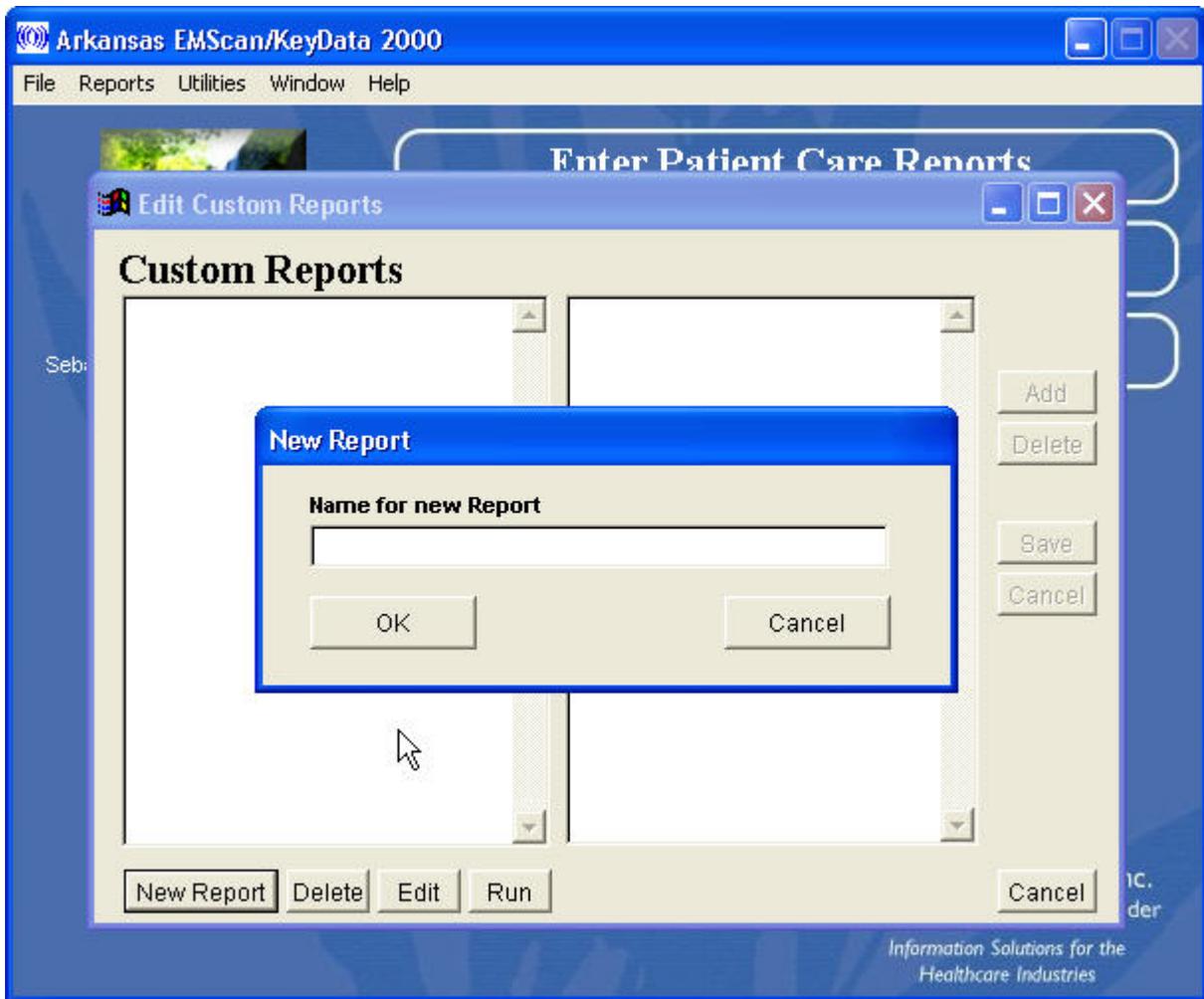


Figure 4.7

Note that once you enter the report name, it will not be displayed. You will simply see the screen illustrated in Figure 4.8.

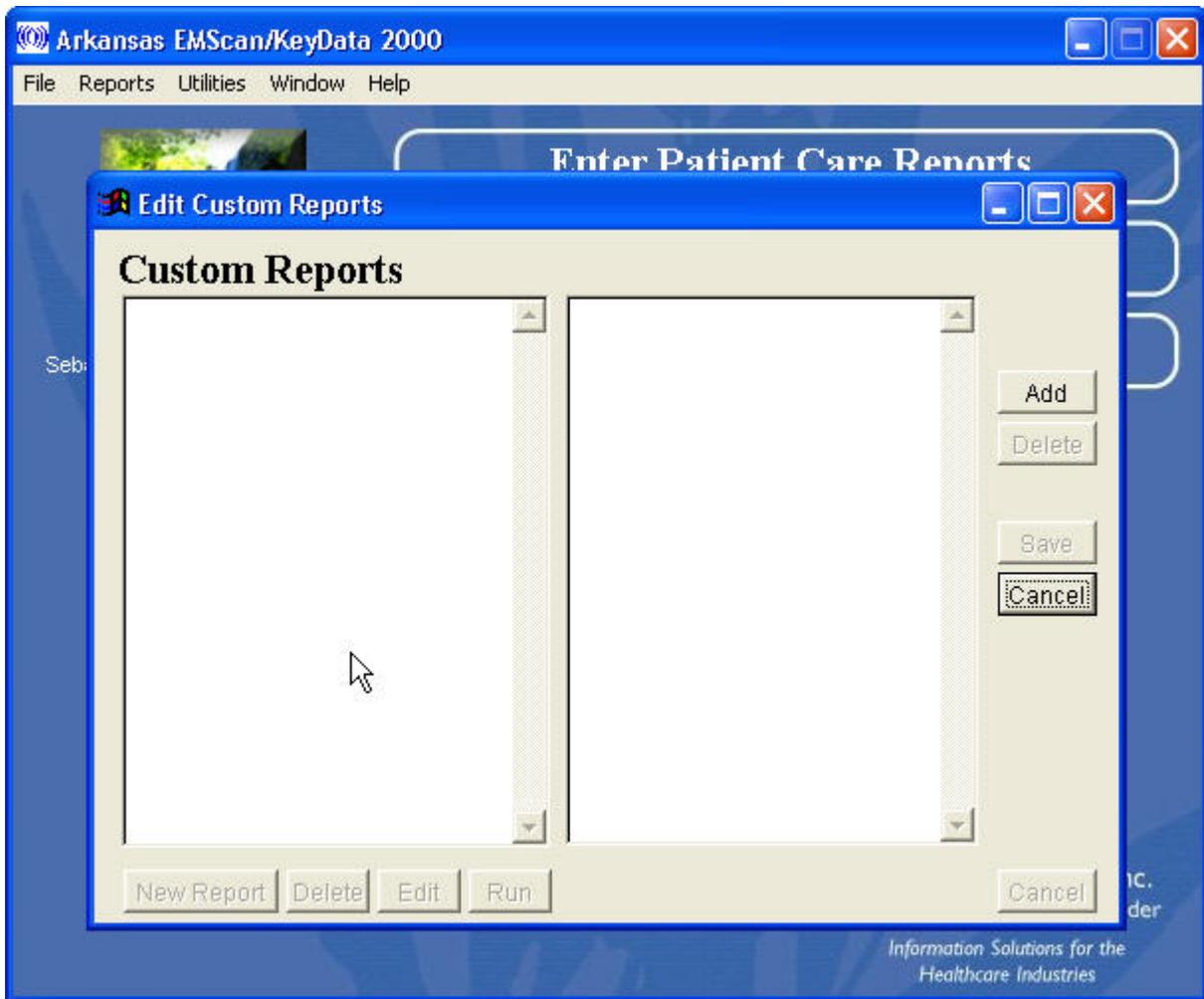


Figure 4.8

To begin selecting fields for your report, click on the “Add” button at the right of the screen. A list of data fields for your report will be displayed as shown in Figure 4.9.

