

**ICUBASE - A DISTRIBUTED DATABASE FOR SUPPORT OF CLINICAL
DATA INPUT AND CODING ON THE WORLD WIDE WEB**

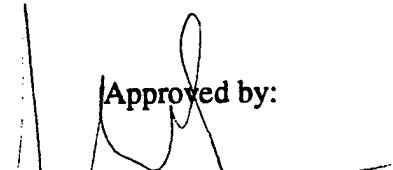
by

Joseph Brian Mirrow

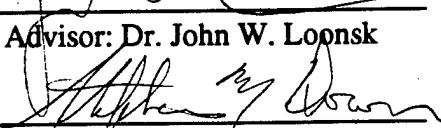
A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Science in the Department of Biomedical Engineering.

Chapel Hill
1997

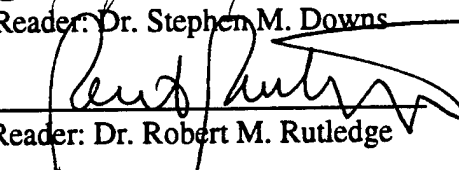
Approved by:



Advisor: Dr. John W. Loonsk



Reader: Dr. Stephen M. Downs



Reader: Dr. Robert M. Rutledge

DTIC QUALITY INSPECTED 8

© 1997
Joseph B. Mirrow
ALL RIGHTS RESERVED

ABSTRACT

ICUBase - A distributed database for support of clinical data input and coding on the World Wide Web

(Under the direction of John W. Loonsk)

The ICUBase project involved the creation of a generic, modular application for input and coding of medical data via the World Wide Web. A distributed database is used in conjunction with modular, Hypertext Markup Language input forms to create a scalable application interface. A unique navigation system was also developed to facilitate user interface.

Clinical coding is accomplished by means of "coding engines" that utilize clinical coding databases to generate accurate medical codes during data input. The coding engines are modular so that any externally written application may incorporate this functionality for use in new clinical systems.

Physicians using the system were able to accurately code medical data using these external, web-based resources. Overall, trial physician users were satisfied with the application interface and the coding engines.

Acknowledgments

To my wife, Monica, and my children Rachel and Andrew

“I couldn’t have done it without you - you’re the best”

I would like to acknowledge and thank my advisor, Dr. John Loonsk, and the two other members of my committee, Dr. Robert Rutledge and Dr. Steven Downs, for their help and insight on this project; Dr. Charles Friedman for accepting me into this outstanding program; the staffs of the Biomedical Engineering Department, the Office of Information Systems and the Office of Educational Development for exceptional support; the Medical Informatics Fellows for a great time and a great learning environment; Pratik Patel for being a great friend and lab partner; Marc and Chuck for keeping me off the streets; Jon Brophy for his words of wisdom; and especially to Dr. Carol Lucas for her untiring dedication to the program and its students.

Finally, I would like to acknowledge the United States Air Force Medical Service, the Medical Service Corps, and the Air Force Institute of Technology for the opportunity to attend this program; Col Michael Grabfelder, Col Andrew Love, Col Alan Pease, Col Donald Davies, Col Worth Taylor, LtCol (Ret) Leslie Wood, LtCol (Ret) Thomas Romeyn, Major (Ret) Michael Myatt, Captain Chris Weaver, my advisors Captain Brian King and Captain John Johnson, the AFIT/CI staff; for making it happen.

CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
BACKGROUND	1
INTRODUCTION.....	2
Support for the World Wide Web Paradigm.....	2
The Need for Clinical Coding.....	3
METHODS.....	6
Conversion to a WWW based interface.....	6
The "Coding Engines".....	14
Development of a test model for entering coding medical data.....	15
RESULTS.....	16
Coding Engine Development.....	16
Use of Coding Engines in the ICUBase Application.....	17
DISCUSSION.....	19
Application Speed and Portability.....	19
Application Security.....	20
Current Technology Provides Many Alternatives to Design.....	20
CONCLUSION	21
APPENDIX 1- SYSTEM SATISFACTION SURVEY	22
Code Text for Tasks.....	22
Survey Instrument.....	23
APPENDIX 2- DETAILED CODE LISTING	24
REFERENCES.....	134

LIST OF TABLES

Table 1 Satisfaction Scale Results.....	19
--	-----------

LIST OF FIGURES

Figure 1 Critical Activities to Help Advance CPR Development.....	5
Figure 2 Code text for JavaScript™ Function.....	17
Figure 3 Task Completion Time for ICD-9 Codes.....	18

LIST OF ABBREVIATIONS

CGI - Common Gateway Interface

CPR - Computer-Based Patient Record

CPT - Current Procedural Terminology Codes

HTML - Hyper Text Markup Language

IBM - International Business Machines

ICD-9 - International Classification of Diseases, Ninth Edition

ICD9-CM - International Classification of Diseases, Ninth Edition, with Clinical Modifications

ICU - Intensive Care Unit

IP - Internet Protocol

JDBC - Java Database Connectivity

ODBC - Open Database Connectivity

SNOMED - Systematized Nomenclature for Medicine

SQL - Structured Query Language

URL - Universal Resource Locator

UNC - University of North Carolina at Chapel Hill

WWW - World Wide Web

Background

The purpose of this Master's Thesis and the accompanying ICUBase project is to answer three vital questions regarding Internet-based clinical information systems: 1) Can a standalone database application be easily ported to the web for information input and retrieval? 2) Can the web paradigm be used to allow physicians to use Internet resources associated with another web-based application? And 3) Can physicians accurately and quickly code medical data using a web-based data model?

The project of developing a World Wide Web (WWW) -based clinical information system began as a collaboration between the Department of Surgery at the University of North Carolina (UNC) Hospitals and the Office of Information Systems at the UNC Medical School in June, 1996.

The ICUBase was originally developed at UNC as a standalone database for collecting clinical information at the point of care. The system requires physicians to log onto a computer located in the Surgical Intensive Care Unit (ICU) of UNC Hospitals and record daily information on patients on the surgical service. The database and interface were written and designed entirely in Microsoft FoxPro® database language by Dr. Robert Rutledge, Associate Chief of Staff for Clinical Outcomes and Effectiveness for UNC Hospitals and Associate Professor of Surgery, Department of Surgery, University of North Carolina at Chapel Hill. Since its inception, the ICUBase has facilitated the collection of clinical information for statistical analysis in the ICU. However, due the expanding number of physicians using the system and the geographic separation of many of the care areas from the hardware, a networked solution using a single database was desired to advance the information collection needs of the surgery department.

UNC Hospitals currently administers a Token Ring network supporting a distributed Clinical Work Station running on an IBM OS/2® platform¹. Applications for the workstation are developed by the hospital's Information Systems Division in the Easel™ language. The system gives care providers the capability to query the central clinical data repository and other legacy systems for patient information in real time.

Introduction

Support for the World Wide Web Paradigm

Distributed computing technology is continually focused on Internet and intranet based applications. The continuing development of World Wide Web-based clinical information systems and tools is rapidly expanding the use and knowledge of these systems^{2,3}. ICUBase was chosen as a target for this development for reasons that have been documented in the recent literature.

1. Rapid Prototyping - Time and man hour savings for WWW-based development have been documented in the literature⁴. ICUBase was not developed for the Clinical Work Station and could not be quickly ported into the Easel language. In this implementation, the original screens from ICUBase were "mocked up" in the Hyper Text Markup Language (HTML) in less than 10 hours after the project began.
2. Acceptance of Web Paradigm by Clinicians - Evaluation of the acceptance of clinical systems is a major thrust of the science of Medical Informatics. Documentation of clinician acceptance of WWW-based information systems⁵ has shown that the new paradigm allows for a simple interaction and is easily

¹ J.E. Hammond, R.G. Berger, T.S. Carey, S.M. Fakhry, R. Rutledge, T.J. Cleveland, J.P. Kichak, N.M. Tsongalis, M.J. Dempsey, C.F. Ayscue. Report of the Clinical Workstation and Clinical Data Repository Utilization at UNC Hospitals, *Proc Annu Symp Comput Appl Med Care*, pp 276-280, 1994.

² James J Cimino, MD, Socrates A. Socratous, Paul D. Clayton, PhD, Internet as Clinical Information System: Application Development Using the World Wide Web, *JAMIA* 2:273-284, 1995.

³ Keith E. Willard MD, MSEE, J.H. Hallgren BS, B. Sielaff PhD, D. P. Connelly MD, PhD, The Deployment of a World Wide Web (W3) Based Medical Information System, *Proc Annu Symp Comput Appl Med Care*, pp 771-775, 1995.

⁴ Kohane IS, Greenspun P, Fackler, J, Cimino C, Szolovits P, Building National Electronic Medical Record Systems via the World Wide Web, *JAMIA*, 3:191-207, 1995

⁵ Lowe HJ, Lomax EC, Polonkey SE. The World Wide Web: a review of an emerging Internet-based technology for the distribution of biomedical information. *JAMIA* 3:1-14, 1996.

integrated into the medical domain. The addition of OS/2® compatible web browsers onto the UNC Clinical Workstation, in addition to the availability of the technology on networked computers throughout the hospital, gives superior access for clinicians to the ICUBase distributed database.

3. Access to Clinical Information - With immediate access to clinical information such as drug databases and coding data, the WWW interface provides a unique environment for the clinical information input and presentation at the point of care⁶. The question of when and how to present this information in the course of a patient encounter has been an ongoing issue with this project.
4. Cross Platform Communication - The WWW easily provides cross platform applications for use in a distributed environment via web browsers developed for a multitude of platforms.
5. Flexible Application Environment - As software and systems change, the web based interface can keep pace with the latest technology without having to deploy an entirely new system throughout the hospital.
6. Security Capabilities - With authentication and encryption built into the web paradigm, the capability for secure access and transmission has existed from the very beginning of the project.

The Need for Clinical Coding

The first implementation of ICUBase provided clinical coding features in the "problem" and "procedures" documentation screens from a short list of the most common codes physicians would see in the ICU. Physicians using the system were required to use these terms largely from memory which sometimes resulted in inefficient coding and incorrect coding of medical data.

The accurate clinical coding is of major importance to modern computer-based patient records (CPR). In the early eighties, Waters and Murphy⁷ recommended that future

⁶ Nenov V, Klopp J, Remote Analysis of Physiological Data from Neurosurgical ICU Patients, *JAMIA* 3: 318-327, 1996

⁷ Waters, Kathleen and Murphey, Gretchen. Systems Analysis and Computer Applications in Health Information Management Aspen Systems Corporation, 1983.

medical information systems designers require that "all medical conditions be categorized in a way that is understood by both clinical and analytical users." This requirement was based on years of research on paper based medical records and the frustration of dealing with non-standard formats, lack of continuity and loss of medical data in these medical records.

The impediments to creating computer-based patient records are quickly evaporating. Two of these limiting factors were raw computing speed and lack of organization for the medical record that would be compatible with all types of data acquisition⁸. Although modern research has overcome these technical boundaries and many others, some unique non-technical boundaries remain. A major obstacle is the lack of a standardized vocabulary for medical records coding.⁹

In the 1980's, several systems already existed to code medical data: SNOMED (Systematized Nomenclature for Medicine), ICD9-CM (International Classification of Diseases, Ninth Edition, with Clinical Modifications) and others. However, very few computer-based coding systems existed for translating medical data to these codes for storage and use. The storage, retrieval and processing of medical data are largely dependent on the coding system used¹⁰, but most hospitals, including UNC, rely on paper methods for the recording of these codes.

In 1991, the Institute of Medicine published The Computer-Based Patient Record¹¹ in an effort to spur the effort toward creation of the CPR. The report concluded that standards must be developed for exchange of data between systems and that a standardized vocabulary will play a large part to this end. The institute reported eight critical activities to help advance CPR development.¹²

⁸ Waters, Kathleen and Murphey, Gretchen. Systems Analysis and Computer Applications in Health Information Management Aspen Systems Corporation, 1983.

⁹ Board of Directors of the American Medical Informatics Association, "Standards for Medical Identifiers, Codes, and Messages Needed to Create an Efficient Computer-stored Medical Record", *JAMIA*, 1:1 1994. pp 1-7.

¹⁰ Waters, Kathleen and Murphey, Gretchen. Systems Analysis and Computer Applications in Health Information Management Aspen Systems Corporation, 1983.

¹¹ Dick, R.M. and Steen, E.B. The Computer-Based Patient Record, Institute of Medicine, Washington, D.C., 1991.

¹² Dick, R.M. and Steen, E.B. The Computer-Based Patient Record, Institute of Medicine, Washington, D.C., 1991.

**The Institute of Medicine's Committee on Improving the Patient Record.
Critical Activities to Help Advance CPR Development:**

- 1) Identification and understanding of CPR design requirements
- 2) Development of standards
- 3) CPR and CPR systems research and development
- 4) Demonstrations of effectiveness, costs and benefits of CPR systems
- 5) Reduction of legal constraints for CPR uses as well as enhancement of legal protection for patients
- 6) Coordination of resources and support for CPR development and diffusion
- 7) Coordination of information and resources for secondary patient record databases
- 8) Education and training of developers and users

Figure 1 Critical Activities to Help Advance CPR Development

The Institute of Medicine study goes on to recommend twelve attributes that comprehensive CPR systems must possess. One of these recommendations is structured data collection and storage of information using a defined vocabulary.

“Effective retrieval and use of health care information in the CPR depend in a large part on the consistency with which a CPR content names and describes clinical findings, clinical problems, procedures and treatments. The development and widespread dissemination of the contents and techniques of effective vocabulary control of high priority elements are major intellectual, technical and organizational challenges¹³.”

In today's business and patient care environments, health care professionals need increasing amounts of accurate data in machine-readable form to support intelligent decision making. The representation of patient information is a complex problem. Ideally, it should be addressed in a way that allows multiple uses of the same data, including simple manual review, sharing and pooling across institutions, and as input to knowledge-based decision support systems. Coding information with controlled medical vocabularies will help solve some of these complex problems¹⁴.

¹³ Dick, R.M. and Steen, E.B. *The Computer-Based Patient Record*, Institute of Medicine, Washington, D.C., 1991.

¹⁴ Cimino, James J., “Data Storage and Knowledge Representation for Clinical Workstations”, *International Journal of Bio-Medical Computing*, 34(1-4), 1994, pp 185-194.

The web version of ICUBase utilizes "coding engines" to enable physicians to accurately code medical data into ICD-9 and UNC Hospital Procedure codes. The methodology for the development of these engines is described below.

Methods

Conversion to a WWW based interface

The conversion of ICUBase to a WWW-based interface involved a multitude of steps. In the future, standalone database conversions may be much simpler with tools being developed by major software manufacturers. However, design of forms navigation will continue to be a problem for designers because of the stateless nature of the web. The following discussion is a breakdown of the steps used to convert the ICUBase database and to provide a generic navigation tool. Functional and design problems with each implementation step are also discussed.

1. Copy current interface into HTML

The current interface style for ICUBase was duplicated in HTML because of the increased speed of development. By using the interface design of the standalone application, HTML allowed for very rapid "mock up" of the web based application screens. The entire process took just over one week to complete including the creation of a "forms navigator" to display the static pages.

Ten screen shots were taken of the actual ICUBase product so that each interface screen could be duplicated. The screens, taken from the original database are:

- Admission Demographics (2)
- History and Subjective Evaluation (2)
- Discharge
- Vital Signs (2)
- Procedures (2)

In addition, two screens, "Patient Complications" and "Patient Lines" were created but are not used in the final version of the application because of changes in the way problems and procedures are coded.

2. Migrate database from Microsoft FoxPro® to Microsoft SQL Server®

The migration of tables and data from one database to another was completed seamlessly using Microsoft Access® as an intermediary database. The FoxPro® tables indexes and data were converted to the new format by importing the tables directly into Access®. Non-indexed tables were reindexed in Access®. Table relations, which do not carry over from FoxPro®, were added to the new database. Datatypes were checked to assure compatibility across platforms. For instance, an Access® "memo" field is used to store up to 64 kilobytes of data. This equates to a "text" field in FoxPro®.

After full conversion of the database, the data was then placed into a Microsoft SQL Server® database utilizing the Open DataBase Connectivity® (ODBC) standard and the Microsoft Access Upsizing Wizard®. Together, the wizard and ODBC handle both the conversion of datatypes and placement of the data into newly created tables. Requirements for use of this system include a Microsoft SQL Server® database and a network connection.

During the course of the project, it was found that there was a need to create a Microsoft NT account on the host network of the database. The account allows for ODBC connectivity to the database under the default "named pipes" or "Windows NT® Network" sharing parameter. However, this approach is impractical for database designers who are physically or logically outside of the host network or where windows NT data cannot reach because of network security (such as UNC Hospitals). Using the Microsoft SQL Server Client Configuration Utility®, it is possible to change the default network setting to TCP/IP, thus enabling ODBC® connectivity in remote locations to a server using its Internet Protocol (IP) address.

3. Link Database fields to forms via Cold Fusion®

Once the database was fully exported to SQL Server®, the HTML pages were "connected" to the database. At the time this project was started, there were limited resources to connect databases and active HTML pages together. The product chosen for the task was Allaire Inc. Cold Fusion® 1.5 which runs on the server as either service or as

a CGI (Common Gateway Interface) program. Cold Fusion® is unique in that it uses a proprietary language to process SQL (Structured Query Language) statements imbedded in the HTML documents on an ODBC® datasource.

Several features of Cold Fusion® were used during this project. First, multiple queries may be processed sequentially, with the results of one query being passed to the next. For instance, if one wanted to know who was the attending physician in the ICU on a particular day, Cold Fusion® could process this request and return the name of the physician. Subsequently, if one wanted to know this physician's department name, the name of the physician returned from the first query could be used in a second query of departments. Another flexibility is the IF...THEN...ELSE capabilities of the Cold Fusion® language which allow for HTML processing based on the results of a query. This allows for simple user feedback- i.e. IF the results of a query returned more than one record THEN one could to display a particular data format ELSE display the statement "no records returned" if it did not.

Using Cold Fusion® scripting, SQL queries were prepared so all data input fields in the HTML forms were matched to the datafields of the database. Because connections to the server are not "stated" (continuous), the forms themselves are not actually connected to the database. This means that the input by the physician is "static" until the form itself is sent to the server. Therefore, real time data checking, discussed later, is an essential part of the web version of ICUBase. Additionally, since the data sent to the server is in raw text format, several SQL queries were required to convert data types to database acceptable formats (example: as date or numeric) at the server.

The ability for Cold Fusion® scripting to return query results to static HTML pages was also utilized to return results of queries to active screens. A separate lookup table was used to store frequently accessed information such as resident, attending and fellow names, admission reasons and chronic health evaluation codes. The data from this table is presented to the user in dropdown boxes formed from outputting query results from this table. Users select the input data from the dropdown box which is then placed in the appropriate data table of the patient specific data when the form is "posted" to the server.

The navigation scheme later uses these same queries to return user input information to active screens.

4. Design a navigation system to incorporate the forms

A navigation system was designed to bring the forms together into a coherent application. Many possibilities existed for the design of a navigation system, including the introduction of more HTML forms. This option was not used because feedback to the user would be more difficult to provide. Instead, a system using navigator "frames" and Javascript^{TM15} was developed for its ability to provide a clean, functional interface.

Two menu systems were designed to facilitate user interaction. The first menu enables the user to choose from "New Admission", "Progress Note", "Discharge" or "Quit". Quitting the application closes the browser window using a JavaScriptTM "Window.Close" command. The "New Admission" button allows the user to input information into the database concerning new patients. Clicking on "Progress Note" requires a user to select a patient from the active patient listing in the right hand window to process a note on an active patient in the database. Selecting "Progress Note" actually "submits" the form on the right hand side of the screen for processing. Currently, the "Progress Note" interface screen does not allow the physician to alter the patient's demographics. This interface is similar to the original ICUBase application. The "Discharge" button allows the user to view the patient's complete problem and procedure lists and sets the "active record" variable in the database to "No." If no patient is selected before clicking "Progress Note" or "Discharge", the patient selection form is submitted anyway and an error is trapped returning the user to the starting screen. Clicking on any button changes the application's "state" variable that tells the application which buttons to display in the second menu.

The second menu system provides access to the sub forms within the ICUBase Application. These screens include demographics, vital signs, subjective assessment, problem list and procedures. In this menu design, the current screen button is depicted as pressed, while the remainder are in the nonpressed position. Visited screen buttons are colored red after the user leaves the page.

¹⁵ McComb, Gordon JavaScript Source Book, Wiley Computer Publishing, 1996 pp 431-460.

The form submission process requires consistency. Therefore, instead of creating multiple forms processors, a main forms processor page was created. In this scheme, each data input form has a name consistent with its content (example: "vitals" is the form name for the vital signs screen). When the form is submitted to the main forms processor, the submitted form's name is used to redirect the form contents to a sub-processor page for that specific information. Upon completion of the information specific sub-processor page, the process returns to the main forms processor and continues. The forms processor then retrieves and posts the next requested input form page back to the user.

Using JavaScript™ functions to control the submission of forms in a secondary frame requires that the main form processor have JavaScript™ components. One of the first errors encountered by this application was that the main forms processor was slower than the JavaScript™ menu functions. Opening the next requested input form directly from the menu led to the current input form being submitted but data not entered into the database quickly enough to post required data to the next form. A new methodology was devised where input form submission was followed by an update of the database and then a JavaScript™ call by the main forms processor to open the next page requested by the user. The next input form is determined from the button in the navigation bar that was pressed by the user. The variable indicating the button pressed is stored in the JavaScript™ "cookie" (discussed below) until needed by the function.

The final problem with JavaScript navigation was discovered when the browser was resized on the client's screen. All stored JavaScript™ variables are reset upon reload of the form which is initiated by the resize of the browser window. This leads to the application losing all navigation data. Two possible solutions were conceived. The first involved "locking" the application window size by removing the resize buttons. Instead, the JavaScript "cookie" function was used to store the current navigation state. A browser "cookie" is a text field written into memory that does not reset when the browser is resized. After resizing, each form on the screen is reloaded and the navigation form simply calls its variables from the "cookie" instead of stored JavaScript™ variables.

With the creation of the navigation scheme, it was important to disable features of the browser that would enable users to change information in the database in error. Two of

these features, the "back" and "forward" buttons use the browser cache to recall pages that have been stored in active memory. The navigation system, therefore, includes the ability for the user to go "back" to previously edited screens via the navigation buttons in the second menu system. The input forms use Cold Fusion® queries to return previously input information. In cases where a dropdown box was used to input the information - the results of the return query are simply defaulted to the top of the dropdown box while the remainder of the query returns the original result of the lookup to the hidden line below the entry.

The browser "back" and "forward" buttons are disabled in two unique ways. First, the application is launched into a browser window without the navigation tools using the JavaScript "OpenWindow" function call. In this way, the user cannot activate the browser's menu system or toolbar. Second, the browser cache itself is disabled using an internal HTML <META> tag which is supported for by advanced browsers (Netscape 3.0® and Microsoft Internet Explorer 3.0®) and ignored by others.

5. Redesign the database and normalize the tables

Once the navigation sequence was created, the database itself required analysis. To improve functionality, it became necessary to reorganize the database to further support the web environment and add more flexibility to the original application. The original ICUBase consisted mainly of three unique data tables. The first, an admission table, contained all information concerning the patient's admission data. The second, a daily table, contained all information concerning the patient's day to day treatment after admission including a daily problem list. Finally, a procedures table kept track of individual patient procedures.

Once the database was connected to the web based application the tables were normalized to improve storage and retrieval of patient data.. The four original tables were divided into 11 unique tables and 7 "lookup" tables. Each new table was then "keyed" using unique table rows. First, a "Patient" table was created from the "Admission" table by removing all patient specific information. The patient table was then "keyed" to the unique UNC identification number. This data field was left as text because of the unique

check digit assigned to each record. The next table created was the new "Admission and Discharge" table that consisted of all unique data having to do with the patient's particular admission. This data, (example: admit reason) was keyed to a unique admission number assigned sequentially by the database. The dual primary keys of the admission table are the admission key and the foreign key of patient identification number to uniquely identify a row of the table. This represents a one to many relationship between the patient and admission tables.

The next table created was a new "DAILY" table that identified only those data unique to a particular patient day (example: Subjective Assessment, Physical Exam). The key for this table is the current date of entry of the information combined with the foreign keys from the patient and admission tables. Finally, several tables were created to allow for multiple entries of data during a particular day. These tables that include: "Vital Signs", "Problems", and "Procedures" required a unique key ("DAYKEY") that was particular to the browser session in which the data was entered. The creation of these tables allows the user to collect patient data throughout a particular day. The day key was created by subtracting the current date and time from January 1, 1970, at 12 midnight - a JavaScript™ function called "DatetoUTC." This created a unique integer which is used as a session key for each user interaction and supports multiple users interacting with the database simultaneously.

6. Create keys from server

Another problem arises from using dates as unique keys in the database. As first developed, the client used a JavaScript™ "getDate" function to find the Daily and DAYKEY keys. However, upon further experimentation, it was discovered that the function call used the client browser date rather than the server date. Since client dates may not correspond at all with the actual server date, it became necessary to create a function that would gather the accurate date from the server. Using Cold Fusion®, a SQL query was written that returns a date and time string variable that is output into a JavaScript "Date()" function. This string is converted to a date by the JavaScript™ "DatetoUTC" function and is then used to create the DAILY and DAYKEY keys.

Since JavaScript is client side scripting and Cold Fusion® is server side scripting, increased network traffic could delay the result of the date/time query resulting in a null output from the "DatetoUTC" function. In this case, the JavaScript program "loops" until a unique date/time stamp is returned from the server. This process is invisible to the user.

7. "Real Time" error checking

An essential part of a medical data application is error checking. HTML based applications, however, are problematic in that data can only be checked after the form is submitted to the server. Validation of data types and ranges ensures that server errors are not returned to the user.

Using Javascript™ function calls data can be validated as it is entered by the users. Functions are placed in the "parent" document of the application allowing each document within the application to call the functions as needed. Function calls are placed in the "onBlur" method of each form field requiring error checking. As the user changes data in the field, the specific function call is made by passing parameters from the data in the text box to the function.

Three error checking functions were written for the ICUBase application. The first determines whether text was entered into the text box at all. This function is used for "required" database fields. If the user decides to bypass the required field, it is still checked by the database upon form submission. The second error check function is a range check. The function call passes the range, the value of the text box and the name of the field to the function. The function first determines whether the value is a numeric then evaluates whether the value lies between the range fields. If not, the user is returned an error stating that the value is not within range. The third error check function checks date data to verify that it is in the format mm/dd/yy. The JavaScript function evaluates whether it is a leap year to determine the exact number of days per month and whether the date string is valid. A text only validation is necessary because JavaScript™ does not return an error for an illegal date string or an illegal data type conversion.

The “Coding Engines”

Several of the ICUBase forms required that physicians enter coded patient data. Commonly used ICD-9 and UNC Hospitals procedure codes were stored in a “lookup table” that was posted to an HTML dropdown box for clinicians to select the appropriate form. With increased access by clinicians to the application, another form of coding problem (diagnosis) and procedure information was needed.

A hierarchical database of each code set (problems and procedures) was made available by Dr. Robert Rutledge of UNC Hospitals. Two tables are used for each code set which were converted, as before, to Microsoft SQL Server® and made available to Cold Fusion®. The first is a hierarchical “menu” table that was developed “by hand” from information contained in the actual code set. The second table is the actual code set with the code number and description of the code. Used together the menu tables enable the user to “drill down” through each code set from the top level of the menu table to a unique code in the codes table in three to five menu choices.

The design of the coding interface is to open a new window from the “procedures” or “problems” input screen using a JavaScript™ function call. The data string representing the code itself is passed, via JavaScript™, back to the ICUBase application and the coding window closes automatically. To accomplish this, two SQL calls were coded into Cold Fusion®. Each SQL result set contains the code information including the code text, the code itself, the level of the hierarchy and whether it is the end of the hierarchy. This information is placed in HTML links using Cold Fusion® output functions. The links reference embedded JavaScript™ functions on the same page which determine whether to run the queries again or to pass the data back to the ICUBase application and close the coding window.

Because the hierarchical menu table and code table are structured similarly for each code set, the coding engine is completely scaleable to other similarly structured code sets. Minor modifications to the code can be made to scale the coding engine to any database.

Development of a test model for entering coding medical data

In order to test the ICUBase application and the associated coding engines, a short scenario was developed to facilitate coding of medical data by physicians. In the scenario, a patient record in the ICUBase database requires that several ICD-9 codes be entered into the problem list.

Physicians who are also students in the Medical Informatics program were used as subjects. Although this subject selection will likely make the results of the evaluation non-generalizable, the group of physicians represent a core set of different disciplines (pediatrics, pathology, internal medicine and emergency medicine) and therefore come at the coding task from different styles.

Each physician was given a short, explanatory overview of the ICUBase application and a general concept of the coding engines was explained. Then they were briefly led through the application to the problem list entry screen. The physicians were given a list of five problem texts (Appendix 1) that had been generated from the ICD-9 code set as representative problem texts. They were instructed to use the "menu system" option on the problem list screen to code the patient's data and to continue coding each diagnosis until the list was completed. No assistance was given to the physicians during the test and no practice sessions were given beforehand. The physicians were timed during the interval of each coding session until complete and the number of "errors" were recorded. An error is described as "drilling down through a hierarchy that does not contain the correct code" at any level of the hierarchy.

A survey device was then administered to measure the physician's satisfaction with the coding engine and the overall fit with the application that launched it. The survey contained six questions derived from various sources in the literature^{16,17}. The survey instrument is located in Appendix 1. The physicians were surveyed immediately following the use of the application and coding engines.

¹⁶ Aydin, CE, Rice RE. Social Worlds, individual differences, and implementation: predicting attitudes toward a medical information system. *Information and Management*, 1991; 20:119-36

¹⁷ Chin, HL, Krall, M Implementation of a Comprehensive Computer-Based Patient Record System in Kaiser Permanente's Northwest Region *M.D. Computing* 1997; 14:41-45

Results

Coding Engine Development

The hierarchical menu table and code table are structured similarly for each code set. Thus, the coding engine is completely modular and can be used with any similarly structured table. While all hierarchical menu systems are not structured the same, minor modifications to the code can be made to scale the HTML based engine to any database. This allows for any code set to be quickly added to an application. As an example, a simple hierarchical menu structure was developed for the CPT (code set). This structure was made "web available" using the coding engine scripting in about an hour.

The flexibility of the coding engines has allowed them to be used as standalone functions for other web based applications to obtain coded data. To facilitate different levels of users, three "services" of interface for outside applications were developed to facilitate use of the coding engines. In the first, the user simply calls the coding engine through a URL (Universal Resource Locator). After using the application, the user is returned the code and code description in a simple HTML form for printing or copying.

The second service allows a user to "call" the coding engine from another HTML form as a function. The user specifies a target form for output located on their own web server, and inserts the JavaScript™ function call provided below into their output form. The JavaScript™ variables of "codetext" and "descriptiontext" are used to output results in the user's own format.

```

<script>
//Coding engine output writer by Joe Mirrow
//Insert this text below the title of your
//HTML document
code=""; descr=""; text = document.URL;
slen = text.length; question = text.indexOf("?");
andsign = text.indexOf('&'); for (i=question+6;i<andsign;i++)
code=code+text.charAt(i);} for (i=andsign+7;i<slen;i++){
descr=descr+text.charAt(i);} descr = unescape(descr);
codetext = "Code = " + code;
descriptiontext = " Description = " + descr;
</script>

<script>
//Insert this text into your HTML document
//wherever you want the results of the coding
//engine
document.write(codetext);
document.write(descriptiontext);
</script>

```

Figure 2 Code text for JavaScript™ Function

The third service is more advanced and allows the user to apply the coding engine directly in a Java™ or JavaScript™ application. The user opens a browser window from their parent application directed at the coding engine. After completion of the hierarchical menu, the coding engine then passes the code and code description back to the opening application as a JavaScript™ variable. The coding engine window then closes itself. The user's application can then use the data as if it had been created specifically for their own application.

Use of Coding Engines in the ICUBase Application

Four male physicians, all with computer programming experience and of median age 35 were subjected to the coding task. A graph below shows the times for completion of each "coding task."

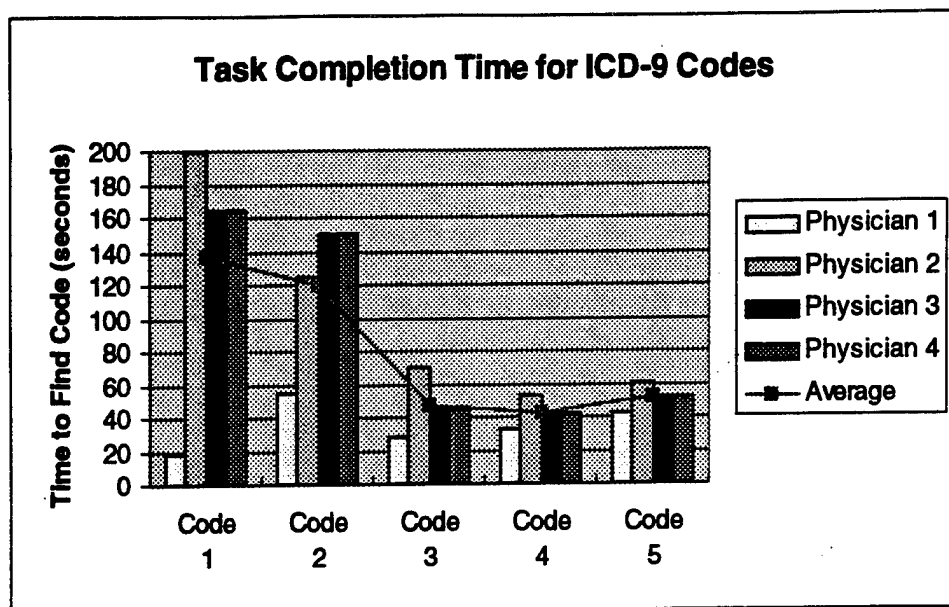


Figure 3 Task Completion Time for ICD-9 Codes

On average, physicians completed coding tasks in 80 seconds with each task taking less time to complete as the test continued. The average time for the first code was 137 seconds while Code 5 averaged 52 seconds. Physicians made fewer errors as they became more familiar with the method by which the hierarchy was developed. An error is defined as “drilling down through a hierarchy that does not contain the correct code” at any level of the hierarchy. Physicians averaged three errors on the first coding task and zero errors on coding task five. Overall, each of the physicians was able to match the entire list of coded text with supplied text with 100 percent accuracy.

The physicians were satisfied with the coding engine and its fit to the ICUBase application that launched it. The table below shows average responses on a scale of 1 to 7 (1= Strongly Disagree / 7= Strongly agree) on the system satisfaction survey. “Menu descriptions are complete” refers to the hierarchical menu table descriptions while “Code descriptions are complete” refers to the actual ICD-9 code table.

Although the survey instrument implies a satisfaction rating of coding engines in general, the context of this question referred to the specific application developed for ICUBase.