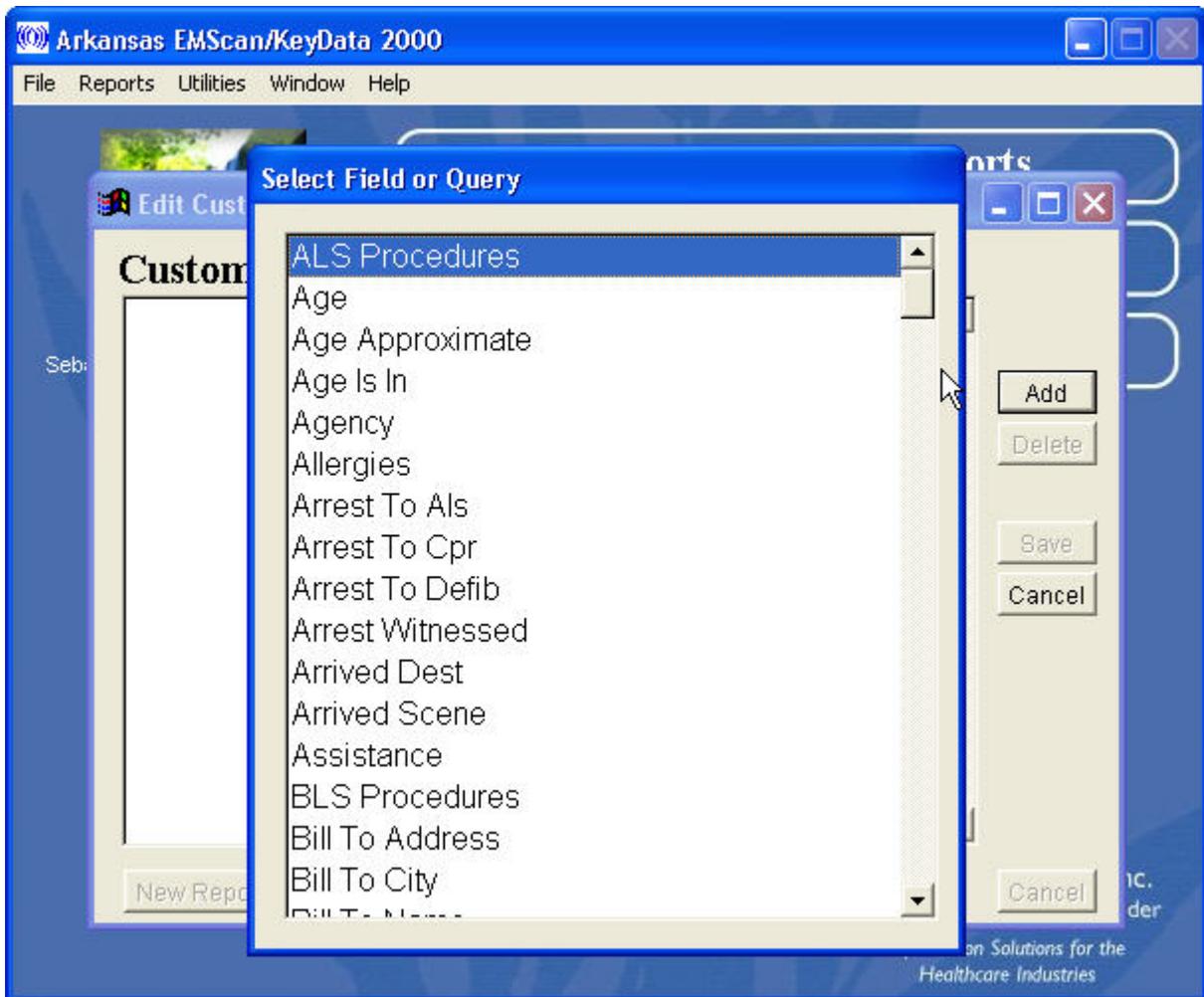


Figure 4.9

There are more fields on your selection screen than can be displayed at one time. To display additional fields, just use your arrow keys to move past the highest or lowest field on your screen, or use the scroll bar at the right. To select a field for your report, simply doubleclick on the item and it will be listed in the righthand column of your screen as shown in Figure 4.10.