<i>Question</i>	<i>Average Response (1-7)</i> <i>1=Strongly Disagree</i> <i>7=Strongly Agree</i>
A coding engine is easy to use	5
A coding engine is worth the time to use it	6
The coding engine is accurate	6.25
The coding engine fits well with the application that launched it	5.75
Menu descriptions are complete	5.25
Code descriptions are complete	6

Table 1 Satisfaction Scale Results

Physicians were somewhat disappointed that the hierarchy was not coded as a "thesaurus" - i.e. that there was not more than one way to get to a particular code. Most problems were encountered with the code text "ACUTE MAXILLARY SINUSITIS" (ICD-9 Code: 461.0) where every physician tested first went to "Infectious and Parasitic Diseases" link instead of "Respiratory System."

Overall, the physicians were satisfied with the coding engine application and its applicability to the ICUBase application. They found it easy to use and worth the time to use. None of the physicians had problems with the physical, web-based interface style. One physician noted that he "wished he had one of these in practice."

Discussion

Application Speed and Portability

The speed of the application over a local network meets the demands of multiple, simultaneous users. Utilizing the two indexed ICD-9 database tables containing over 17,000 records, SQL Server® Cold Fusion®, JavaScript™ and simple HTML links allow for each level of the hierarchy to be displayed in under one second while modem speeds vary between one and two seconds at 14.4 bps. Multiple, simultaneous users of the system on a non-dedicated test server do not noticeably decrease the application speed.

The process to access the coding engines from other applications has been simplified to allow access from other HTML, JavaScript or Java based forms. Data is returned in the form of simple text variables which can be displayed or converted to serve the end user's purposes.

Application Security

Without mention of encryption technology, the ICUBase web based application makes use of two important features. First, use of the coding engines has allowed for rapid, coding of test cases and storage of the data into the online database. Because patient specific data is not sent to the coding engine from the calling application, the server containing the coding engine is not required to be in a secure environment. This allows for rapid access from remote locations.

Second, in addition to being a unique key, the DAYKEY numeric representation can be used in a "security" table to match the browser session to a particular login to the application. This would enable an administrator to lookup and see which physician input information, from where and on which patient at any time.

Current Technology Provides Many Alternatives to Design

The current state of the art of web/database connectivity has changed. Products currently on the market allow users to recreate many of the functions developed for the ICUBase application in a single database and "publish" this information on the Internet. Features of current technology include "stated" connections between client and server that avoid the issues of "static" HTML pages that require updating from a remote database.

Java™ technology now contains the Java DataBase Connectivity (JDBC™) standard which allows direct connection between Java based applications and remote databases. The Java™ standard is also designed to be cross platform and takes advantage of many of the web paradigms mentioned above.

So far, there is no rapid application development platform using any of the above technology that allows for simple development of a complete interface. Therefore, much of the work on the current project may not be "lost" due to advances in technology.

Because the distributed ICUBase application is created with completely modular components, many of its functions can easily be substituted for "new and improved" versions of application interface. This allows future developers to experiment with different areas of the application without having to convert to an entirely new program.

Conclusion

The ICUBase project has succeeded in answering three vital questions: 1) Can a standalone database application be easily ported to the web for information input and retrieval? 2) Can the web paradigm be used to allow physicians to use internet resources associated with another web-based application? And 3) Can physicians accurately and quickly code medical data using a web-based data model?

This project involved the creation of a generic, modular application for input and coding of medical data via the Hypertext Markup Language, Javascript™ and Cold Fusion®. The application has demonstrated, successfully, that a standalone database can quickly be ported to the web using current technology. By making the application modular, future developers have a way to create new interface designs while the application is in use.

The coding engines allow physicians to use new internet resources for accurate clinical coding. Future applications for the coding engines include the possibility to code any new code set into a hierarchical menu system. In addition, any externally written application may incorporate the coding engines for use in their own systems with minimal knowledge of HTML. Existing internet resources such as MEDLINE® can easily be integrated into the workflow of the application.

Once completed, physicians using the system were able to accurately code medical data using external web-based resources. System satisfaction was strong for an application that took such a short time to develop.

Appendix 1- System Satisfaction Survey

Code Text for Tasks

INJURY TO RENAL ARTERY

ACUTE MAXILLARY SINUSITIS

FRACTURE OF MEDIAL CONDYLE OF HUMERUS, OPEN

**ACUTE MYOCARDIAL INFARCTION, OF OTHER LATERAL WALL, INITIAL
EPISODE OF CARE**

**CHRONIC OR UNSPECIFIED PEPTIC ULCER OF UNSPECIFIED SITE WITH
HEMORRHAGE, WITHOUT MENTION OF OBSTRUCTION**

Survey Instrument

ICD-9 Coding Engine

System Satisfaction Survey

Age: _____

Occupation (circle one): MD AHP Nurse Admin

Computer Experience

1 = None

2 = Using reports/information produced by a computer

3 = Data Entry

5 = Using Word Processing

5 = Using other Applications (ex: Statistical, Databases)

6 = Programming

Strongly
Disagree

Strongly
Agree

System Satisfaction

A coding engine is easy to use	1	2	3	4	5	6	7
--------------------------------	---	---	---	---	---	---	---

A coding engine is worth the time to use it	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

The coding engine is accurate	1	2	3	4	5	6	7
-------------------------------	---	---	---	---	---	---	---

The coding engine fits well with the application that launched it	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

Menu descriptions are complete	1	2	3	4	5	6	7
--------------------------------	---	---	---	---	---	---	---

Code descriptions are complete	1	2	3	4	5	6	7
--------------------------------	---	---	---	---	---	---	---

Appendix 2- Detailed Code Listing

```

<!------->
<!--                                     -->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase adComplications Form      -->
<!--                                     -->
<!--      This is a sub-form processor for the   -->
<!--      Complications screen.                 -->
<!--                                     -->
<!--      Written By Joe Mirrow                 -->
<!--                                     -->
<!--      filename: adcomplications.dbm         -->
<!--      parameters: none (passed via form data) -->
<!--                                     -->
<!------->

<DBQUERY NAME="QA" DATASOURCE="ICUBase"
      SQL = "SELECT CHOICE FROM POPUP WHERE (POPUP.FIELD='QA' AND
POPUP.DESCR = '#form.QA#'); ">

<DBSET #QA# = #QA.CHOICE#>

<DBQUERY Name="Check2" DATASOURCE="ICUBase"
      SQL = "select total=count(*) from DAILY where
KNUMBER=#form.KNUMBER# ">

<DBIF #Check2.total# IS "0">

      <DBQUERY NAME="patient" DATASOURCE="ICUBase"
            SQL = "SELECT FNAME,LNAME,UNITNUM,ADMDATE FROM ADMDC WHERE
KNUMBER=#form.KNUMBER# ">

      <DBQUERY Name="SaveIt4" DATASOURCE="ICUBase"
            SQL = "INSERT INTO DAILY (KNUMBER,FNAME,LNAME,UNITNUM)
values
(#form.KNUMBER#,'#patient.FNAME#','#patient.LNAME#','#patient.UNITNUM#')
">

      <DBIF #patient.ADMDATE# IS "">
            <DBQUERY Name="ADMDATE1" DATASOURCE="ICUBase"
                  SQL= "UPDATE DAILY SET ADMDATE = Null WHERE
KNUMBER=#form.KNUMBER# ">
            <DBELSE>
                  <DBQUERY Name="ADMDATE2" DATASOURCE="ICUBase"
                        SQL= "UPDATE DAILY SET ADMDATE = '#patient.ADMDATE#' WHERE
KNUMBER=#form.KNUMBER# ">
            </DBIF>

      </DBIF>

<DBIF #parameterexists(form.ARF)# IS "YES">

```

```

<DBSET #ARF#="Y">
  <DBELSE>
<DBSET #ARF#="N">
  </DBIF>

  <DBIF #parameterexists(form.BACTEREMIA)# IS "YES">
<DBSET #BACTEREMIA#="Y">
  <DBELSE>
<DBSET #BACTEREMIA#="N">
  </DBIF>

  <DBIF #parameterexists(form.CDIFF)# IS "YES">
<DBSET #CDIFF#="Y">
  <DBELSE>
<DBSET #CDIFF#="N">
  </DBIF>

  <DBIF #parameterexists(form.CVA)# IS "YES">
<DBSET #CVA#="Y">
  <DBELSE>
<DBSET #CVA#="N">
  </DBIF>

  <DBIF #parameterexists(form.DVT)# IS "YES">
<DBSET #DVT#="Y">
  <DBELSE>
<DBSET #DVT#="N">
  </DBIF>

  <DBIF #parameterexists(form.HYPOTENSIO)# IS "YES">
<DBSET #HYPOTENSIO#="Y">
  <DBELSE>
<DBSET #HYPOTENSIO#="N">
  </DBIF>

  <DBIF #parameterexists(form.LIVRFAIL)# IS "YES">
<DBSET #LIVRFAIL#="Y">
  <DBELSE>
<DBSET #LIVRFAIL#="N">
  </DBIF>

  <DBIF #parameterexists(form.MI)# IS "YES">
<DBSET #MI#="Y">
  <DBELSE>
<DBSET #MI#="N">
  </DBIF>

  <DBIF #parameterexists(form.REINTUBA)# IS "YES">
<DBSET #REINTUBA#="Y">
  <DBELSE>
<DBSET #REINTUBA#="N">
  </DBIF>

  <DBIF #parameterexists(form.SINUSITIS)# IS "YES">
<DBSET #SINUSITIS#="Y">
  <DBELSE>
<DBSET #SINUSITIS#="N">
  </DBIF>

  <DBIF #parameterexists(form.ARDS)# IS "YES">

```

```

<DBSET #ARDS#="Y">
  <DBELSE>
<DBSET #ARDS#="N">
  </DBIF>

  <DBIF #parameterexists(form.CPR)# IS "YES">
<DBSET #CPR#="Y">
  <DBELSE>
<DBSET #CPR#="N">
  </DBIF>

  <DBIF #parameterexists(form.CHF)# IS "YES">
<DBSET #CHF#="Y">
  <DBELSE>
<DBSET #CHF#="N">
  </DBIF>

  <DBIF #parameterexists(form.DECUBITUS)# IS "YES">
<DBSET #DECUBITUS#="Y">
  <DBELSE>
<DBSET #DECUBITUS#="N">
  </DBIF>

  <DBIF #parameterexists(form.GIBLEED)# IS "YES">
<DBSET #GIBLEED#="Y">
  <DBELSE>
<DBSET #GIBLEED#="N">
  </DBIF>

  <DBIF #parameterexists(form.LINECOMP)# IS "YES">
<DBSET #LINECOMP#="Y">
  <DBELSE>
<DBSET #LINECOMP#="N">
  </DBIF>

  <DBIF #parameterexists(form.MENINGITIS)# IS "YES">
<DBSET #MENINGITIS#="Y">
  <DBELSE>
<DBSET #MENINGITIS#="N">
  </DBIF>

  <DBIF #parameterexists(form.PNEUMON)# IS "YES">
<DBSET #PNEUMON#="Y">
  <DBELSE>
<DBSET #PNEUMON#="N">
  </DBIF>

  <DBIF #parameterexists(form.SEIZURE)# IS "YES">
<DBSET #SEIZURE#="Y">
  <DBELSE>
<DBSET #SEIZURE#="N">
  </DBIF>

  <DBIF #parameterexists(form.WNDCOMPL)# IS "YES">
<DBSET #WNDCOMPL#="Y">
  <DBELSE>
<DBSET #WNDCOMPL#="N">
  </DBIF>

  <DBIF #parameterexists(form.ARYTHMIA)# IS "YES">

```

```

<DBSET #ARYTHMIA#="Y">
  <DBELSE>
<DBSET #ARYTHMIA#="N">
  </DBIF>

  <DBIF #parameterexists(form.CTAMPO)# IS "YES">
<DBSET #CTAMPO#="Y">
  <DBELSE>
<DBSET #CTAMPO#="N">
  </DBIF>

  <DBIF #parameterexists(form.COMA)# IS "YES">
<DBSET #COMA#="Y">
  <DBELSE>
<DBSET #COMA#="N">
  </DBIF>

  <DBIF #parameterexists(form.DIC)# IS "YES">
<DBSET #DIC#="Y">
  <DBELSE>
<DBSET #DIC#="N">
  </DBIF>

  <DBIF #parameterexists(form.HYPONAT)# IS "YES">
<DBSET #HYPONAT#="Y">
  <DBELSE>
<DBSET #HYPONAT#="N">
  </DBIF>

  <DBIF #parameterexists(form.MOF)# IS "YES">
<DBSET #MOF#="Y">
  <DBELSE>
<DBSET #MOF#="N">
  </DBIF>

  <DBIF #parameterexists(form.PULMEMBO)# IS "YES">
<DBSET #PULMEMBO#="Y">
  <DBELSE>
<DBSET #PULMEMBO#="N">
  </DBIF>

  <DBIF #parameterexists(form.SEPSIS)# IS "YES">
<DBSET #SEPSIS#="Y">
  <DBELSE>
<DBSET #SEPSIS#="N">
  </DBIF>

  <DBIF #parameterexists(form.UTI)# IS "YES">
<DBSET #UTI#="Y">
  <DBELSE>
<DBSET #UTI#="N">
  </DBIF>

  <DBQUERY Name="updtComps" DATASOURCE="ICUBase"
    SQL = "UPDATE DAILY SET QAEVENT2='#QA#', ARF='#ARF#',
BACTEREMIA='#BACTEREMIA#' ,
CDIFF='#CDIFF#', CVA='#CVA#', DVT='#DVT#', HYPOTENSIO='#HYPOTENSIO#',
LIVRFAIL='#LIVRFAIL#', MI='#MI#',

```

REINTUBA='#REINTUBA#', SINUSITIS='#SINUSITIS#', ARDS='#ARDS#', CPR='#CPR#',
CHF='#CHF#', DECUBITUS='#DECUBITUS#',

GIBLEED='#GIBLEED#', LINECOMP='#LINECOMP#', MENINGITIS='#MENINGITIS#', PNEU
MON='#PNEUMON#', SEIZURE='#SEIZURE#',

WNDCOMPL='#WNDCOMPL#', ARYTHMIA='#ARYTHMIA#',
CTAMPO='#CTAMPO#', COMA='#COMA#', DIC='#DIC#', HYPONAT='#HYPONAT#',

MOF='#MOF#', PULMEMBO='#PULMEMBO#',
SEPSIS='#SEPSIS#', UTI='#UTI#' WHERE KNUMBER=#form.KNUMBER# ">

```

<!------->
<!--
<!--
<!--
<!-- The ICUBase adDemographics Form
<!--
<!-- This is a sub-form processor for the
<!-- first Demographics screen.
<!--
<!-- Written By Joe Mirrow
<!--
<!-- filename: addemo.dbm
<!-- parameters: none (passed via form data)
<!--
<!--
<!------->
<html>
<body>

  <DBQUERY Name="CheckAdmit" DATASOURCE="ICUBase"
    SQL = "select KNUMBER, total=count(*) from ADMDC where
UNITNUM='#form.unitnum#' and ACTIVE=1 group by KNUMBER">

    <DBIF #CheckAdmit.Total# GREATER THAN 0>
      <DBSET #tot# = 1>
      <DBSET #knum# = #CheckAdmit.KNUMBER#>
    <DBELSE>
      <DBSET #tot# = 0>
      <DBSET #knum# = 0>
    </DBIF>

  <DBQUERY NAME="Health" DATASOURCE="ICUBase"
    SQL = "SELECT CHOICE FROM POPUP WHERE (POPUP.FIELD='CHREVAL' AND
POPUP.DESCR = '#form.CHREVAL#'); ">
  </DBQUERY>
  <DBSET #CHREVAL# = #Health.CHOICE# >
  <DBQUERY NAME="Admit" DATASOURCE="ICUBase"
    SQL = "SELECT CHOICE FROM POPUP WHERE (POPUP.FIELD='ADMITYPE' AND
POPUP.DESCR = '#form.ADMITYPE#'); ">
  </DBQUERY>

  <DBSET #ADMITYPE# = #Admit.CHOICE#>
  <DBIF #form.unitnum# IS NOT "">
    <DBQUERY Name="UcaseL" DATASOURCE="ICUBase"
      SQL = "select LNAME=UPPER('#form.LNAME#')">

    <DBQUERY Name="UcaseF" DATASOURCE="ICUBase"
      SQL = "select FNAME=UPPER('#form.FNAME#')">
    <DBQUERY Name="Check1" DATASOURCE="ICUBase"
      SQL = "select total=count(*) from PATIENT where
UNITNUM='#form.unitnum#'">

    <DBIF #Check1.total# IS "0">
      <DBQUERY Name="SaveIt1" DATASOURCE="ICUBase"
        SQL = "INSERT INTO PATIENT(RACE,UNITNUM, LNAME,FNAME,SEX)
          values
('#form.RACE#','#form.UNITNUM#','#UcaseL.LNAME#','#UcaseF.FNAME#','#form
.SEX#');">

```

```

</DBIF>

<DBQUERY Name="Check2" DATASOURCE="ICUBase"
  SQL = "select total=count(*) from ADMDC where
UNITNUM='#form.unitnum#' and ACTIVE=1">

  <DBIF #Check2.total# IS "0">

    <!--not already admitted-->

      <DBQUERY Name="SaveIt2" DATASOURCE="ICUBase"
        SQL = "INSERT INTO ADMDC (KNUMBER, ACTIVE,
ADMITYPE,CHREVAL,ADREASON,ICU,SERVICE,UNITNUM,SVCATT,TRAUMA,ADMDATE,H_AD
MDAT)
          values (#form.KNUMBER#,
1,'#ADMITYPE#','#CHREVAL#','#form.ADREASON#','#form.ICU#','#form.SERVICE
#','#form.UNITNUM#','#form.ATTENDIN#','#form.TRAUMA#','#form.ADMDATE#','#
#form.H_ADMDAT#')";">

      <DBQUERY Name="SaveIt3" DATASOURCE="ICUBase"
        SQL = "INSERT INTO DAILY(KNUMBER, TODAYDAT, UNITNUM, ADMDIS,
DNR, DAYKEY) values
          (#form.KNUMBER#, '#form.TODAYDAT#','#form.UNITNUM#', 'A',
'#form.CODESTATUS#', #form.DAYKEY#);">

        <DBIF #form.DOB# IS "">
          <DBQUERY Name="DOB1" DATASOURCE="ICUBase"
            SQL= "UPDATE PATIENT SET DOB = Null WHERE
UNITNUM='#form.UNITNUM#'">
          <DBELSE>
            <DBQUERY Name="DOB2" DATASOURCE="ICUBase"
              SQL= "UPDATE PATIENT SET DOB = '#form.DOB#' WHERE
UNITNUM='#form.UNITNUM#'">
            </DBIF>

          <DBIF #form.DOB# IS NOT "">

            <DBQUERY NAME="age" DATASOURCE="ICUBase"
              SQL = "select newage =
(datediff(day,DOB,GETDATE())/366) from PATIENT where
UNITNUM='#form.UNITNUM#'">

              <DBIF #age.newage# LESS THAN 0>

                <DBQUERY Name="age3" DATASOURCE="ICUBase"
                  SQL= "UPDATE PATIENT SET AGE=(100+#age.newage#)
where UNITNUM='#form.UNITNUM#'">

                <DBQUERY Name="newBD" DATASOURCE="ICUBase"
                  SQL= "UPDATE PATIENT SET DOB=(dateadd(year,-
100,DOB)) WHERE UNITNUM = '#form.UNITNUM#'">

                <DBELSE>
                  <DBQUERY Name="age2" DATASOURCE="ICUBase"
                    SQL = "UPDATE PATIENT SET AGE=#age.newage# WHERE
UNITNUM='#form.UNITNUM#'">
                  </DBIF>
                </DBIF>
              </DBIF>
            </DBIF>
          </DBIF>
        </DBIF>
      </DBIF>
    </DBIF>
  </DBIF>

```



```

<!------->
<!--                                     -->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase adDemographics Form2      -->
<!--                                     -->
<!--      This is a sub-form processor for the   -->
<!--      second Demographics screen.            -->
<!--                                     -->
<!--      Written By Joe Mirrow                  -->
<!--                                     -->
<!--      filename: addemo1.dbm                  -->
<!--      parameters: none (passed via form data) -->
<!--                                     -->
<!------->

<DBQUERY NAME="Health" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE (POPUP.FIELD='CHREVAL' AND
POPUP.DESCR = '#form.CHREVAL#'); ">
</DBQUERY>

<DBSET #CHREVAL# = #Health.CHOICE#>

<DBQUERY NAME="Admit" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE (POPUP.FIELD='ADMITYPE' AND
POPUP.DESCR = '#form.ADMITYPE#'); ">
</DBQUERY>

<DBSET #ADMITYPE# = #Admit.CHOICE#>

<DBQUERY Name="UcaseL" DATASOURCE="ICUBase"
  SQL = "select LNAME=UPPER('#form.LNAME#')">

<DBQUERY Name="UcaseF" DATASOURCE="ICUBase"
  SQL = "select FNAME=UPPER('#form.FNAME#')">

<DBQUERY Name="SaveIt4" DATASOURCE="ICUBase"
  SQL = "UPDATE ADMDC SET

ADMITYPE='#ADMITYPE#',CHREVAL='#CHREVAL#',ADREASON='#form.ADREASON#',ADM
DATE='#form.ADMDATE#', H_ADMDAT='#form.H_ADMDAT#',

ICU='#form.ICU#',SERVICE='#form.SERVICE#',UNITNUM='#form.UNITNUM#',
TRAUMA='#form.TRAUMA#',
  SVCATT='#form.ATTENDIN#' WHERE KNUMBER=#form.KNUMBER#">

<DBQUERY Name="SaveIt5" DATASOURCE="ICUBase"
  SQL = "UPDATE PATIENT SET RACE='#form.RACE#',
  UNITNUM='#form.UNITNUM#',LNAME='#UcaseL.LNAME#',
  FNAME='#UcaseF.FNAME#', SEX='#form.SEX#' WHERE
UNITNUM='#form.UNITNUM#'">

<DBQUERY Name="SaveIt6" DATASOURCE="ICUBase"
  SQL = "UPDATE DAILY SET DNR = '#form.CODESTATUS#'">

<DBIF #form.ADMDATE# IS "">
  <DBQUERY Name="ADMDATE1" DATASOURCE="ICUBase"

```

```

        SQL= "UPDATE ADMDC SET ADMDATE = Null WHERE
KNUMBER=#form.KNUMBER#"
        <DBELSE>
            <DBQUERY Name="ADMDATE2" DATASOURCE="ICUBase"
        SQL= "UPDATE ADMDC SET ADMDATE = '#form.ADMDATE#' WHERE
KNUMBER=#form.KNUMBER#"
        </DBIF>

        <DBIF #form.H_ADMDAT# IS "">
            <DBQUERY Name="H_ADMDAT1" DATASOURCE="ICUBase"
        SQL= "UPDATE ADMDC SET H_ADMDAT = Null WHERE
KNUMBER=#form.KNUMBER#"
        <DBELSE>
            <DBQUERY Name="H_ADMDAT2" DATASOURCE="ICUBase"
        SQL= "UPDATE ADMDC SET H_ADMDAT = '#form.H_ADMDAT#' WHERE
KNUMBER=#form.KNUMBER#"
        </DBIF>

        <DBIF #form.DOB# IS "">
            <DBQUERY Name="DOB1" DATASOURCE="ICUBase"
        SQL= "UPDATE PATIENT SET DOB = Null WHERE
UNITNUM='#form.UNITNUM#'"
        <DBELSE>
            <DBQUERY Name="DOB2" DATASOURCE="ICUBase"
        SQL= "UPDATE PATIENT SET DOB = '#form.DOB#' WHERE
UNITNUM='#form.UNITNUM#'"
        </DBIF>

        <DBIF #form.DOB# IS NOT "">

            <DBQUERY NAME="age" DATASOURCE="ICUBase"
        SQL = "select newage = (datediff(day,DOB,GETDATE()))/366) from
PATIENT where UNITNUM='#form.UNITNUM#'"

            <DBIF #age.newage# LESS THAN 0>

                <DBQUERY Name="age3" DATASOURCE="ICUBase"
                SQL= "UPDATE PATIENT SET AGE=(100+#age.newage#)
where UNITNUM='#form.UNITNUM#'"

                <DBQUERY Name="newBD" DATASOURCE="ICUBase"
                SQL= "UPDATE PATIENT SET DOB=(dateadd(year,-
100,DOB)) WHERE UNITNUM = '#form.UNITNUM#'"

            <DBELSE>

                <DBQUERY Name="age2" DATASOURCE="ICUBase"
                SQL = "UPDATE PATIENT SET AGE=#age.newage# WHERE
UNITNUM='#form.UNITNUM#'"
            </DBIF>

        </DBIF>

```

```

<!------->
<!-->
<!-->
<!-- The ICUBase Discharge Processor -->
<!-->
<!-- This is a sub-form processor for the -->
<!-- Discharge screen. -->
<!-->
<!-- Written By Joe Mirrow -->
<!-->
<!-- filename: addischarge.dbm -->
<!-- parameters: none (passed via form data) -->
<!-->
<!------->
<DBQUERY Name="counter" DATASOURCE="ICUBase"
      SQL = "select total=count(*) from admcd where
      KNUMBER=#form.KNUMBER#">

<DBIF #counter.total# is not 0>

<DBIF #form.NICUDAYS# IS "">
  <DBSET #NICUDAYS# = 0>
<DBELSE>
  <DBSET #NICUDAYS# = #form.NICUDAYS#>
</DBIF>

<DBIF #form.NHOSPDAYS# IS "">
  <DBSET #NHOSPDAYS# = 0>
<DBELSE>
  <DBSET #NHOSPDAYS# = #form.NHOSPDAYS#>
</DBIF>

<DBQUERY NAME="DISPOSIT" DATASOURCE="ICUBase"
      SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='DISPOSIT' and
      DESCR='#form.DISPOSIT#'">

<DBQUERY NAME="ASA" DATASOURCE="ICUBase"
      SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ASA_CLASS' and
      DESCR='#form.ASA#'">

<DBQUERY Name="discharge" DATASOURCE="ICUBase"
      SQL= "UPDATE ADMDC SET ACTIVE = 0, AGEPTSC=#ASA.CHOICE#,
      DISPOSIT='#DISPOSIT.CHOICE#',
      NICUDAYS=#NICUDAYS#, NHOSPDAYS=#NHOSPDAYS#,
      OUTCOME='#form.OUTCOME#',
      H_OUTCOME='#form.H_OUTCOME#' WHERE KNUMBER=#form.KNUMBER#">

  <DBIF #form.H_DCDATE# IS "">
    <DBQUERY Name="H_DCDATE1" DATASOURCE="ICUBase"
      SQL= "UPDATE ADMDC SET H_DCDATE = Null WHERE
      KNUMBER=#form.KNUMBER#">
    <DBELSE>
      <DBQUERY Name="H_DCDATE2" DATASOURCE="ICUBase"
      SQL= "UPDATE ADMDC SET H_DCDATE = '#form.H_DCDATE#' WHERE
      KNUMBER=#form.KNUMBER#">
    </DBIF>

  <DBIF #form.DCDATE# IS "">

```

```
      <DBQUERY Name="DCDATE1" DATASOURCE="ICUBase"  
        SQL= "UPDATE ADMDC SET DCDATE = Null WHERE  
KNUMBER=#form.KNUMBER#">  
      <DBELSE>  
        <DBQUERY Name="DCDATE2" DATASOURCE="ICUBase"  
        SQL= "UPDATE ADMDC SET DCDATE = '#form.DCDATE#' WHERE  
KNUMBER=#form.KNUMBER#">  
      </DBIF>  
  
</DBIF>
```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase History and Physical Exam Processor -->
<!--                                     -->
<!--      This is a sub-form processor for the -->
<!--      History and Physical screen. -->
<!--                                     -->
<!--      Written By Joe Mirrow -->
<!--                                     -->
<!--      filename: adhistory.dbm -->
<!--      parameters: none (passed via form data) -->
<!--                                     -->
<!------->

<DBIF #form.GCSEYE# IS ">
    <DBSET #GCSEYE# = "Null">
<DBELSE>
    <DBSET #GCSEYE# = #form.GCSEYE#>
</DBIF>

<DBIF #form.GCSVERBAL# IS ">
    <DBSET #GCSVERBAL# = "Null">
<DBELSE>
    <DBSET #GCSVERBAL# = #form.GCSVERBAL#>
</DBIF>

<DBIF #form.GCSMOTOR# IS ">
    <DBSET #GCSMOTOR# = "Null">
<DBELSE>
    <DBSET #GCSMOTOR# = #form.GCSMOTOR#>
</DBIF>

<DBQUERY Name="check12" DATASOURCE="ICUBase"
    SQL = "select total = Count(*) from DAILY WHERE
UNITNUM='#form.UNITNUM#' AND
    TODAYDAT='#form.TODAYDAT#' AND KNUMBER=#form.KNUMBER#">

<DBIF #check12.total# is "0">
    <DBQUERY Name="SaveIt7" DATASOURCE="ICUBase"
        SQL = "INSERT INTO DAILY (KNUMBER, UNITNUM, TODAYDAT)
            values (#form.KNUMBER#, '#form.UNITNUM#',
'#form.TODAYDAT#')">
</DBIF>

    <DBQUERY Name="SaveIt2" DATASOURCE="ICUBase"
        SQL = "UPDATE DAILY SET
SUBJECTIVE='#form.SUBJECTIVE#', PHYSEXAM='#form.PHYSEXAM#',
        GCSEYE=#GCSEYE#, GCSVERBAL=#GCSVERBAL#, GCSMOTOR=#GCSMOTOR#,
        MEDS='#form.MEDS#' WHERE KNUMBER=#form.KNUMBER# and
        TODAYDAT='#form.TODAYDAT#'">

```

```

<!------->
<!--
<!--
<!--      The ICUBase Patient Lines Processor
<!--
<!--      This is a sub-form processor for the
<!--      Lines screen.
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: adlines.dbm
<!--      parameters: none (passed via form data)
<!--
<!------->

    <DBQUERY Name="Check2" DATASOURCE="ICUBase"
        SQL = "select total=count(*) from DAILY where
KNUMBER=#form.KNUMBER#">

    <DBIF #Check2.total# IS "0">

        <DBQUERY NAME="patient" DATASOURCE="ICUBase"
            SQL = "SELECT FNAME,LNAME,UNITNUM,ADMDATE FROM ADMDC WHERE
KNUMBER=#form.KNUMBER# ">

        <DBQUERY Name="SaveIt4" DATASOURCE="ICUBase"
            SQL = "INSERT INTO DAILY (KNUMBER,FNAME,LNAME,UNITNUM)
values
(#form.KNUMBER#,'#patient.FNAME#','#patient.LNAME#','#patient.UNITNUM#')
">

        <DBIF #patient.ADMDATE# IS "">
            <DBQUERY Name="ADMDATE1" DATASOURCE="ICUBase"
                SQL= "UPDATE DAILY SET ADMDATE = Null WHERE
KNUMBER=#form.KNUMBER#">
            <DBELSE>
                <DBQUERY Name="ADMDATE2" DATASOURCE="ICUBase"
                    SQL= "UPDATE DAILY SET ADMDATE = '#patient.ADMDATE#' WHERE
KNUMBER=#form.KNUMBER#">
            </DBIF>

        </DBIF>

        <DBIF #parameterexists(form.ALINE)# IS "YES">
        <DBSET #ALINE#="Y">
        <DBELSE>
        <DBSET #ALINE#="N">
        </DBIF>

        <DBIF #parameterexists(form.CVPLINE)# IS "YES">
        <DBSET #CVPLINE#="Y">
        <DBELSE>
        <DBSET #CVPLINE#="N">
        </DBIF>

        <DBIF #parameterexists(form.LUMEN3)# IS "YES">
        <DBSET #LUMEN3#="Y">

```

```

<DBELSE>
<DBSET #LUMEN3#="N">
</DBIF>

  <DBIF #parameterexists(form.SWANGANZ)# IS "YES">
<DBSET #SWANGANZ#="Y">
  <DBELSE>
<DBSET #SWANGANZ#="N">
  </DBIF>

  <DBIF #parameterexists(form.ICPMONIT)# IS "YES">
<DBSET #ICPMONIT#="Y">
  <DBELSE>
<DBSET #ICPMONIT#="N">
  </DBIF>

  <DBIF #parameterexists(form.CHESTTUBE)# IS "YES">
<DBSET #CHESTTUBE#="Y">
  <DBELSE>
<DBSET #CHESTTUBE#="N">
  </DBIF>

  <DBIF #parameterexists(form.EPIDURAL)# IS "YES">
<DBSET #EPIDURAL#="Y">
  <DBELSE>
<DBSET #EPIDURAL#="N">
  </DBIF>

  <DBIF #parameterexists(form.ETT_TRACH)# IS "YES">
<DBSET #ETT_TRACH#="Y">
  <DBELSE>
<DBSET #ETT_TRACH#="N">
  </DBIF>

  <DBIF #parameterexists(form.PROALINE)# IS "YES">
<DBSET #PROALINE#="Y">
  <DBELSE>
<DBSET #PROALINE#="N">
  </DBIF>

  <DBIF #parameterexists(form.PROCVP)# IS "YES">
<DBSET #PROCVP#="Y">
  <DBELSE>
<DBSET #PROCVP#="N">
  </DBIF>

  <DBIF #parameterexists(form.PRO3LUMN)# IS "YES">
<DBSET #PRO3LUMN#="Y">
  <DBELSE>
<DBSET #PRO3LUMN#="N">
  </DBIF>

  <DBIF #parameterexists(form.PROSWAN)# IS "YES">
<DBSET #PROSWAN#="Y">
  <DBELSE>
<DBSET #PROSWAN#="N">
  </DBIF>

  <DBIF #parameterexists(form.PROICPMO)# IS "YES">
<DBSET #PROICPMO#="Y">

```

```

<DBELSE>
<DBSET #PROICPMO#="N">
</DBIF>

<DBIF #parameterexists(form.PROCHESTTU)# IS "YES">
<DBSET #PROCHESTTU#="Y">
<DBELSE>
<DBSET #PROCHESTTU#="N">
</DBIF>

<DBIF #parameterexists(form.PROEPIDURA)# IS "YES">
<DBSET #PROEPIDURA#="Y">
<DBELSE>
<DBSET #PROEPIDURA#="N">
</DBIF>

<DBIF #parameterexists(form.PROINTUBAT)# IS "YES">
<DBSET #PROINTUBAT#="Y">
<DBELSE>
<DBSET #PROINTUBAT#="N">
</DBIF>

<DBIF #parameterexists(form.DIALYSIS)# IS "YES">
<DBSET #DIALYSIS#="Y">
<DBELSE>
<DBSET #DIALYSIS#="N">
</DBIF>

<DBIF #parameterexists(form.ENDOSCOPY)# IS "YES">
<DBSET #ENDOSCOPY#="Y">
<DBELSE>
<DBSET #ENDOSCOPY#="N">
</DBIF>