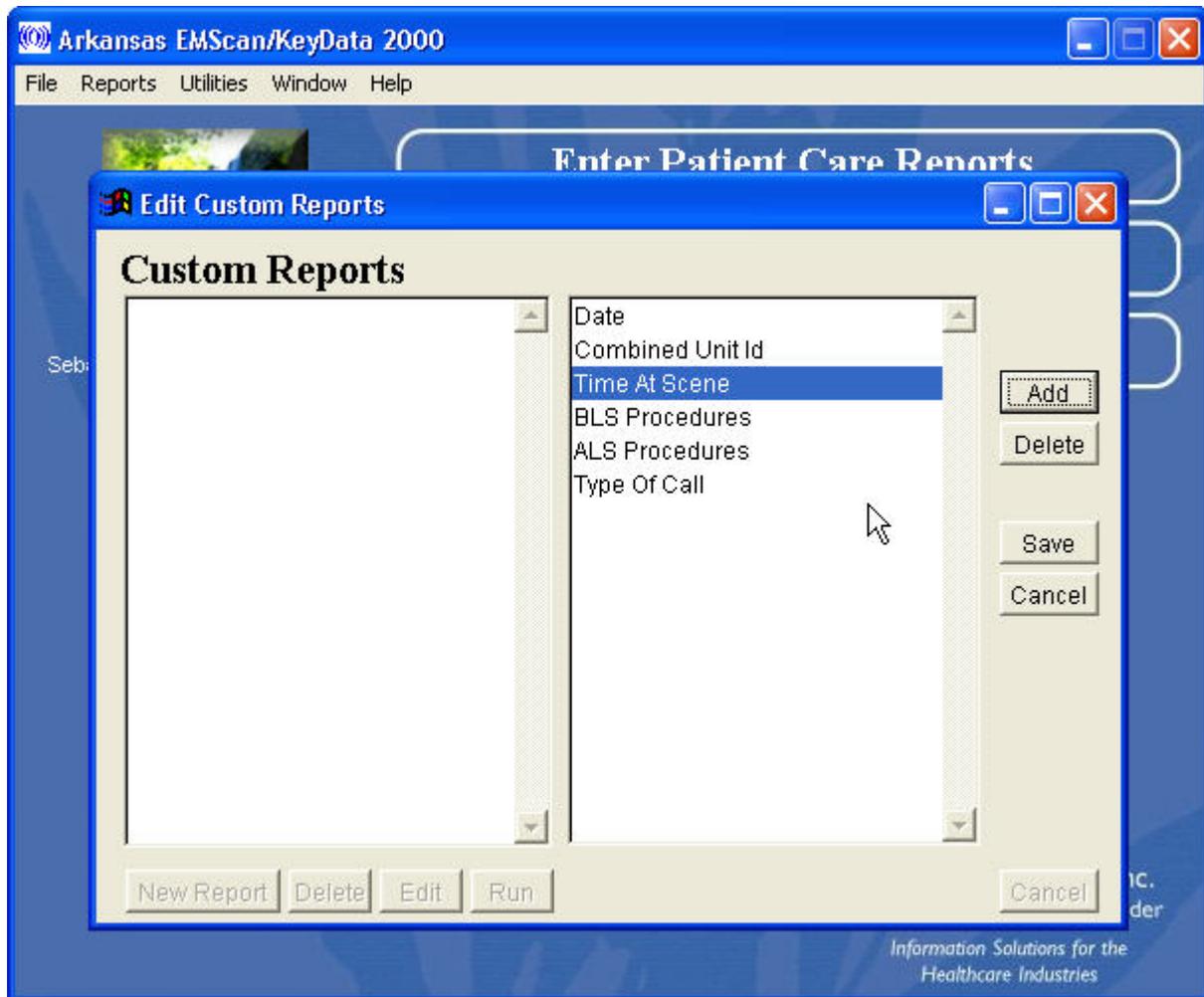


Figure 4.10

Fields are displayed from left to right across your Custom Report in the order in which you chose them on the selection screen. The first field you chose will appear in the left-most column of the report. The second field you chose will appear in the second column and so on. You may list a field multiple times by simply selecting it again. If you wish to delete a field that you have previously selected, simply position your cursor on that item and click on the delete button at the right.

Once you have selected all the desired fields for your Custom Report, click on the “Save” button at the right and the items selected for the report will be listed in the righthand column. Note that the name of your report will not yet be displayed in the lefthand column. If you are

satisfied with the fields you selected for the report, then click the “Run” button at the bottom of the screen to run the report against the database. You will then see the screen illustrated in Figure 4.11 allowing you to specify an output destination for the report.

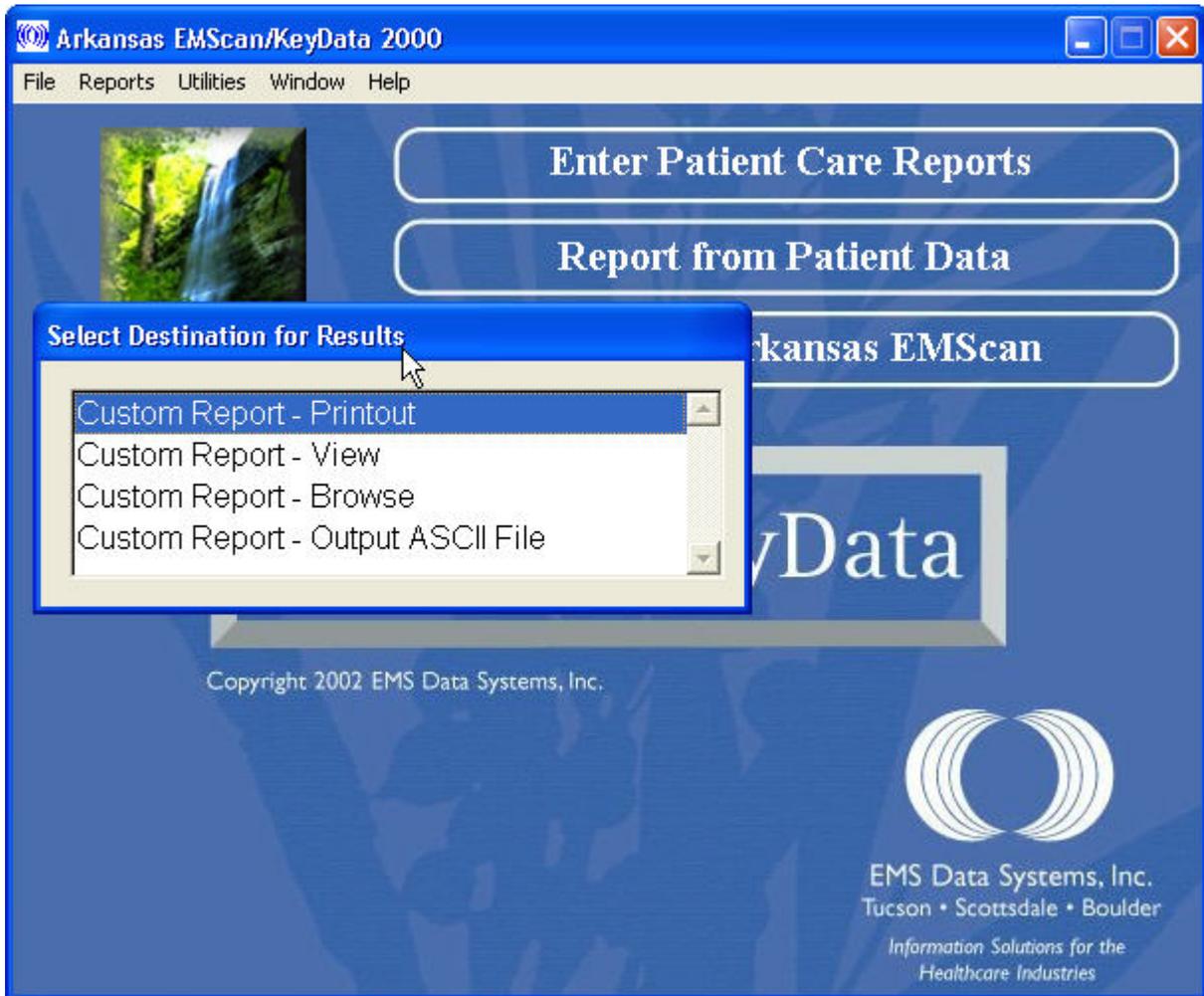


Figure 4.11

Once you select the output destination, the report will automatically be generated and the report definition will be stored for future use.

For additional assistance in designing custom reports, call EMS Data Systems Technical Support at (520) 519-0239 or (480) 949-7646.

QUERIES OVERVIEW

The Queries feature (located on the Reports Menu) allows you to select records from the database that meet certain criteria which you define, and then report from these records. Think of a query as a filter. Only the records in your database that meet the conditions in your query will make it through that filter for you to examine.

For instance, you may want to "query out" only those calls received between 4 PM and Midnight that were in response to motor vehicle crashes. This would be done in a three-step process:

First, the combination of criteria above is set up as a new query in the "Available Queries" list found in the Query Module, as illustrated in Figure 4.12. All of the query's conditions are stored in a special reference file that you are asked to name when you begin to establish your query conditions.

After the criteria have been defined, the query is used to select all records in a database that meet those specific criteria, then run standard or custom reports on those records as you specify. While a subset of data is filtered out using your query, the reports can further refine that data by date range and unit ID numbers, giving you a very selective report from which to make certain deductions concerning your data.

Such findings can highlight the need for additional training or staff, justify the purchase of new equipment, and better prepare your emergency medical services to meet the needs of the communities they serve.

CREATING A NEW QUERY

From the Reports Menu, select "Queries", and you will see a list of "Available Queries", as illustrated below in Figure 4.12.