<DBQUERY Name="updtComps" DATASOURCE="ICUBase"
SQL = "UPDATE DAILY SET ALINE='#ALINE#',
CVPLINE='#CVPLINE#', LUMEN3='#LUMEN3#' ,
SWANGANZ='#SWANGANZ#', ICPMONIT='#ICPMONIT#', CHESTTUBE='#CHESTTUBE#', EPID
URAL='#EPIDURAL#', ETT_TRACH='#ETT_TRACH#',
PROALINE='#PROALINE#',
PROCVP='#PROCVP#', PRO3LUMN='#PRO3LUMN#', PROSWAN='#PROSWAN#', PROICPMO='#P
ROICPMO#', PROCHESTTU='#PROCHESTTU#',
PROEPIDURA='#PROEPIDURA#', PROINTUBAT='#PROINTUBAT#',
DIALYSIS='#DIALYSIS#', ENDOSCOPY='#ENDOSCOPY#' WHERE
KNUMBER=#form.KNUMBER#">

```

```

<!------->
<!---->
<!---->
<!-- The ICUBase Main Forms Processor -->
<!---->
<!-- This is the main application forms processor -->
<!---->
<!-- Written By Joe Mirrow -->
<!---->
<!-- filename: admit.dbm -->
<!-- parameters: none (passed via form data) -->
<!-- return parameters: state, KNUMBER, TODAYDAT, -->
<!-- UNITNUM, DAYKEY -->
<!-- (returns the next requested screen or welcome) -->
<!---->
<!------->

<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<HTML>
<TITLE>ADMIT</TITLE>
<BODY>

<script>

var admitKNUMBER=<dboutput>#form.KNUMBER#</dboutput>;
var admitUNITNUM='<dboutput>#form.UNITNUM#</dboutput>';

if (admitUNITNUM == '') {
admitUNITNUM = 0;
}

parent.SetCookie("UNITNUM", admitUNITNUM);
parent.SetCookie("KNUMBER", admitKNUMBER);

</script>
<DBIF #form.UNITNUM# IS NOT "">
<DBQUERY Name="Check" DATASOURCE="ICUBase"
SQL = "select total=count(*) from ADMDC where
KNUMBER=#form.knumber#">

<DBIF #form.screen# IS "addemo">

<DBIF #Check.total# IS "0">

<DBINCLUDE TEMPLATE="icubase/addemo.dbm">

</DBIF>

</DBIF>

<DBIF #form.screen# is "addemol">

<DBINCLUDE TEMPLATE="icubase/addemol.dbm">

</DBIF>

<DBIF #form.screen# IS "adhistory">

```

```

        <DBINCLUDE TEMPLATE="icubase/adhistory.dbm">

</DBIF>

<DBIF #form.screen# IS "adlines">
    <DBINCLUDE TEMPLATE="icubase/adlines.dbm">
</DBIF>

<DBIF #form.screen# IS "advitals">
    <DBINCLUDE TEMPLATE="icubase/advitals.dbm">
</DBIF>

<DBIF #form.screen# IS "adprocedure">

    <DBINCLUDE TEMPLATE="icubase/adprocedure.dbm">

</DBIF>

<DBIF #form.screen# IS "adcomplications">
    <DBINCLUDE TEMPLATE="icubase/adcomplications.dbm">
</DBIF>

<DBIF #form.screen# IS "adproblem2">

    <DBINCLUDE TEMPLATE="icubase/adproblem.dbm">

</DBIF>
<DBIF #form.screen# IS "addischarge">

    <DBINCLUDE TEMPLATE="icubase/addischarge.dbm">

</DBIF>
</DBIF>
<script>

if (parent.GetCookie("state") != "0"){
var newlocation = "/scripts/dbml.exe?template=icubase/"+
parent.screen[parent.GetCookie("number")] +
    "&KNUMBER=" + parent.GetCookie("KNUMBER") +
"&todaydat=" + parent.GetCookie("TODAYDAT") +
    "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
+ parent.GetCookie("DAYKEY");
}
else{
var newlocation = "/scripts/dbml.exe?template=icubase/welcome.dbm"
}
if (admitUNITNUM == 0){
parent.left.location="/scripts/dbml.exe?template=icubase/select.dbm";
var newlocation = "/scripts/dbml.exe?template=icubase/welcome.dbm";
alert("You did not include a Unit Number");
}
parent.right.location=newlocation;
</script>

</BODY>
</HTML>

```

```

<!------->
<!--
<!--
<!--      The ICUBase Problem Processor
<!--
<!--      This is a sub-form processor for the
<!--      History and Physical screen.
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: adproblem.dbm
<!--      parameters: none (passed via form data)
<!--
<!------->

<DBQUERY Name="GETDCODE" DATASOURCE="ICUBase"
      SQL = "select DCODE FROM DCODE WHERE FULL_DESCR =
'#form.DCODETEXT#'">

<DBQUERY Name="check131" DATASOURCE="ICUBase"
      SQL = "select total = Count(*) from MASTERPROBLEMS WHERE
UNITNUM='#form.UNITNUM#' AND
      PATIENTPROBNUMBER=#form.PROBNUM# AND KNUMBER=#form.KNUMBER#">

<DBQUERY Name="checkdailyprobs" DATASOURCE="ICUBase"
      SQL = "select total = Count(*) from DAILYPROBLEMS WHERE
UNITNUM='#form.UNITNUM#' AND
      PATIENTPROBNUMBER=#form.PROBNUM# AND KNUMBER=#form.KNUMBER# and
      TODAYDAT = '#form.TODAYDAT#'">

<DBQUERY Name="admitdate" DATASOURCE="ICUBase"
      SQL = "Select ADMDATE from ADMDC where
      KNUMBER=#form.KNUMBER#">

<DBIF #check131.total# IS "0">

      <DBQUERY Name="SaveIt70" DATASOURCE="ICUBase"
            SQL = "INSERT INTO MASTERPROBLEMS (KNUMBER, UNITNUM,
PATIENTPROBNUMBER)
            values (#form.KNUMBER#, '#form.UNITNUM#', #form.PROBNUM#)">

</DBIF>

<DBIF #checkdailyprobs.total# IS "0">

      <DBQUERY Name="SaveIt71" DATASOURCE="ICUBase"
            SQL = "INSERT INTO DAILYPROBLEMS (KNUMBER, UNITNUM,
TODAYDAT, PATIENTPROBNUMBER)
            values (#form.KNUMBER#, '#form.UNITNUM#',
'#form.TODAYDAT#', #form.PROBNUM#)">

</DBIF>

<DBIF #form.probsev# is "">
      <DBSET #PROBSEV# = "Null">
<DBELSE>
      <DBSET #PROBSEV# = #form.probsev#>
</DBIF>

<DBQUERY Name="UPDATE72" DATASOURCE="ICUBase"

```

```

SQL = "UPDATE MASTERPROBLEMS SET active='#form.active#',
lastupdated='#form.todaydat#',descr='#form.DCODETEXT#',
ProblemSeverity=#PROBSEV#,
ICD9Code='#GETDCODE.DCODE#' WHERE KNUMBER=#form.KNUMBER#
and UNITNUM='#form.unitnum#'
and PATIENTPROBNUMBER=#form.PROBNUM#">

```

```

<DBQUERY NAME="UPDATE73" DATASOURCE="ICUBase"
SQL = "UPDATE DAILYPROBLEMS SET
assessmentplan='#form.assessmentplan#'
WHERE KNUMBER=#form.KNUMBER# and UNITNUM='#form.unitnum#'
and PATIENTPROBNUMBER=#form.PROBNUM# and
TODAYDAT='#form.TODAYDAT#'">

```

```

<DBIF #form.onset# IS "">
<DBQUERY Name="onset1" DATASOURCE="ICUBase"
SQL= "UPDATE MASTERPROBLEMS SET onsetdate = Null WHERE
KNUMBER=#form.KNUMBER# and PATIENTPROBNUMBER = #form.PROBNUM#">
<DBELSE>
<DBQUERY Name="onset2" DATASOURCE="ICUBase"
SQL= "UPDATE MASTERPROBLEMS SET onsetdate = '#form.onset#' WHERE
KNUMBER=#form.KNUMBER# and PATIENTPROBNUMBER = #form.PROBNUM#">
</DBIF>

```

```

<DBIF #form.enddate# IS "">
<DBQUERY Name="enddate1" DATASOURCE="ICUBase"
SQL= "UPDATE MASTERPROBLEMS SET enddate = Null WHERE
KNUMBER=#form.KNUMBER# and PATIENTPROBNUMBER = #form.PROBNUM#">
<DBELSE>
<DBQUERY Name="enddate2" DATASOURCE="ICUBase"
SQL= "UPDATE MASTERPROBLEMS SET enddate = '#form.enddate#' WHERE
KNUMBER=#form.KNUMBER# and PATIENTPROBNUMBER = #form.PROBNUM#">
</DBIF>

```

```

<DBIF #form.onset# LESS THAN OR EQUAL TO
#DateFormat(admitdate.ADMDATE)#>
<DBQUERY Name="match" DATASOURCE="ICUBase"
SQL= "UPDATE MASTERPROBLEMS SET ADMDIS = 'A' WHERE
KNUMBER=#form.KNUMBER# and PATIENTPROBNUMBER = #form.PROBNUM#">
</DBIF>

```

```

<DBIF #form.enddate# GREATER THAN OR EQUAL TO
#DateFormat(admitdate.ADMDATE)#>
<DBQUERY Name="match2" DATASOURCE="ICUBase"
SQL= "UPDATE MASTERPROBLEMS SET ADMDIS = 'D' WHERE
KNUMBER=#form.KNUMBER# and PATIENTPROBNUMBER = #form.PROBNUM#">
</DBIF>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase Procedure Processor      -->
<!--                                     -->
<!--      This is a sub-form processor for the  -->
<!--      Procedure input screen.              -->
<!--                                     -->
<!--      Written By Joe Mirrow                -->
<!--                                     -->
<!--      filename: adprocedure.dbm            -->
<!--      parameters: none (passed via form data) -->
<!--                                     -->
<!------->
<DBIF #form.PROCDATE# IS NOT "">

    <DBQUERY Name="check3" DATASOURCE="ICUBase"
        SQL = "select total = Count(*) from DAILY WHERE
UNITNUM='#form.UNITNUM#' AND
        TODAYDAT='#form.TODAYDAT#' AND KNUMBER=#form.KNUMBER#">

    <DBIF #Check3.total# IS "0">

        <DBQUERY Name="SaveIt7" DATASOURCE="ICUBase"
            SQL = "INSERT INTO DAILY (KNUMBER, UNITNUM, TODAYDAT)
                values (#form.KNUMBER#, '#form.UNITNUM#',
'#form.TODAYDAT#')">

    </DBIF>

    <DBQUERY Name="Checkprocs" DATASOURCE="ICUBase"
        SQL = "select total=count(*) from PROCS WHERE PROCKEY =
#form.PROCKEY#
                AND DAYKEY=#form.DAYKEY# AND TODAYDAT='#form.TODAYDAT#'
AND KNUMBER=#form.KNUMBER#">

    <DBIF #Checkprocs.total# IS "0">

        <DBQUERY Name="SaveIt4" DATASOURCE="ICUBase"
            SQL = "INSERT INTO PROCS (KNUMBER, UNITNUM, DAYKEY,
TODAYDAT, PROCKEY)
                values (#form.KNUMBER#, '#form.UNITNUM#', #form.DAYKEY#,
'#form.TODAYDAT#', #form.PROCKEY#)">

    </DBIF>

    <DBQUERY Name="UPDATE4" DATASOURCE="ICUBase"
        SQL = "UPDATE PROCS SET
PNAME='#form.PNAME#',INDIC='#form.INDIC#',BILLCODE='#form.BILLCODE#',
TYPE='#form.TYPE#',SITE='#form.SITE#',ICUATT='#form.ICUATT#',
ICUFELLOW='#form.ICUFELLOW#',
        ICURES='#form.ICURES#',DESCR='#form.DESCR#'
        WHERE DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">

    <DBIF #parameterexists(form.SIDE)# IS "YES">
    <DBQUERY Name="updtSIDE" DATASOURCE="ICUBase"

```

```

        SQL= "UPDATE PROCS SET SIDE='#form.SIDE#' WHERE
DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">
        </DBIF>

        <DBIF #parameterexists(form.MED)# IS "YES">
        <DBQUERY Name="updtMED" DATASOURCE="ICUBase"
        SQL= "UPDATE PROCS SET MED='#form.MED#' WHERE
DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">
        </DBIF>

        <DBIF #parameterexists(form.CUTDOWN)# IS "YES">
        <DBQUERY Name="updtCUTDOWN" DATASOURCE="ICUBase"
        SQL= "UPDATE PROCS SET CUTDOWN='#form.CUTDOWN#' WHERE
DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">
        </DBIF>

        <DBIF #parameterexists(form.WIRED)# IS "YES">
        <DBQUERY Name="updtWIRED" DATASOURCE="ICUBase"
        SQL= "UPDATE PROCS SET WIRED='#form.WIRED#' WHERE
DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">
        </DBIF>

        <DBIF #parameterexists(form.COMP)# IS "YES">

        <DBSET #COMP# = #form.COMP#>

        <DBQUERY Name="Spaces" DATASOURCE = "ICUBase"
        SQL="select num=CHARINDEX(' ','#COMP#')">

        <DBQUERY Name="Check3" DATASOURCE = "ICUBase"
        SQL="select
spaces=CHARINDEX(' ',SUBSTRING('#COMP#',#Spaces.num#+1,DATALENGTH('#COMP
#')))">

        <DBIF #Check3.spaces# IS NOT "0">

                <DBQUERY Name="delCOMP" DATASOURCE="ICUBase"
                SQL="select
newcomp=SUBSTRING('#COMP#',1,#Check3.spaces#-1+#Spaces.num#)">

                <DBSET #COMP# = #delCOMP.newcomp#>

        </DBIF>

        <DBIF #Spaces.num# IS "0">

                <DBQUERY NAME="UpdtComp1" DATASOURCE="ICUBase"
                SQL= "UPDATE PROCS SET ICOMP1 = '#COMP#' WHERE
DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">

                <DBELSE>
                <DBQUERY Name="Separate1" DATASOURCE="ICUBase"
                SQL = "select first=SUBSTRING('#COMP#',1,#Spaces.num#-1)">

                <DBQUERY Name="Separate2" DATASOURCE="ICUBase"
                SQL = "select
second=SUBSTRING('#COMP#',#Spaces.num#+1,DATALENGTH('#COMP#'))">

                <DBQUERY Name="UpdtComp2" DATASOURCE="ICUBase"

```

```

        SQL= "UPDATE PROCS SET ICOMP1 = '#Separate1.first#',
ICOMP2='#Separate2.second#' WHERE KNUMBER=#form.KNUMBER#">
    </DBIF>
    </DBIF>

    <DBIF #form.DREMOVE# IS "">
        <DBQUERY Name="DREMOVE1" DATASOURCE="ICUBase"
        SQL= "UPDATE PROCS SET DREMOVE = Null WHERE DAYKEY=#form.DAYKEY# and
        PROCKEY=#form.PROCKEY#">
    <DBELSE>
        <DBQUERY Name="DREMOVE2" DATASOURCE="ICUBase"
        SQL= "UPDATE PROCS SET DREMOVE = '#form.DREMOVE#' WHERE
        DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">
    </DBIF>

        <DBQUERY Name="PROCDATE2" DATASOURCE="ICUBase"
        SQL= "UPDATE PROCS SET PROCDATE = '#form.PROCDATE#' WHERE
        DAYKEY=#form.DAYKEY# and PROCKEY=#form.PROCKEY#">
    </DBIF>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase Vital Signs Processor      -->
<!--                                     -->
<!--      This is a sub-form processor for the    -->
<!--      Vital Signs screen.                    -->
<!--                                     -->
<!--      Written By Joe Mirrow                  -->
<!--                                     -->
<!--      filename: advitals.dbm                 -->
<!--      parameters: none (passed via form data) -->
<!--                                     -->
<!------->

```

```

<DBIF #form.SBP# IS ">
    <DBSET #SBP# = "Null">
<DBELSE>
    <DBSET #SBP# = #form.SBP#>
</DBIF>

<DBIF #form.VEN_SAT# IS ">
    <DBSET #VEN_SAT# = "Null">
<DBELSE>
    <DBSET #VEN_SAT# = #form.VEN_SAT#>
</DBIF>

<DBIF #form.DBP# IS ">
    <DBSET #DBP# = "Null">
<DBELSE>
    <DBSET #DBP# = #form.DBP#>
</DBIF>

<DBIF #form.HR# IS ">
    <DBSET #HR# = "Null">
<DBELSE>
    <DBSET #HR# = #form.HR#>
</DBIF>

<DBIF #form.CVP# IS ">
    <DBSET #CVP# = "Null">
<DBELSE>
    <DBSET #CVP# = #form.CVP#>
</DBIF>

<DBIF #form.PCWP# IS ">
    <DBSET #PCWP# = "Null">
<DBELSE>
    <DBSET #PCWP# = #form.PCWP#>
</DBIF>

<DBIF #form.CO# IS ">
    <DBSET #CO# = "Null">
<DBELSE>
    <DBSET #CO# = #form.CO#>
</DBIF>

<DBIF #form.TMAX# IS ">
    <DBSET #TMAX# = "Null">

```

```

<DBELSE>
  <DBSET #TMAX# = #form.TMAX#>
</DBIF>

<DBIF #form.RR# IS "">
  <DBSET #RR# = "Null">
<DBELSE>
  <DBSET #RR# = #form.RR#>
</DBIF>

<DBIF #form.FIO2# IS "">
  <DBSET #FIO2# = "Null">
<DBELSE>
  <DBSET #FIO2# = #form.FIO2#>
</DBIF>