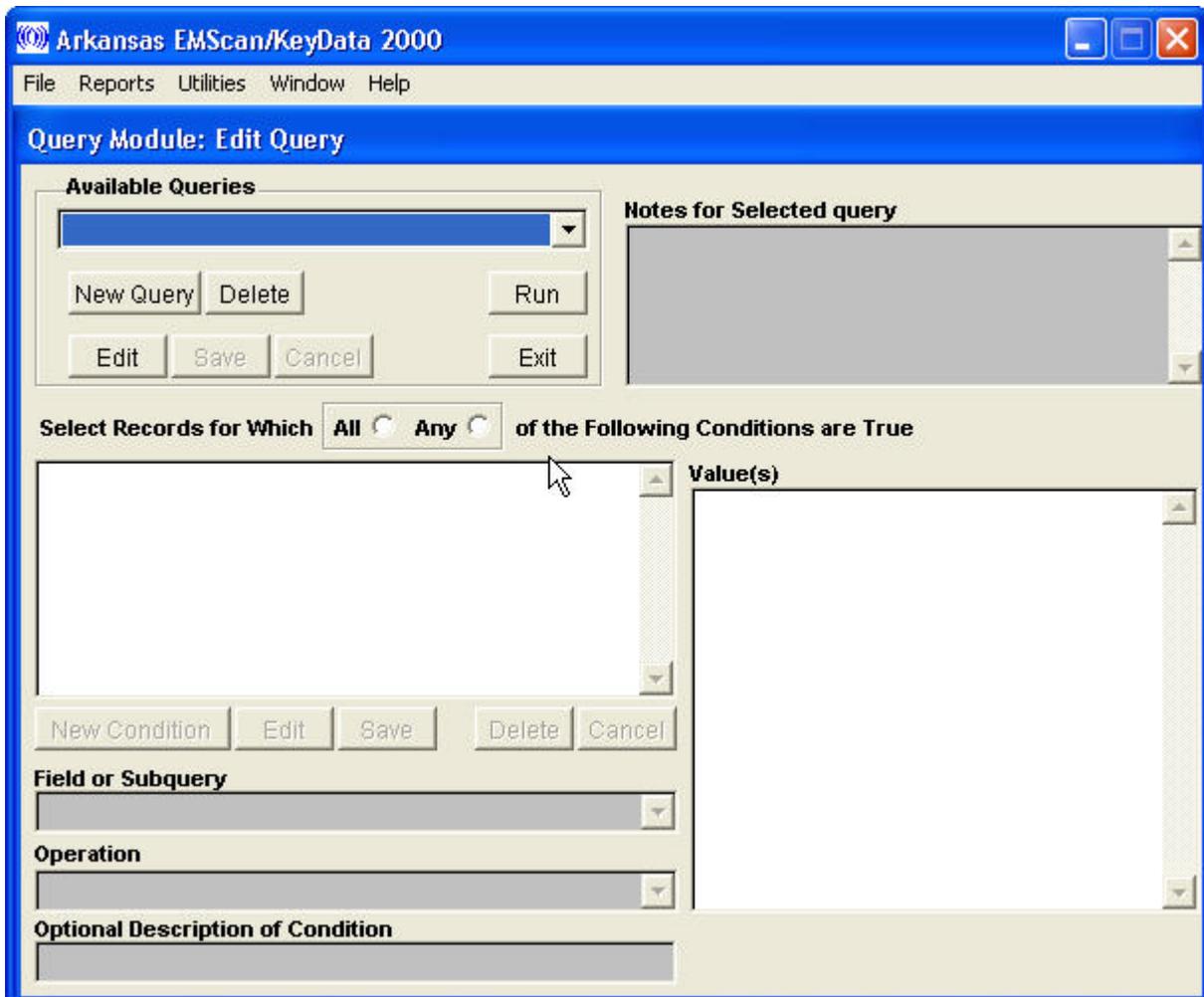


Figure 4.12

To create a new query, click "New Query" to display the screen shown in Figure 4.13. Type in a name for the query and a brief description of the query if desired, then click on "OK". In this example, the name of the query is "MVC".