<DBIF #form.VENTRATE# IS "">
  <DBSET #VENTRATE# = "Null">
<DBELSE>
  <DBSET #VENTRATE# = #form.VENTRATE#>
</DBIF>

<DBIF #form.TV# IS "">
  <DBSET #TV# = "Null">
<DBELSE>
  <DBSET #TV# = #form.TV#>
</DBIF>

<DBIF #form.PEEP# IS "">
  <DBSET #PEEP# = "Null">
<DBELSE>
  <DBSET #PEEP# = #form.PEEP#>
</DBIF>

<DBIF #form.ALBUMIN# IS "">
  <DBSET #ALBUMIN# = "Null">
<DBELSE>
  <DBSET #ALBUMIN# = #form.ALBUMIN#>
</DBIF>

<DBIF #form.PHOSPHATE# IS "">
  <DBSET #PHOSPHATE# = "Null">
<DBELSE>
  <DBSET #PHOSPHATE# = #form.PHOSPHATE#>
</DBIF>

<DBIF #form.PH# IS "">
  <DBSET #PH# = "Null">
<DBELSE>
  <DBSET #PH# = #form.PH#>
</DBIF>

<DBIF #form.PO2# IS "">
  <DBSET #PO2# = "Null">
<DBELSE>
  <DBSET #PO2# = #form.PO2#>
</DBIF>

<DBIF #form.PCO2# IS "">

```

```

        <DBSET #PCO2# = "Null">
<DBELSE>
        <DBSET #PCO2# = #form.PCO2#>
</DBIF>

<DBIF #form.HCO3# IS "">
        <DBSET #HCO3# = "Null">
<DBELSE>
        <DBSET #HCO3# = #form.HCO3#>
</DBIF>

<DBIF #form.FLUIDINPUT# IS "">
        <DBSET #FLUIDINPUT# = "Null">
<DBELSE>
        <DBSET #FLUIDINPUT# = #form.FLUIDINPUT#>
</DBIF>

<DBIF #form.FLUIDOUTPUT# IS "">
        <DBSET #FLUIDOUTPUT# = "Null">
<DBELSE>
        <DBSET #FLUIDOUTPUT# = #form.FLUIDOUTPUT#>
</DBIF>

<DBIF #form.NA# IS "">
        <DBSET #NA# = "Null">
<DBELSE>
        <DBSET #NA# = #form.NA#>
</DBIF>

<DBIF #form.CL# IS "">
        <DBSET #CL# = "Null">
<DBELSE>
        <DBSET #CL# = #form.CL#>
</DBIF>

<DBIF #form.HGB# IS "">
        <DBSET #HGB# = "Null">
<DBELSE>
        <DBSET #HGB# = #form.HGB#>
</DBIF>

<DBIF #form.WBC# IS "">
        <DBSET #WBC# = "Null">
<DBELSE>
        <DBSET #WBC# = #form.WBC#>
</DBIF>

<DBIF #form.K# IS "">
        <DBSET #POT# = "Null">
<DBELSE>
        <DBSET #POT# = #form.K#>
</DBIF>

<DBIF #form.LHCO3# IS "">
        <DBSET #LHCO3# = "Null">
<DBELSE>
        <DBSET #LHCO3# = #form.LHCO3#>
</DBIF>

<DBIF #form.CR# IS "">

```

```

        <DBSET #CR# = "Null">
    <DBELSE>
        <DBSET #CR# = #form.CR#>
    </DBIF>

    <DBIF #form.HCT# IS "">
        <DBSET #HCT# = "Null">
    <DBELSE>
        <DBSET #HCT# = #form.HCT#>
    </DBIF>

    <DBIF #form.PLT# IS "">
        <DBSET #PLT# = "Null">
    <DBELSE>
        <DBSET #PLT# = #form.PLT#>
    </DBIF>

<DBQUERY NAME="Check11" Datasource="ICUBase"
    SQL= "SELECT total=count(*) from DAILY WHERE
    TODAYDAT='#form.TODAYDAT#' and KNUMBER=#form.KNUMBER#">

    <DBIF #check11.total# IS "0">
        <DBQUERY NAME="INSERTDAILYNEW" DATASOURCE="ICUBASE"
            SQL = "INSERT INTO DAILY (UNITNUM,TODAYDAT,KNUMBER) VALUES
            ('#form.UNITNUM#','#form.TODAYDAT#','#form.KNUMBER#')">
        </DBIF>

<DBQUERY NAME="Check6" Datasource="ICUBase"
    SQL="SELECT total=count(*) FROM DAILYVITALS WHERE
    UNITNUM='#form.UNITNUM#' AND
        DAYKEY=#form.DAYKEY# AND TODAYDAT='#form.TODAYDAT#' AND
    KNUMBER=#form.KNUMBER#">

    <DBIF #Check6.total# IS "0">
        <DBQUERY NAME="INSERTVITALS" DATASOURCE="ICUBase"
            SQL = "INSERT INTO DAILYVITALS (UNITNUM, DAYKEY, TODAYDAT,
            KNUMBER, ART_HCO3, ART_CO2, ART_O2,
            SBP, DBP, HR, CVP, WEDGE, CARD_OUT, TMAX, RR, FIO2, ART_PH,
            FLUIDS_IN, FLUIDS_OUT)
            VALUES ('#form.UNITNUM#', #form.DAYKEY#,
            '#form.TODAYDAT#','#form.KNUMBER#', #HCO3#,
            #PCO2#, #PO2#, #SBP#, #DBP#, #HR#, #CVP#, #PCWP#,
            #CO#, #TMAX#, #RR#, #FIO2#, #PH#, #FLUIDINPUT#,
            #FLUIDOUTPUT#) ">
        <DBELSE>

            <DBQUERY NAME="UPDATEVITALS" DATASOURCE="ICUBase"
                SQL = "UPDATE DAILYVITALS SET SBP=#SBP#, DBP=#DBP#, HR=#HR#,
                CVP=#CVP#, WEDGE=#PCWP#, CARD_OUT=#CO#,
                TMAX=#TMAX#, RR=#RR#, FIO2=#FIO2#, ART_PH=#PH#,
                ART_O2=#PO2#, ART_CO2=#PCO2#, ART_HCO3=#HCO3#,
                FLUIDS_IN=#FLUIDINPUT#, FLUIDS_OUT=#FLUIDOUTPUT# WHERE
                UNITNUM='#form.UNITNUM#' AND
                DAYKEY=#form.DAYKEY# AND TODAYDAT='#form.TODAYDAT#' AND
                KNUMBER=#form.KNUMBER# ">

            </DBIF>

<DBQUERY NAME="Check7" Datasource="ICUBase"

```

```

SQL="SELECT total=count(*) FROM DAILYLABS WHERE
UNITNUM='#form.UNITNUM#' AND
DAYKEY=#form.DAYKEY# AND TODAYDAT='#form.TODAYDAT#' AND
KNUMBER=#form.KNUMBER#">

<DBIF #Check7.total# IS "0">
  <DBQUERY NAME="INSERTLABS" DATASOURCE="ICUBase"
    SQL = "INSERT INTO DAILYLABS (UNITNUM, DAYKEY, TODAYDAT,
      KNUMBER, NA, CL, HEMOGLOBIN,
      WBC, K, HCO3, CREAT, ACREAT, HCT, PLATELETS, ALBUMIN,
      PHOSPHATE)
      VALUES ('#form.UNITNUM#', #form.DAYKEY#,
        '#form.TODAYDAT#',#form.KNUMBER#,
        #NA#, #CL#, #HGB#, #WBC#, #POT#, #LHCO3#, #CR#,
        '#form.ACUTECHANGE#', #HCT#, #PLT#, #ALBUMIN#,
        #PHOSPHATE#)">

  <DBELSE>

    <DBQUERY NAME="UPDATELABS" DATASOURCE="ICUBase"
      SQL = "UPDATE DAILYLABS SET NA=#NA#, CL=#CL#,
        HEMOGLOBIN=#HGB#, WBC=#WBC#, K=#POT#,
        HCO3=#LHCO3#, CREAT=#CR#, ACREAT='#form.ACUTECHANGE#',
        HCT=#HCT#,
        PLATELETS=#PLT#, ALBUMIN=#ALBUMIN#,
        PHOSPHATE=#PHOSPHATE# WHERE UNITNUM='#form.UNITNUM#' AND
        DAYKEY=#form.DAYKEY# AND TODAYDAT='#form.TODAYDAT#'
        AND KNUMBER=#form.KNUMBER#">

  </DBIF>
<DBQUERY NAME="Check8" Datasource="ICUBase"
  SQL="SELECT total=count(*) FROM DAILYVENT WHERE
UNITNUM='#form.UNITNUM#' AND
DAYKEY=#form.DAYKEY# AND TODAYDAT='#form.TODAYDAT#' AND
KNUMBER=#form.KNUMBER#">

  <DBIF #Check8.total# IS "0">

    <DBQUERY NAME="INSERTVENT" DATASOURCE="ICUBase"
      SQL = "INSERT INTO DAILYVENT (UNITNUM, DAYKEY,
        TODAYDAT, KNUMBER, VENTMODE,
        VENT_RATE, TIDAL_VOL, PEEP, VEN_SAT) VALUES
        ('#form.UNITNUM#', #form.DAYKEY#,
        '#form.TODAYDAT#',#form.KNUMBER#,
        '#form.VENTMODE#', #VENTRATE#, #TV#, #PEEP#,
        #VEN_SAT#)">

    <DBELSE>

      <DBQUERY NAME="UPDATEVENT" DATASOURCE="ICUBase"
        SQL = "UPDATE DAILYVENT SET VENTMODE='#form.VENTMODE#',
        VENT_RATE=#VENTRATE#, TIDAL_VOL=#TV#,
        PEEP=#PEEP#, VEN_SAT=#VEN_SAT# WHERE
        UNITNUM='#form.UNITNUM#' AND
        DAYKEY=#form.DAYKEY# AND
        TODAYDAT='#form.TODAYDAT#' AND KNUMBER=#form.KNUMBER#">

  </DBIF>

```

```

<!------->
<!---->
<!---->
<!-- The ICUBase Complications Screen -->
<!---->
<!-- The complications screen is not used -->
<!-- in the ICUBase project because -->
<!-- they are now included with the problem list -->
<!---->
<!-- Written By Joe Mirrow -->
<!---->
<!-- filename: complications.dbm -->
<!---->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<head>
<title>Complications Screen</title>
</head>
<DBQUERY NAME="patient" DATASOURCE="ICUBase"
  SQL = "SELECT FNAME,LNAME,UNITNUM,ADMDATE, H_ADMDAT FROM ADMDC WHERE
  KNUMBER=#url.id#; ">

<DBQUERY NAME="complications" DATASOURCE="ICUBase"
  SQL = "SELECT QAEVENT2 from DAILY WHERE KNUMBER=#url.id#; ">

<DBQUERY NAME="QA" DATASOURCE="ICUBase"
  SQL = "select DESCR from popup where field = 'QA' order by DESCR">

<DBQUERY Name="FINDComps" DATASOURCE="ICUBase"
  SQL = "SELECT * FROM DAILY WHERE KNUMBER=#url.id#">

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%>
<DBOUTPUT QUERY="patient">
<tr><td width=25%>Patient: #FNAME# #LNAME#</td><td width=25%>Unit #:
#UNITNUM#</td><td width=25%>Admitted to Hospital:
#DateFormat(H_ADMDAT)#</td><td width=25%>ICU Date:
#DateFormat(ADMDATE)#</td></tr></DBOUTPUT>
</table>
<table border=1 width=100%>
<tr><td align=center width=33%><table width=100%>
<DBIF #FINDComps.ARF# IS NOT "Y">
  <tr><td align=right width=50%>Acute Renal Failure</td><td
align=center width=50%><input type=checkbox name="ARF"></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Acute Renal Failure</td><td
align=center width=50%><input type=checkbox name="ARF"
CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.BACTEREMIA# IS NOT "Y">

```

```

        <tr><td align=right width=50%>Bacteremia</td><td align=center
width=50%><input type=checkbox name="BACTEREMIA"></td></tr>
<DBELSE>
        <tr><td align=right width=50%>Bacteremia</td><td align=center
width=50%><input type=checkbox name="BACTEREMIA" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.CDIFF# IS NOT "Y">
        <tr><td align=right width=50%>C. Diff Colitis</td><td align=center
width=50%><input type=checkbox name="CDIFF"></td></tr>
<DBELSE>
        <tr><td align=right width=50%>C. Diff Colitis</td><td align=center
width=50%><input type=checkbox name="CDIFF" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.CVA# IS NOT "Y">
        <tr><td align=right width=50%>CVA</td><td align=center
width=50%><input type=checkbox name="CVA" ></td></tr>
<DBELSE>
        <tr><td align=right width=50%>CVA</td><td align=center
width=50%><input type=checkbox name="CVA" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.DVT# IS NOT "Y">
        <tr><td align=right width=50%>DVT</td><td align=center
width=50%><input type=checkbox name="DVT" ></td></tr>
<DBELSE>
        <tr><td align=right width=50%>DVT</td><td align=center
width=50%><input type=checkbox name="DVT" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.HYPOTENSIO# IS NOT "Y">
        <tr><td align=right width=50%>Hypotension</td><td align=center
width=50%><input type=checkbox name="HYPOTENSIO" ></td></tr>
<DBELSE>
        <tr><td align=right width=50%>Hypotension</td><td align=center
width=50%><input type=checkbox name="HYPOTENSIO" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.LIVRFAIL# IS NOT "Y">
        <tr><td align=right width=50%>Liver Failure</td><td align=center
width=50%><input type=checkbox name="LIVRFAIL" ></td></tr>
<DBELSE>
        <tr><td align=right width=50%>Liver Failure</td><td align=center
width=50%><input type=checkbox name="LIVRFAIL" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.MI# IS NOT "Y">
        <tr><td align=right width=50%>Myocardial Infarction</td><td
align=center width=50%><input type=checkbox name="MI" ></td></tr>
<DBELSE>
        <tr><td align=right width=50%>Myocardial Infarction</td><td
align=center width=50%><input type=checkbox name="MI"
CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.REINTUBA# IS NOT "Y">
        <tr><td align=right width=50%>Reintubation</td><td align=center
width=50%><input type=checkbox name="REINTUBA" ></td></tr>
<DBELSE>

```

```

    <tr><td align=right width=50%>Reintubation</td><td align=center
width=50%><input type=checkbox name="REINTUBA" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.SINUSITIS# IS NOT "Y">
    <tr><td align=right width=50%>Sinusitis</td><td align=center
width=50%><input type=checkbox name="SINUSITIS" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Sinusitis</td><td align=center
width=50%><input type=checkbox name="SINUSITIS" CHECKED></td></tr>
</DBIF>

</table>
</td><td align=center width=33%><table width=100%>

<DBIF #FINDComps.ARDS# IS NOT "Y">
    <tr><td align=right width=50%>ARDS</td><td align=center
width=50%><input type=checkbox name="ARDS" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>ARDS</td><td align=center
width=50%><input type=checkbox name="ARDS" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.CPR# IS NOT "Y">
    <tr><td align=right width=50%>Cardiac Arrest/CPR</td><td align=center
width=50%><input type=checkbox name="CPR" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Cardiac Arrest/CPR</td><td align=center
width=50%><input type=checkbox name="CPR" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.CHF# IS NOT "Y">
    <tr><td align=right width=50%>CHF</td><td align=center
width=50%><input type=checkbox name="CHF" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>CHF</td><td align=center
width=50%><input type=checkbox name="CHF" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.DECUBITUS# IS NOT "Y">
    <tr><td align=right width=50%>Decubitus</td><td align=center
width=50%><input type=checkbox name="DECUBITUS" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Decubitus</td><td align=center
width=50%><input type=checkbox name="DECUBITUS" CHECKED ></td></tr>
</DBIF>

<DBIF #FINDComps.GIBLEED# IS NOT "Y">
    <tr><td align=right width=50%>GI Bleed</td><td align=center
width=50%><input type=checkbox name="GIBLEED" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>GI Bleed</td><td align=center
width=50%><input type=checkbox name="GIBLEED" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.LINECOMP# IS NOT "Y">
    <tr><td align=right width=50%>Line Complication</td><td align=center
width=50%><input type=checkbox name="LINECOMP" ></td></tr>
<DBELSE>

```

```

    <tr><td align=right width=50%>Line Complication</td><td align=center
width=50%><input type=checkbox name="LINECOMP" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.MENINGITIS# IS NOT "Y">
    <tr><td align=right width=50%>Meningitis</td><td align=center
width=50%><input type=checkbox name="MENINGITIS" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Meningitis</td><td align=center
width=50%><input type=checkbox name="MENINGITIS" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.PNEUMON# IS NOT "Y">
    <tr><td align=right width=50%>Pneumonia</td><td align=center
width=50%><input type=checkbox name="PNEUMON" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Pneumonia</td><td align=center
width=50%><input type=checkbox name="PNEUMON" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.SEIZURE# IS NOT "Y">
    <tr><td align=right width=50%>Seisure</td><td align=center
width=50%><input type=checkbox name="SEIZURE" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Seisure</td><td align=center
width=50%><input type=checkbox name="SEIZURE" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.UTI# IS NOT "Y">
    <tr><td align=right width=50%>Wound Complication</td><td align=center
width=50%><input type=checkbox name="WNDCOMPL" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Wound Complication</td><td align=center
width=50%><input type=checkbox name="WNDCOMPL" CHECKED></td></tr>
</DBIF>

</table>
</td><td align=center width=34%><table width=100%>

<DBIF #FINDComps.ARYTHMIA# IS NOT "Y">
    <tr><td align=right width=50%>Arrhythmia</td><td align=center
width=50%><input type=checkbox name="ARYTHMIA" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Arrhythmia</td><td align=center
width=50%><input type=checkbox name="ARYTHMIA" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.CTAMPO# IS NOT "Y">
    <tr><td align=right width=50%>Cardiac Tampanade</td><td align=center
width=50%><input type=checkbox name="CTAMPO" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Cardiac Tampanade</td><td align=center
width=50%><input type=checkbox name="CTAMPO" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.COMA# IS NOT "Y">
    <tr><td align=right width=50%>Coma</td><td align=center
width=50%><input type=checkbox name="COMA" ></td></tr>
<DBELSE>

```

```

        <tr><td align=right width=50%>Coma</td><td align=center
width=50%><input type=checkbox name="COMA" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.DIC# IS NOT "Y">
    <tr><td align=right width=50%>DIC</td><td align=center
width=50%><input type=checkbox name="DIC" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>DIC</td><td align=center
width=50%><input type=checkbox name="DIC" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.HYPONAT# IS NOT "Y">
    <tr><td align=right width=50%>Hyponatremia</td><td align=center
width=50%><input type=checkbox name="HYPONAT" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Hyponatremia</td><td align=center
width=50%><input type=checkbox name="HYPONAT" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.MOF# IS NOT "Y">
    <tr><td align=right width=50%>Multiple Organ Failure</td><td
align=center width=50%><input type=checkbox name="MOF" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Multiple Organ Failure</td><td
align=center width=50%><input type=checkbox name="MOF"
CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.PULMEMBO# IS NOT "Y">
    <tr><td align=right width=50%>Pulmonary Embolus</td><td align=center
width=50%><input type=checkbox name="PULMEMBO" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Pulmonary Embolus</td><td align=center
width=50%><input type=checkbox name="PULMEMBO" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.SEPSIS# IS NOT "Y">
    <tr><td align=right width=50%>Sepsis</td><td align=center
width=50%><input type=checkbox name="SEPSIS" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Sepsis</td><td align=center
width=50%><input type=checkbox name="SEPSIS" CHECKED></td></tr>
</DBIF>

<DBIF #FINDComps.UTI# IS NOT "Y">
    <tr><td align=right width=50%>UTI</td><td align=center
width=50%><input type=checkbox name="UTI" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>UTI</td><td align=center
width=50%><input type=checkbox name="UTI" CHECKED></td></tr>
</DBIF>

<tr><td align=right width=50%></td><td align=center width=50%></td></tr>
</table>
</td></tr>
</table>
<table width=100%>
<tr><td width=33%></td><td width=40%>
<strong>Quality Assurance Events</strong></td></tr>

```

```

<tr><td></td><td width=40%>
<select name="QA" size=1>
<DBOUTPUT QUERY="complications">
<OPTION> #QAEVENT2#
</DBOUTPUT>
<DBOUTPUT QUERY="QA">
<option>#DESCR#
</DBOUTPUT>
</select></td></tr>
</table>

<input type="hidden" name=KNUMBER value="<DBOUTPUT>#url.id#</DBOUTPUT>">
<input type="hidden" name=screen value="adcomplications">
</form>
</body>

</html>

```

```

<!------->
<!--
<!--
<!--      The ICUBase CPT Code Menu
<!--
<!--      This screen generates links to CPT codes from the
<!--      CPTMENU and CPTCODES tables in the ICUBASE database
<!--      Although CPT codes were not used in the ICUBase project
<!--      this screen demonstrates they could be easily
<!--      incorporated. This script is for the CPTCode Demo.
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: cptcodemenupub.dbm
<!--
<!------->
<html>

<title>ICD-9 Codes</title>

<body bgcolor="#ffffff">

<script>

function nextframe(framenumber, npointer){
var newlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm&nnextpoint=" +
escape(npointer) + "&frame=" + framenumber;
var secondlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
framenumbr;
frametext = '&nnextpoint=' + escape(npointer) + '&frame=' + framenumber
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = npointer;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

function nextframe2(framenumber, npointer){
var newlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm&nnextpoint=" +
escape(parent.frametext[0]) + "&nnextpoint1=" + escape(npointer) +
"&frame=" + framenumber;
var secondlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
framenumbr;
frametext = '&nnextpoint=' + escape(parent.frametext[0]) +
'&nnextpoint1=' + escape(npointer) + '&frame=' + framenumber;
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = npointer;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

function nextframe3(framenumber, npointer){
var newlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm&nnextpoint=" +

```

```

escape(parent.frame[0]) + "&nnextpoint1=" + escape(npoiner) +
"&frame=" + framenum;
var secondlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
framenum;
frametext = '&nnextpoint1=' + escape(parent.frame[1]) +
&nnextpoint=' + escape(parent.frame[0]) + '&nnextpoint2=' +
escape(npoiner) + '&frame=' + framenum;
parent.frame[framenum] = frametext;
parent.frame[framenum] = npoiner;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;

}

function nextframe4(pointer, full){
parent.cycleopener(pointer,full);
}

}

</script>

<DBSET #TEMPFRAME# = #url.frame#>
<DBSET #NEXTFRAME# = #IncrementValue(TEMPFRAME)#>

<DBIF #url.frame# IS "0">

<DBQUERY Name="first" DATASOURCE="ICUBase"
SQL = "select CPTMENU1 from mCPTCODE group by CPTMENU1">
<UL>
<DBOUTPUT QUERY = "first">
<A HREF="javascript:nextframe('#NEXTFRAME#',
'#first.CPTMENU1#')">
#first.CPTMENU1#</a>
<br>
</DBOUTPUT>
</DBIF>
<DBIF #url.frame# IS "1">
<DBQUERY Name="second" DATASOURCE="ICUBase"
SQL = "select CPTMENU2 from mCPTCode where CPTCODE1 =
'#url.nnnextpoint#' group by CPTCODE2">
<UL>
<DBOUTPUT QUERY = "second">
<A
HREF="javascript:nextframe2('#NEXTFRAME#','#second.CPTMENU2#')">
#second.CPTMENU2#</a>
<br>
</DBOUTPUT>

</DBIF>
<DBIF #url.frame# IS "2">
<DBQUERY Name="third" DATASOURCE="ICUBase"
SQL = "select CPTMENU3 from mCPTCode where CPTCODE2 =
'#url.nnnextpoint1#' and CPTCODE1 = '#url.nnnextpoint#' group by
CPTCODE3">
<UL>
<DBOUTPUT QUERY = "third">

```

```

        <A
HREF="javascript:nextframe3('#NEXTFRAME#','#third.CPTMENU3#')">
        #second.CPTMENU3#</a>
        <br>
        </DBOUTPUT>

    </DBIF>
    <DBIF #url.frame# IS "3">
    <DBQUERY Name="fourth" DATASOURCE="ICUBase"
        SQL = "select DESCR,CPTCODE from mCPTCode where CPTCODE3
= '#url.nnextpoint2#' and CPTCODE2 = '#url.nnextpoint1#' and CPTCODE1 =
'#url.nnextpoint#'">
    <UL>
        <DBOUTPUT QUERY = "fourth">
            <A
HREF="javascript:nextframe4('#fourth.CPTCODE#','#fourth.DESCR#')">
            #fourth.DESCR#</a>
            <br>
            </DBOUTPUT>

        </DBIF>

</body>
</html>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase CPT Code Search Engine      -->
<!--                                     -->
<!--      This screen generates CPT code listings from the      -->
<!--      CPTCODES table in the ICUBASE database.      -->
<!--      This screen is the "engine" behind the lookup entries      -->
<!--      in the cptinput.htm screen      -->
<!--      This script is for the CPTCode Demo.      -->
<!--                                     -->
<!--      Written By Joe Mirrow      -->
<!--                                     -->
<!--      filename: cptcodepub.dbm      -->
<!--                                     -->
<!------->
<html>

<title>CPT Codes</title>

<body bgcolor="#ffffff">

<DBIF #parameterexists(url.first)# IS "YES">

    <DBIF #url.second# IS "">

        <DBQUERY Name="first" DATASOURCE="ICUBase"
            SQL = "select CPTCODE,DESCR from CPTCODE where
charindex('#url.first#',descr) > 0">
            <UL>CPTCode Description<br>
            <DBOUTPUT QUERY = "first">
                <li>(#first.CPTCODE#) #first.DESCR# <br>
            </DBOUTPUT>
        <DBELSE>
            <UL>CPTCode Description<br>
        <DBQUERY Name="second" DATASOURCE="ICUBase"
            SQL = "select CPTCODE,DESCR from CPTCODE where
charindex('#url.first#',descr) > 0 #url.andor#
charindex('#url.second#',descr) > 0">

            <DBOUTPUT QUERY = "second">
                <li>(#second.CPTCODE#) #second.DESCR# <BR>
            </DBOUTPUT>

        </DBIF>

    </DBIF>

</DBIF>

</body>
</html>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase CPT Code Search Engine      -->
<!--                                     -->
<!--      This screen generates CPT code listings from the -->
<!--      CPTCODES tables in the ICUBASE database.      -->
<!--      This screen is frame opener for the CPT Code screen -->
<!--      for free text searching of the database      -->
<!--      This script is for the first CPTCode Demo.      -->
<!--                                     -->
<!--      Written By Joe Mirrow      -->
<!--                                     -->
<!--      filename: cptcodepub.htm      -->
<!--                                     -->
<!------->
<html>
<title>CPT Codes</title>

<frameset rows="30%,70%">
<frame src='http://chimera.med.unc.edu/icubase/cptinput.htm' name='cpt1'
MARGINWIDTH=0 MARGINHEIGHT=0>
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/cptcod
epub.dbm name='cptcode1' MARGINWIDTH=0 MARGINHEIGHT=0>
</frameset>

</html>

```

```

<!------->
<!---->
<!---->
<!-- The ICUBase CPT Code Search Engine -->
<!---->
<!-- This screen generates CPT code listings from the -->
<!-- CPTCODES tables in the ICUBASE database. -->
<!-- This screen is frame opener for the CPT Code screen -->
<!-- for free text searching of the database -->
<!-- This script is for the first CPTCode Demo. -->
<!---->
<!-- Written By Joe Mirrow -->
<!---->
<!-- filename: cptcodepub.htm -->
<!---->
<!------->
<html>
<title>CPT Codes</title>

<frameset rows="30%,70%">
<frame src='http://chimera.med.unc.edu/icubase/cptinput.htm' name='cpt1'
MARGINWIDTH=0 MARGINHEIGHT=0>
<frame src='http://chimera.med.unc.edu/scripts/dbml.exe?template=
icubase/cptcodepub.dbm name='cptcode1' MARGINWIDTH=0 MARGINHEIGHT=0>
</frameset>

</html>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase CPT Code Search Engine      -->
<!--                                     -->
<!--      This screen generates CPT code listings from the      -->
<!--      CPTMENU and CPTCODES tables in the ICUBASE database.    -->
<!--      This screen is free text input for the CPT Code screen -->
<!--      providing two text boxes and boolean operator.  Text   -->
<!--      is then "escaped" and via JavaScript (TM) to           -->
<!--      cptcodepub.dbm                                         -->
<!--                                     -->
<!--      This script is for the CPTCode Demo.                  -->
<!--                                     -->
<!--      Written By Joe Mirrow                                  -->
<!--                                     -->
<!--      filename: Cptinput.htm                                -->
<!--                                     -->
<!------->
<html>

<head>
<script>
function getsearch(first, nandor, second){
if (nandor == 0){
andor = 'and'
}
else{
andor = 'or'
}
newlocation = '/scripts/dbml.exe?template=icubase/cptcodepub.dbm&first='
+ escape(first) + '&andor=' + andor + '&second=' + escape(second);
//alert(newlocation);
parent.frames[1].location = newlocation}
</script>

</head>
<title>CPT Input</title>

<body bgcolor="#FFFFFF">
<form method="POST">
<table width=100%>
<tr><td align=right width=25%>Enter First Search Word: </td><td
width=50%><input type=text size=20 maxlength=20 name="first"></td></tr>
<tr><td align=right width=25%></td><td width=50%><select name="andor"
size=1>
<option selected>AND</option>
<option>OR</option>
</select></td></tr>
<tr><td align=right width=25%>Enter Second Search Word: </td><td
width=50%><input type=text size=20 maxlength=20 name="second"></td></tr>
</table><table width=100%><tr><td align=center width=50%>
<input type="Button" name="Submit" value="Submit"
onClick="getsearch(document.forms[0].first.value,
document.forms[0].andor.selectedIndex,
document.forms[0].second.value)"></td><td width=60%></td></tr></table>
</form>
</body>

</html>

```

```

<!------->
<!--
<!--
<!--      The ICUBase CPT Code Menu
<!--
<!--      This screen generates the upper menu system for the
<!--      CPT coding engine. To do this, entries from the lower
<!--      frame are unescaped and stored in Javascript (TM)
<!--      variables in the parent document. Both the text string
<!--      and the path are stored in arrays and are called if
<!--      the link is clicked on by the user.
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: cptcodemenunew.dbm
<!--
<!------->
<html>
<title>ICD-9 Blank</title>
<body bgcolor="#ffffff">

<script>
function CallSelf(framenumber){
    frameno = 'frame' + framenumber;

    newlocation = "/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm" +
    parent.frame[framenum];
    parent.frames[1].location = newlocation;
    newlocation =
    "/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
    framenumber;
    parent.frames[0].location = newlocation;
}

function WriteFrame(frame){
    parent.frames[0].document.write('<UL><IMG SRC="/icubase/open.gif"
    BORDER=0><a href="/icubase/cptmenucodepub.htm" target="_top">CPT
    Codes</A><UL>');
    for (i=1; i<frame + 1; i++){
        frameno = 'frame' + i;
        frametextno = frameno + 'text';
        frametext= '<IMG SRC="/icubase/open.gif" BORDER=0><A
        HREF="javascript:CallSelf(' + i + ')">' + parent.frametext[i] +
        '</A><UL>'
        parent.frames[0].document.write(frametext);
    }
}

framenum = <dboutput>#url.frame#</dboutput>;
parent.frames[0].WriteFrame(framenum);
</script>
</body>
</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase CPT Code Menu -->
<!-- -->
<!-- This screen generates the lower menu system for the -->
<!-- CPT coding engine. To do this, entries from the lower -->
<!-- frame are escaped and stored in Javascript (TM) -->
<!-- variables in the parent document. Both the text string-->
<!-- and the path are stored in arrays and are called if -->
<!-- the link is clicked on by the user. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: cptcodemenupub.dbm -->
<!-- -->
<!------->
<html>

<title>ICD-9 Codes</title>

<body bgcolor="#ffffff">

<script>

function nextframe(framenumber, npointer){
var newlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm&nnextpoint=" +
escape(npointer) + "&frame=" + framenumber;
var secondlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
framenumbr;
frametext = '&nnextpoint=' + escape(npointer) + '&frame=' + framenumber
//alert(frametext)
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = npointer;
//alert (parent.frametext[framenumbr])
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

function nextframe2(framenumber, npointer){
var newlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm&nnextpoint=" +
escape(parent.frametext[1]) + "&nnextpoint1=" + escape(npointer) +
"&frame=" + framenumber;
var secondlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
framenumbr;
frametext = '&nnextpoint=' + escape(parent.frametext[1]) +
'&nnextpoint1=' + escape(npointer) + '&frame=' + framenumber;
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = npointer;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

```

```

function nextframe3(framenumber, npointer){
var newlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodepub.dbm&nnnextpoint=" +
escape(parent.frame[1]) + "&nnnextpoint1=" +
escape(parent.frame[2]) + "&nnnextpoint2=" + escape(npointer) +
"&frame=" + framenumber;
var secondlocation =
"/scripts/dbml.exe?template=icubase/cptmenucodenew.dbm&frame=" +
framenumbr;
frametext = '&nnnextpoint1=' + escape(parent.frame[2]) +
'&nnnextpoint=' + escape(parent.frame[1]) + '&nnnextpoint2=' +
escape(npointer) + '&frame=' + framenumber;
parent.frame[framenumbr] = frametext;
parent.frame[framenumbr] = npointer;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

function nextframe4(pointer, full){
parent.cycleopener(pointer,full);
}

</script>

<DBSET #TEMPFRAME# = #url.frame#>
<DBSET #NEXTFRAME# = #IncrementValue(TEMPFRAME)#>

<DBIF #url.frame# IS "0">

<DBQUERY Name="first" DATASOURCE="ICUBase"
SQL = "select CPTMENU1 from mCPTCODE group by CPTMENU1">
<UL>
<DBOUTPUT QUERY = "first">
<A HREF="javascript:nextframe('#NEXTFRAME#', '#CPTMENU1#')">
#first.CPTMENU1#</a>
<br>
</DBOUTPUT>
</DBIF>
<DBIF #url.frame# IS "1">
<DBQUERY Name="unescape" DATASOURCE="ICUBASE"
SQL = "unescape '#url.nnnextpoint#'">

<DBQUERY Name="second" DATASOURCE="ICUBase"
SQL = "select CPTMENU2 from mCPTCode where CPTMENU1 =
'#unescape.nextpoint#' group by CPTMENU2">
<UL>
<DBOUTPUT QUERY = "second">
<A HREF="javascript:nextframe2('#NEXTFRAME#', '#CPTMENU2#')">
#CPTMENU2#</a>
<br>
</DBOUTPUT>

</DBIF>
<DBIF #url.frame# IS "2">
<DBQUERY Name="unescape" DATASOURCE="ICUBASE"
SQL = "unescape '#url.nnnextpoint#'">
<DBQUERY Name="unescape1" DATASOURCE="ICUBASE"

```

```

        SQL = "unescape '#url.nnextpoint1#'">

        <DBQUERY Name="third" DATASOURCE="ICUBase"
            SQL = "select CPTMENU3 from mCPTCode where CPTMENU2 =
'#unescape1.nextpoint#' and CPTMENU1 = '#unescape.nextpoint#' group by
CPTMENU3">
        <UL>
            <DBOUTPUT QUERY = "third">
                <A HREF="javascript:nextframe3('#NEXTFRAME#','#CPTMENU3#')">
                    #CPTMENU3#</a>
                <br>
            </DBOUTPUT>