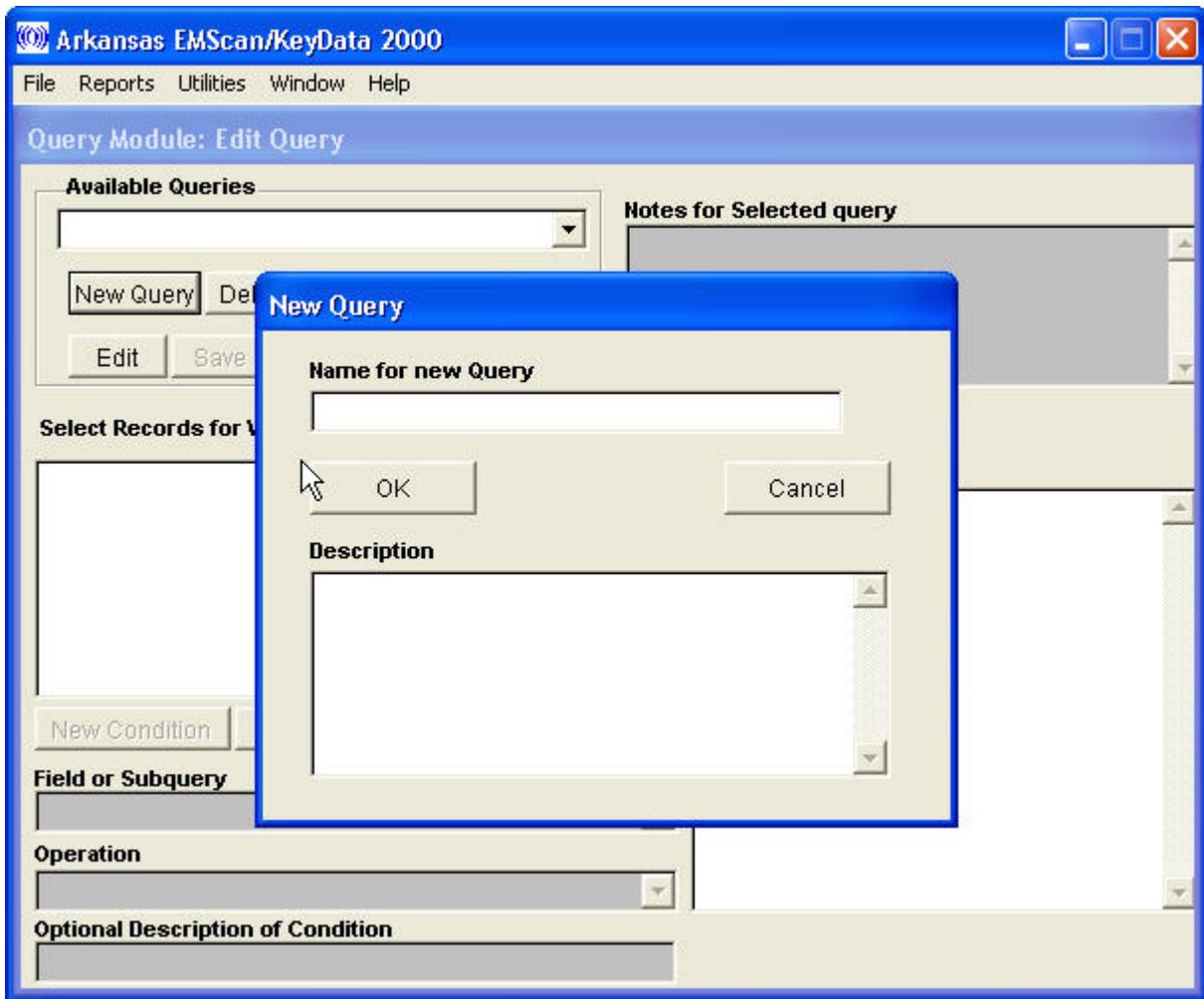


Figure 4.13

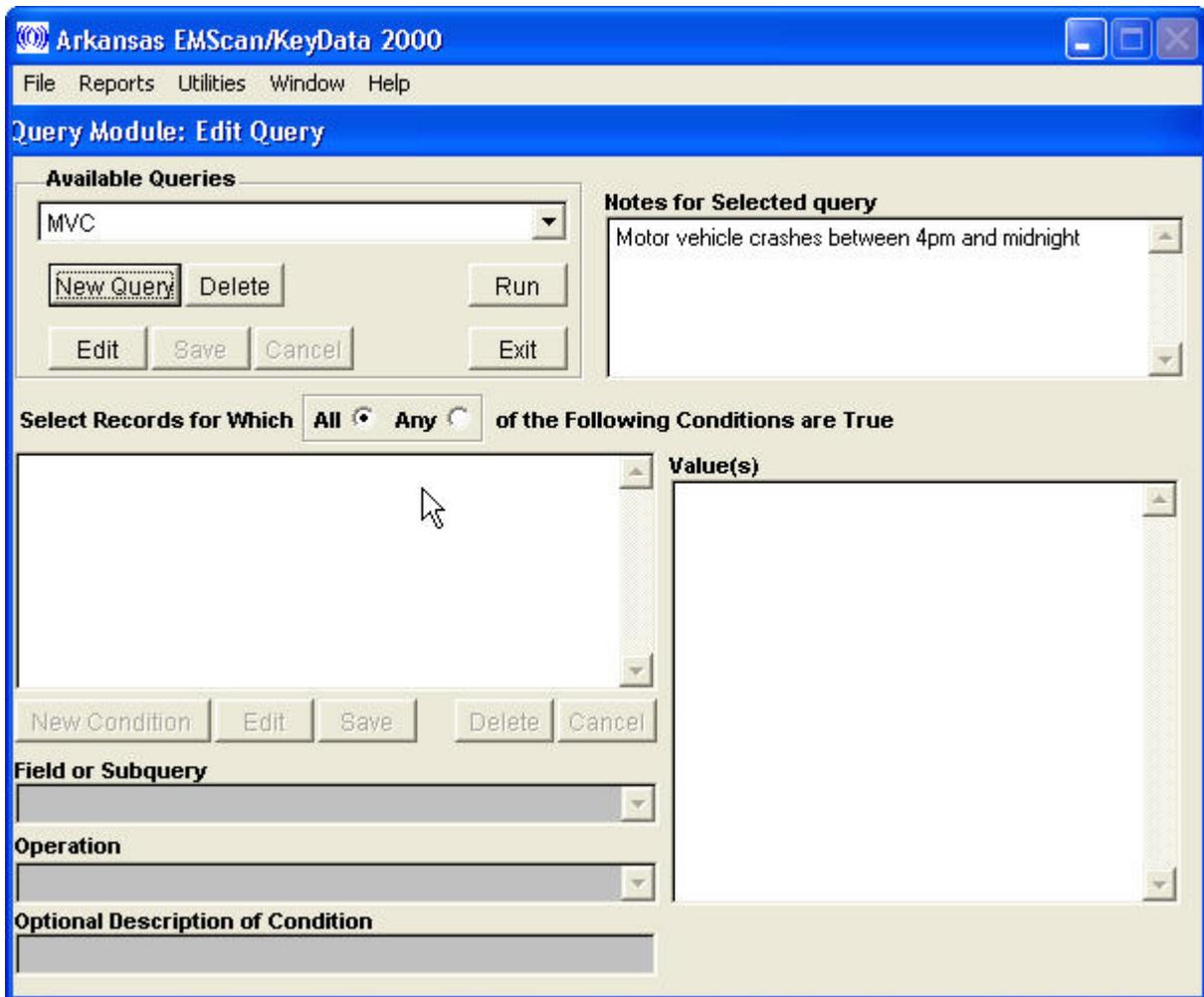


Figure 4.14

Note that your Query now appears in the Available Queries list, as illustrated in Figure 4.14. You must next set up the conditions of your query. To do this, position your cursor on the name of your query, and click on "Edit". You will note that the buttons in the next section are now activated so that the query's conditions may be specified.

Query Fields

Determine which fields from your key-entered prehospital records pertain to your query. For this example, the necessary fields are DISPATCHED TIME (between 1600 and 2400 hours) and TYPE OF CALL (Motor Vehicle Crash). (Note: In this case, Dispatched

Time is being utilized rather than Call Received Time, because Dispatched Time is a required field whereas Call Received Time is not.)

Before you enter the conditions for your query, indicate whether your query must meet all the conditions of the query in order to be selected, or whether it should be selected if it meets any of the query conditions. For example, if you indicate that your MVC query should meet any of the conditions, then your query will retrieve any records that were either between 4 P.M. and midnight OR were Motor Vehicle Crashes. That would mean that the calls between 4 P.M. and midnight could involve any Cause of Injury and likewise the Motor Vehicle Crash calls could be at any time of day. If you want to select **only** those calls that were traffic related Motor Vehicle Crashes **and** were between 4 P.M. and midnight, then click on "All" to require that records meet all of the query conditions in order to be selected.

Next, click on "New Condition" to begin setting up the conditions of your query. Note that the sections for "Field or Subquery", "Operation" and "Optional Description of Condition" are now active. Click the down arrow at the right of "Field or Subquery", and the screen illustrated in Figure 4.15 will be displayed. Listed here in alphabetical order are all of the fields within the EMScan/KeyData database, as well as any queries that have previously been created that you may wish to use as a subquery in designing this query. Select the first field for your query, which in this example is "Type of Call".

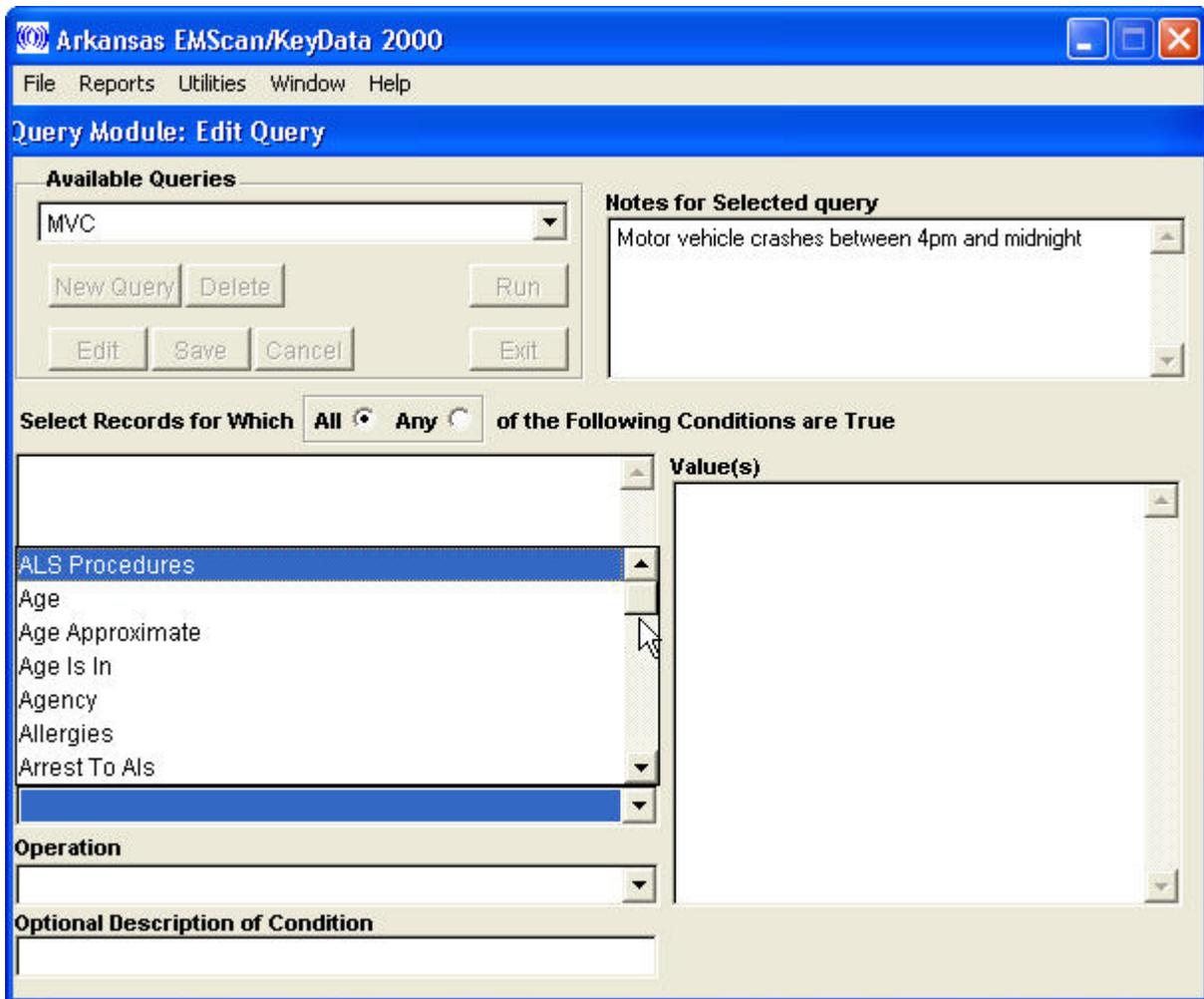


Figure 4.15

Next, click on the down arrow at the right of "Operation". Depending on what field you selected for your query, you will see a list of operations to be performed in selecting records for your query. In this example, you want Type of Call to "Equal" Motor Vehicle Crash. After you select the desired operation, press "Enter" or "Tab", or click in the "Value(s)" field. A pop-up window similar to the one in Figure 4.16 will appear, allowing you to enter a specific value or a range of values for your query condition, depending on the field selected.

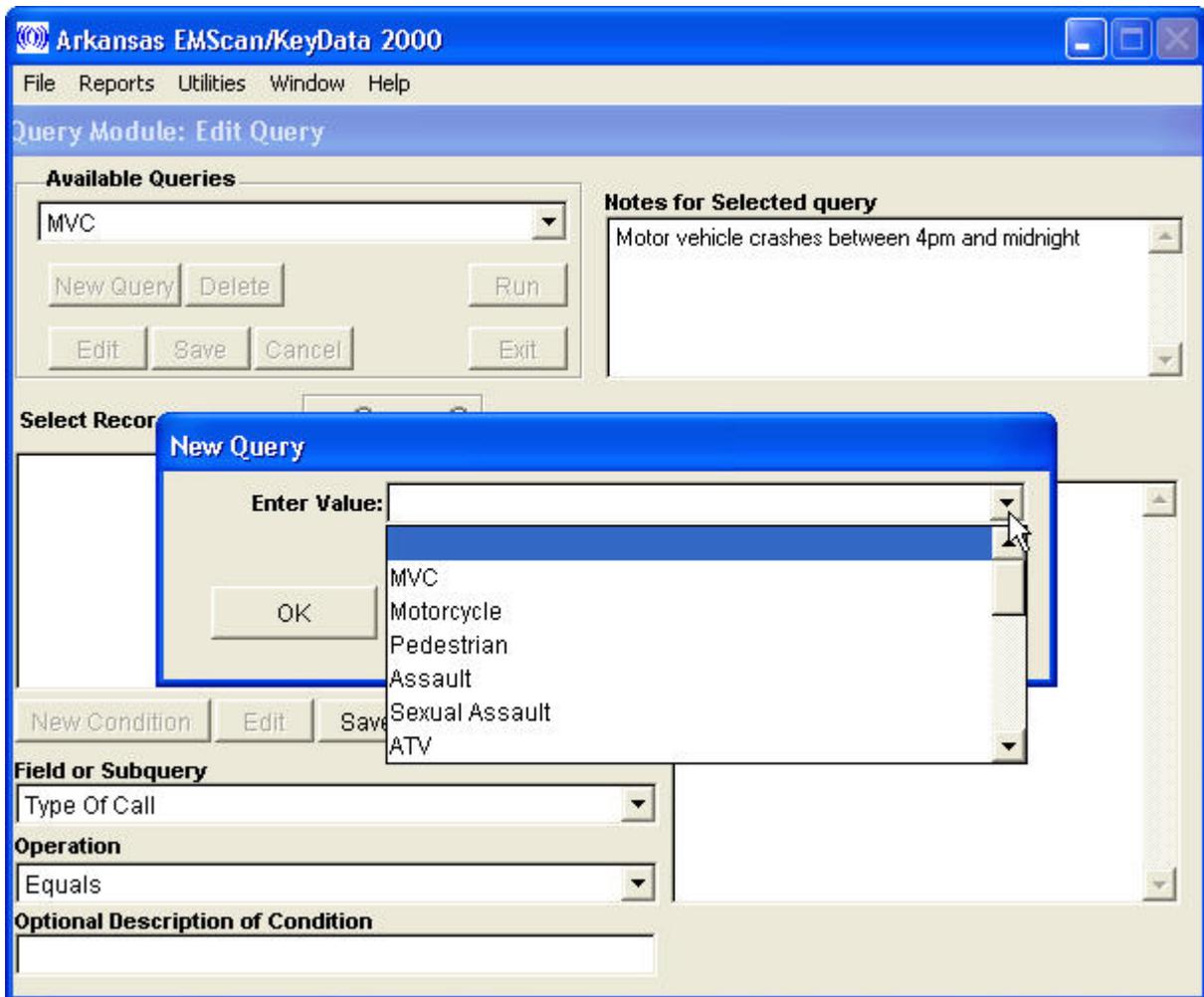


Figure 4.16

In this example, choose "MVC" from the selection list and click "OK". The value you selected will appear in the "Values" field. If you wish, you may enter a brief description of the condition you just specified, or you may leave this field blank. Next, click on the "Save" button in order to save this query condition. You will note that the query field and its specified value are now listed. Once again, click "New Condition" to specify your next query condition. In this example, you now want to follow the same steps just described and set up a condition using "Dispatched" as the query field, with a range of values from 1600 to 2400. Once all the conditions of your query have been specified and saved, click on the top "Save" button right below

"Available Queries". You now have a query that may be run against a database to select records meeting the query criteria, or that may be used as a subquery in more complex situations.

EDIT AN EXISTING QUERY

If you decide that your query needs to be changed to become either more or less specific, you may do this by returning to the Queries selection screen from the Reports Menu.

Select Which Query to Edit

You should now be faced with the "**Available Queries**" screen from which you will choose the query you wish to edit. The number of queries listed will depend upon how many you have created. For the purpose of continuing this example, select the MVC query by highlighting it and pressing "Edit".

To experiment with the Edit feature, you will change the MVC query to find the calls with DISPATCH TIMES from midnight to 6 A.M. You will also be changing the query to a more specific type of Motor Vehicle injury, those that have resulted in an injury to the head.

Changing the Query Condition's Values

The query condition for DISPATCH TIME, needs to be changed from 1600-2400 hours to 0000-0600 hours. Position your cursor on this condition and click "Edit". The query field and operation will remain the same, but the value must be changed. Click in the "Value(s)" field, and change the values in the pop-up window. Click "OK" when you finish. Click "Save", then click on "New Condition" to add another condition to your query.

Adding a New Field

Now add the new required datapoint for the Motor Vehicle Crash resulting in a head injury. Select "Injury Site/Type" as your query field, then select the desired operation. Be careful in making the appropriate selection from the choices listed. In this instance, the correct choice is "Has Any of the Following Selected".

Next, click in the "Value(s)" field, and you will see a screen similar to the one shown in Figure 4.17.

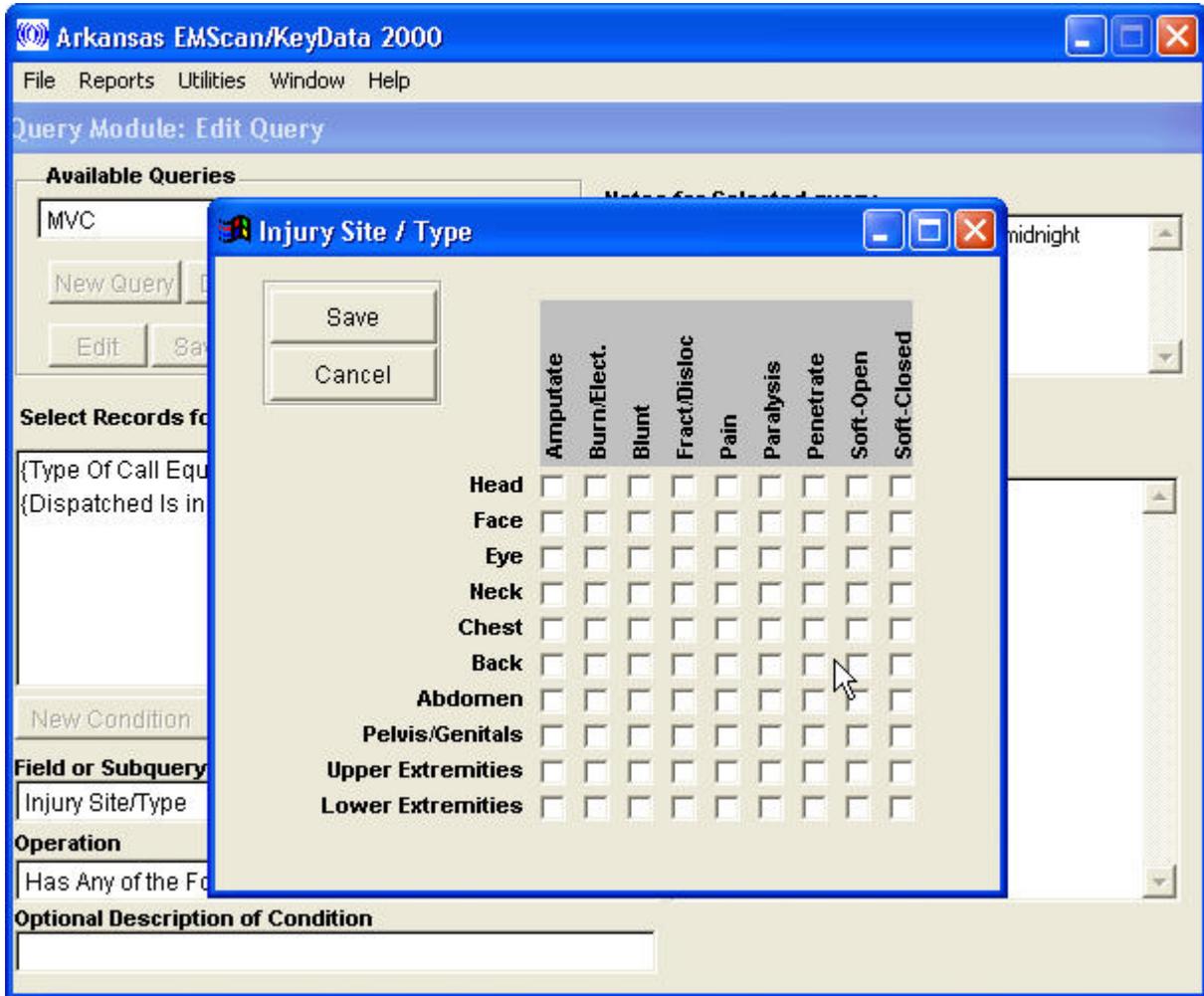


Figure 4.17

In the matrix, click all appropriate items that might indicate an injury to the head resulting from a motor vehicle crash (i.e., all items in the row for "Head"). Once all desired items are checked, click "Save" to save the values, then click "Save" to save the new query condition, and finally, click "Save" yet again to save the changes to your query. The newly-modified MVC query will probably now find fewer records that satisfy its conditions since it is more exacting. Not only must the call be a Motor Vehicle Crash during a

specified time, it must also have resulted in an injury to the head.

5.0 UTILITIES

The following options appear on the Utilities Menu:

NEW PASSWORD ENTRY

As previously described, this feature allows you to change your current password or, if you are logged in as "SUPERVISOR", enter logins and passwords for new users. Simply select this option, and a data entry window will appear, allowing you to enter new user logins and/or passwords.

REINDEX DATABASE

This option helps keep your data in good working order. To reindex is to realign or re-sort the records within your database. It does **not** delete or damage your database in any manner.

Use this option on your active database if your reports don't seem to be reflecting accurate data, or if you receive a database error message.

REMEMBER: WHEN IN DOUBT, REINDEX!
IT CAN ONLY HELP.

SET RESEARCH LABELS

This option simply allows you to designate labels for the research code field. Contact EMS Data Systems Technical Support for assistance in setting up and using this field.

ASCII EXPORT

This option enables you to export data from the compressed database file to a text file in the industry standard ASCII (American Standard Coded Information Interchange) format. With your records in ASCII format, they can be easily loaded into another database, spreadsheet, or word processor. Data exported through this function is merely copied into an ASCII file. It is not erased from any database as it is exported.

From the Utilities Menu, select the option, "ASCII Export". A window will appear in which you may specify parameters for the data to be exported, as illustrated in Figure 5.1.



Figure 5.1

You may export data by date range, unit ID#, service ID#, or for a specific crew member. Click “Go” to save your export parameters and begin the export process. Note that this option is not the same as “Export to Arkansas EMScan” or “Export to Amazon”. With this option, all data fields contained in the specified records, including patient identification fields, will be exported.

IMPORT FROM EMSCAN/KEYDATA

This option enables you to import data that has been exported from other EMScan/KeyData sites using the ASCII Export utility. Select this option from the Utilities Menu and you will see the screen illustrated in Figure 5.2.

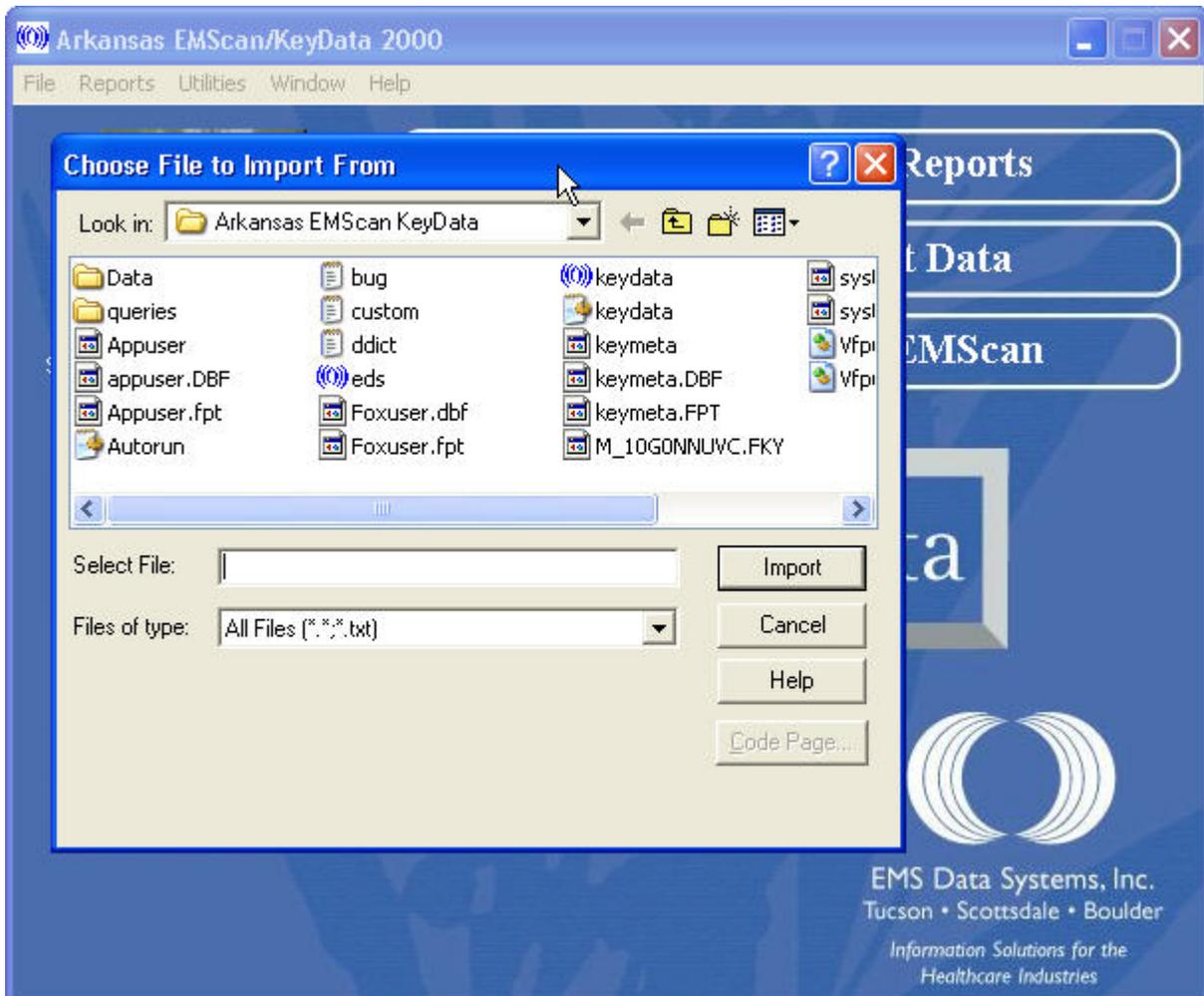


Figure 5.2

Enter the path and file name of the file to be imported and click "Import". The data will automatically be imported into your database, and you will see a message noting the number of records imported.

APPLICATION OPTIONS

This feature allows you to enable the HIPAA security feature built into the software. When this option is checked, only the supervisor has full access to all data and all query and reporting functions. Users can see only the data which they themselves entered, and they do not have access to the Custom Report, Query, or ASCII Export functions.

AMAZON BILLING INTERFACE

If you have purchased the special interface for Sweet's Amazon billing software, you will see three additional options on the Utilities Menu – Export to Amazon, Import Amazon Codes, and Amazon Export Setup. These features allow you to format and export data from EMScan/KeyData directly into the Amazon billing software to eliminate duplicate data entry. When you choose "Amazon Export Setup", the screen illustrated in Figure 5.3 will appear, allowing you to define user codes and configure your export. Consult EMS Data Systems Technical Support for assistance with this process.

Amazon Export Settings

Data Source Name: SCS_Amazon
 SQL User Name: sa
 SQL Password:

Export Agencies by ID
 Export Hospitals by ID
 Export Crew Members by ID

User Code Directories

Amazon Import Directory (Default User Code Directory): 1 Reset All to Default

Caller Codes	1	Event Codes	1	Procedure Codes	1
Call Type	1	Level of Care Codes	1	Reason Codes	1
City Codes	1	Location Codes	1	Staff Codes	1
Company Codes	1	Medication Codes	1	Unit Codes	1
Doctor Codes	1	Patient Type	1	Urgency Codes	1
Employer Codes	1	Payor Codes	1	Zone Codes	1

Default Error Log Name: ExpLog.txt Append Overwrite

Default Export File Name: Export.txt Batch # 3 Save Cancel

Figure 5.3

Once the Amazon Export is properly configured, simply select “Export to Amazon”, and the screen shown in Figure 5.4 will be displayed allowing you to further define the desired parameters and run the export.



Figure 5.4

6.0 EXPORT DATA TO EMSCAN

EXPORT EMSCAN DATA

This feature enables you to export key-entered data from the EMScan/KeyData database to a file, in order to transmit data to the Arkansas Division of EMS & Trauma Systems. Select this option either from the File Menu or by clicking the button on the Main Screen, and a window will appear with a number of options, as shown in Figure 6.1.



Figure 6.1

You may choose to export all records that haven't previously been exported, export records by incident date range, export records by entry date range, or re-export records by export date range. Click the desired option, enter the date range if applicable, and click on "Re-export Allowed" if appropriate. A default file name for your export is listed. If you wish to export the data to a different file, specify the destination drive and file name. Note that the State EMS Office requires that export files sent to them have a ".EMS" file extension. Click the "Export" button and the specified records will be exported to the designated drive. At the same time, these records in the database will be flagged with the export date. Note that data exported with this option is fully HIPAA-compliant and does not contain any patient identification, narrative or billing information.

Important Note: After the data has been exported to the specified file and destination drive, you must e-mail the file as an attachment to the State EMS Office at the following e-mail address: emsdata@healthyarkansas.com .

APPENDIX A

TECHNICAL SUPPORT

If you experience difficulty with EMScan/KeyData, please notify EMS Data Systems Technical Support at (520) 519-0239 or (480) 949-7646.

Before contacting Technical Support by phone or fax, please have the following information available:

- 1) Agency Name and Phone Number
- 2) EMScan/KeyData Version and Serial Number
- 3) Description of computer hardware, including description of any special boards or components.
- 4) Description of any TSR software or special drivers installed at time of error.
- 5) Full description of error condition, including full on-screen error message.

Finally, if you have a suggestion for improvement or general comments regarding EMScan/KeyData, we would appreciate hearing from you. Please write or call us at:

EMS Data Systems, Inc.
4300 N. Miller Road, Suite 110
Scottsdale, AZ 85251
(480) 949-7646
(480) 949-7697 FAX