        </DBIF>
        <DBIF #url.frame# IS "3">
            <DBQUERY Name="unescape" DATASOURCE="ICUBASE"
                SQL = "unescape '#url.nnextpoint#'">
            <DBQUERY Name="unescape1" DATASOURCE="ICUBASE"
                SQL = "unescape '#url.nnextpoint1#'">
            <DBQUERY Name="unescape2" DATASOURCE="ICUBASE"
                SQL = "unescape '#url.nnextpoint2#'">
            <DBQUERY Name="fourth" DATASOURCE="ICUBase"
                SQL = "select DESCR,CPTCODE from mCPTCode where CPTMENU3
= '#unescape2.nextpoint#' and CPTMENU2 = '#unescape1.nextpoint#' and
CPTMENU1 = '#unescape.nextpoint#'">
            <UL>
                <DBOUTPUT QUERY = "fourth">
                    <A HREF="javascript:nextframe4('#CPTCODE#','#DESCR#')">
                        #fourth.DESCR#</a>
                    <br>
                </DBOUTPUT>

            </DBIF>

        </body>
</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase CPT Code Menu Search Engine -->
<!-- -->
<!-- This screen generates CPT code engines from the -->
<!-- CPTMENU and CPTCODES tables in the ICUBASE database. -->
<!-- This screen is frame opener for the CPT Coding screens -->
<!-- cptmenucodepub.dbm and cptmenucodenew.dbm -->
<!-- Arrays store frame text and search strings -->
<!-- -->
<!-- This script is for the second CPTCode Demo. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: cptmenucodepub.htm -->
<!-- -->
<!------->
<html>
<title>Procedure Codes</title>
<META HTTP-EQUIV="Pragma" CONTENT="no-cache">
<script>
function cycleopener(dcode, full){
alert("The CPT Code for " + full + " is " + dcode);

}

frame = new Array(5);
frame[1] = '';
frame[2] = '';
frame[3] = '';
frame[4] = '';
frame[5] = '';

frametext = new Array(5);
frametext[1] = '';
frametext[2] = '';
frametext[3] = '';
frametext[4] = '';
frametext[5] = '';
</script>

<frameset rows="20%,80%">
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/cptmen
ucodenew.dbm&frame=0' name='pcode2' MARGINWIDTH=0 MARGINHEIGHT=0>
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/cptmen
ucodepub.dbm&frame=0' name='pcode1' MARGINWIDTH=0 MARGINHEIGHT=0>
</frameset>

</html>

```

```

<!------->
<!--
<!--
<!--      The ICUBase ICD-9 Code Menu
<!--
<!--      This screen generates links to ICD-9 codes from the
<!--      M_DCODE and DCODE tables in the ICUBASE database.
<!--      Codes are escaped and stored in Javascript (TM)
<!--      variables in the parent document.  Both the text string
<!--      and the path are stored in arrays and are called if
<!--      the link is clicked on by the user.
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: dcode.dbm
<!--
<!------->
<html>

<title>ICD-9 Codes</title>

<body bgcolor="#ffffff">

<script>

function nextframe(framenumber, npointer, endofc, descr){
var newlocation =
"/scripts/dbml.exe?template=icubase/dcode.dbm&nnextpoint=" + npointer +
"&frame=" + framenumber + "&endofc=" + endofc;
var secondlocation =
"/scripts/dbml.exe?template=icubase/dcode2.dbm&frame=" + framenumber;
frametext = '&nnextpoint=' + npointer + '&frame=' + framenumber +
'&endofc=' + endofc
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = descr;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;

}

function nextframe2(framenumber, npointer, endofc, full){
if (endofc=="N"){
endofc = "Y";
}

if (endofc == "X"){
parent.cycleopener(npointer);
parent.close();
}

var newlocation =
"/scripts/dbml.exe?template=icubase/dcode.dbm&nnextpoint=" + npointer +
"&frame=" + framenumber + "&endofc=" + endofc;
var secondlocation =
"/scripts/dbml.exe?template=icubase/dcode2.dbm&frame=" + framenumber;
frametext = '&nnextpoint=' + npointer + '&frame=' + framenumber +
'&endofc=' + endofc
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = full;

```

```

if (endofc != "X"){
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

}

</script>

<DBSET #TEMPFRAME# = #url.frame#>
<DBSET #NEXTFRAME# = #IncrementValue(TEMPFRAME)#>

<DBIF #url.endofc# IS "N">

<DBQUERY Name="first" DATASOURCE="ICUBase"
      SQL = "select * from M_DCODE where NPOINTER =
'#url.nnextpoint#'">
  <UL>
    <DBOUTPUT QUERY = "first">
      <A HREF="javascript:nextframe('#NEXTFRAME#',
'#first.NNEXTPOINT#', '#first.ENDOFC#', '#first.DESCR#')">
        #first.DESCR#</a>
      <br>
    </DBOUTPUT>
    <DBELSE>
      <DBQUERY Name="second" DATASOURCE="ICUBase"
            SQL = "select * from DCODE where NPOINTER =
'#url.nnextpoint#'">
        <UL>
          <DBOUTPUT QUERY = "second">
            <A
HREF="javascript:nextframe2('#NEXTFRAME#', '#DCODE#', '#ENDOFc#', '#full_DE
SCR#')">
              #full_DESCR#</a>
            <br>
          </DBOUTPUT>
        </UL>
      </DBIF>

</body>
</html>

```

```

<!------->
<!--
<!--
<!--      The ICUBase ICD-9 Coding Engine
<!--
<!--      This screen generates ICD-9 code engines from the
<!--      M_DCODE and DCODE tables in the ICUBASE database.
<!--      This screen is frame opener for the ICD-9 code screens
<!--      dcode.dbm and dcode2.dbm
<!--      Arrays store frame text and search strings and the
<!--      cycleopener function passes the code back to the
<!--      html form that opened the coding window
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: dcode.htm
<!--
<!------->
<html>
<title>ICD-9 Codes</title>
<script>
function cycleopener(dcode){
    opener.advanceframe1(dcode);
}

frame = new Array(5);
frame[1] = '';
frame[2] = '';
frame[3] = '';
frame[4] = '';
frame[5] = '';

frametext = new Array(5);
frametext[1] = '';
frametext[2] = '';
frametext[3] = '';
frametext[4] = '';
frametext[5] = '';

</script>

<frameset rows="20%,80%">
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/dcode2
.dbm&frame=0&descr=nothing' name='dcode2' MARGINWIDTH=0 MARGINHEIGHT=0>
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/dcode.
dbm&frame=0&nextpoint=1&endofc=N' name='dcode1' MARGINWIDTH=0
MARGINHEIGHT=0>
</frameset>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase ICD-9 Code Menu -->
<!-- -->
<!-- This screen generates the upper menu system for the -->
<!-- ICD-9 coding engine. To do this, entries from the -->
<!-- lower frame are unescaped and stored in Javascript (TM)-->
<!-- variables in the parent document. Both the text string-->
<!-- and the path are stored in arrays and are called if -->
<!-- the link is clicked on by the user. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: dcode2.dbm -->
<!-- -->
<!------->
<html>
<title>ICD-9 Blank</title>
<body bgcolor="#ffffff">

<script>
function CallSelf(framenumber){

newlocation = "/scripts/dbml.exe?template=icubase/dcode.dbm" +
parent.frame[framenum];
parent.frames[1].location = newlocation;
newlocation = "/scripts/dbml.exe?template=icubase/dcode2.dbm&frame=" +
framenum;
parent.frames[0].location = newlocation;
}

function WriteFrame(frame){
parent.frames[0].document.write('<UL><IMG SRC="/icubase/open.gif"
BORDER=0><a href="/scripts/dbml.exe?template=icubase/dcode.htm"
target="_top">ICD-9 Codes</A><UL>');
for (i=1; i<frame + 1; i++){
frametext= '<IMG SRC="/icubase/open.gif" BORDER=0><A
HREF="javascript:CallSelf(' + i + ')">' + parent.frametext[i] +
'</A><UL>'
parent.frames[0].document.write(frametext);
}
}

framenum = <dboutput>#url.frame#</dboutput>;
parent.frames[0].WriteFrame(framenum);
</script>
</body>
</html>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase ICD-9 Free Text Search Engine      -->
<!--                                     -->
<!--      This screen generates ICD-9 code listings from the      -->
<!--      DCODE table in the ICUBASE database.      -->
<!--      Free text entries are made on the "problem list" entry -->
<!--      screen and this script runs the built in soundex(TM) -->
<!--      search of the table.  Results of the search are      -->
<!--      displayed as links.      -->
<!--                                     -->
<!--      Written By Joe Mirrow      -->
<!--                                     -->
<!--      filename: dcodesearch.dbm      -->
<!--                                     -->
<!------->
<html>
<title>ICD-9 Codes</title>
<script>
function cycleopener(dcode){
    opener.advanceframe1(dcode);
}

function closewindow(){
parent.close();
}

function nextframe2(npointer){
parent.cycleopener(npointer);
parent.close();
}

function makestatus(stuff){
parent.document.status = stuff;
return true;}
</script>

<body bgcolor=#ffffff>

<DBQUERY Name="unescape" DATASOURCE="ICUBASE"
    SQL = "unescape '#url.problem#'">

<DBQUERY Name="dcodesearch" DATASOURCE="ICUBase"

    SQL = "select total=count(*), dcode, dcode.full_descr
from dcode where charindex('#unescape.nextpoint#',full_descr) > 0 group
by dcode,full_descr">

<DBIF #dcodesearch.total# GREATER THAN "0">

<A HREF="javascript:closewindow()"
onMouseOver="window.parent.status='Return to Problem List';return
true;">Click Here If Not In This List</a><br><BR><UL>

    <DBOUTPUT QUERY = "dcodesearch">
        <A HREF="javascript:nextframe2('#DCODE#')">
            #full_DESCR</a>
        <br>

```

</DBOUTPUT>

<DBELSE>

<h1>Problem could not be found from your SOUNDEX Search</h1>

Click <a href =

"http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/problem1.d
bm&KNUMBER=<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>&todaydat=<DBOUTPUT>#url.to
daydat#</DBOUTPUT>&unitnum=<DBOUTPUT>#url.unitnum#</DBOUTPUT>&daykey=<DB
OUTPUT>#url.daykey#</DBOUTPUT>">here to return.

</DBIF>

</html>

```

<!------->
<!---->
<!---->
<!-- The ICUBase (First) Demographics Screen -->
<!---->
<!-- This demographics screen is provided for the first -->
<!-- entry of patient demographics only. If the patient -->
<!-- is in the database then demo4.dbm is used to retrieve -->
<!-- the data. This was the first ICUBase screen made! -->
<!-- Dropdown boxes are generated from the POPUP table -->
<!-- in the database. -->
<!---->
<!-- Written By Joe Mirrow -->
<!---->
<!-- filename: demo3.dbm -->
<!---->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<DBQUERY NAME="DNR" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='DNR' ORDER by CHOICE; ">

<DBQUERY NAME="Race" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='RACE'; ">

<DBQUERY NAME="Admit" DATASOURCE="ICUBase"
  SQL = "SELECT POPUP.CHOICE, POPUP.DESCR FROM POPUP WHERE
  (POPUP.FIELD='ADMITYPE') ORDER BY POPUP.CHOICE; ">

<DBQUERY NAME="CHREVAL" DATASOURCE="ICUBase"
  SQL = "SELECT POPUP.CHOICE, POPUP.DESCR FROM POPUP WHERE
  POPUP.FIELD='CHREVAL' order by POPUP.DESCR; ">

<DBQUERY NAME="Reason" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ADREASON' ORDER BY
  CHOICE; ">

<DBQUERY NAME="ICU" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ICU' ORDER BY CHOICE; ">

<DBQUERY NAME="ATTENDIN" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ATTENDIN' ORDER BY
  CHOICE; ">

<DBQUERY NAME="SERVICE" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='SERVICE' ORDER BY CHOICE;
">

<DBQUERY NAME="KNUM" DATASOURCE="ICUBase"
  SQL = "SELECT LAST=MAX(KNUMBER) FROM ADMDC; ">

<DBSET #TEMPKEY# = #KNUM.LAST#>
<DBSET #KNUMBER# = #IncrementValue(TEMPKEY)#>

<html>

<head>
<title>Admission Demographics Screen</title>
</head>

```

```

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%>
<tr><td width=20%><font size=3>Last Name:</font></td><td width=20%><font
size=3>First Name:</font></td><td width=20%><font size=3>Unit
#:</font></td><td width=20%><font size=3>Admitted to
Hospital:</font></td><td width=20%><font size=3>Admitted to
ICU:</font></td></tr>
<DBOUTPUT>
<tr><td><font size=5><input type=text size=15 maxlength=15
name="LNAME"></font></td><td><font size=5><input type=text size=15
maxlength=15 name="FNAME"></font></td><td><font size=5><input type=text
size=12 maxlength=12 name="UNITNUM"></font></td><td><font size=5><input
type=text size=8 maxlength=8 name="H_ADMDAT"
value="#url.TODAYDAT#"></font></td><td><font size=5><input type=text
size=8 maxlength=8 name="ADMDATE"
value="#url.TODAYDAT#"></font></td></tr>
</DBOUTPUT></table>
<table width=100%>
<tr><td valign=top width=25%><font size=3>Date of Birth:</font><font
size=5><input type=text size=8 maxlength=8 name="DOB"></font></td><td
valign=top width=25%><font size=3>Race:</font>
<select name="RACE">
<DBOUTPUT QUERY="Race">
<OPTION> #CHOICE#
</DBOUTPUT>
</select></font></td><td valign=top width=25%><font
size=3>Gender:</font><font size=5>
<select name="SEX" size=1>
<option>M</option>
<option>F</option>
</select></font></td></tr>
</table>

<table width=100% border=1>
<tr><td><font size=3>Chronic Health Eval</font></td><td><font size=5>
<select name="CHREVAL" size=1>
<DBOUTPUT QUERY="CHREVAL">
<option>#DESCR#
</DBOUTPUT>
</select></font></td>
<td><font size=3>ICU:</font></td><td><font size=3><select name="ICU">
<DBOUTPUT QUERY="ICU">
<option>#CHOICE#
</DBOUTPUT>
</select>
</font></td></tr>
<tr><td><font size=3>Admit Type</font></td><td><font size=3>
<select name="ADMITYPE">
<DBOUTPUT QUERY="Admit">
<option>#DESCR#
</DBOUTPUT>
</select></font></td><td><font size=3>Service:</font></td><td>
<select name="service" size=1>
<DBOUTPUT QUERY="SERVICE">
<option>#CHOICE#
</DBOUTPUT>
</select>

```

```

</td></tr>
<tr><td><font size=3>Admission Reason</font></td>
<td><font size=5><select name="ADREASON">
<DBOUTPUT QUERY="Reason">
<option>#CHOICE#
</DBOUTPUT>
</select></font></td><td><font size=3>Service Att:</font></td><td><font
size=3>
<select name="ATTENDIN" size=1>
<DBOUTPUT QUERY="ATTENDIN">
<option>#CHOICE#
</DBOUTPUT>
</select></font></td></tr>
<tr><td><font size=3>Trauma</font></td><td><INPUT TYPE="RADIO"
NAME="TRAUMA" VALUE="Y">Yes<INPUT TYPE="RADIO" NAME="TRAUMA" VALUE="N"
CHECKED>No

</td><td>
DNR:</td><td><select name="CODESTATUS" size=1>
<DBOUTPUT QUERY="DNR">
<option>#CHOICE#
</DBOUTPUT>
</select></td></tr>
</table>

</table><input type = "hidden" name = screen value = "addemo">
<input type = "hidden" Name = KNUMBER value =
<DBOUTPUT>#KNUMBER#</DBOUTPUT>>
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#url.todaydat#</DBOUTPUT>">
<input type="hidden" name=DAYKEY
value="<DBOUTPUT>#url.daykey#</DBOUTPUT>">

</form>
</body>

</html>

```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--           The ICUBase (Second) Demographics Screen      -->
<!--                                     -->
<!--           This demographics screen is provided for subsequent -->
<!--           entris of patient demographics.  It is not provided -->
<!--           in the Progress Note state, however. Demographics can -->
<!--           therefore only be entered under the "New Patient" state-->
<!--           Dropdown boxes are generated from the POPUP table    -->
<!--           in the database with current entries defaulted to the -->
<!--           top.                                                -->
<!--                                     -->
<!--           Written By Joe Mirrow                             -->
<!--                                     -->
<!--           filename: demo4.dbm                               -->
<!--                                     -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<DBQUERY NAME="DNR" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='DNR' ORDER by CHOICE; ">

<DBQUERY NAME="Race" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='RACE'; ">

<DBQUERY NAME="Admit" DATASOURCE="ICUBase"
  SQL = "SELECT POPUP.CHOICE, POPUP.DESCR FROM POPUP WHERE
(POPUP.FIELD='ADMITYPE') ORDER BY POPUP.CHOICE; ">

<DBQUERY NAME="CHREVAL" DATASOURCE="ICUBase"
  SQL = "SELECT POPUP.CHOICE, POPUP.DESCR FROM POPUP WHERE
POPUP.FIELD='CHREVAL' order by POPUP.DESCR; ">

<DBQUERY NAME="Reason" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ADREASON' ORDER BY
CHOICE; ">

<DBQUERY NAME="ICU" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ICU' ORDER BY CHOICE; ">

<DBQUERY NAME="ATTENDIN" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ATTENDIN' ORDER BY
CHOICE; ">

<DBQUERY NAME="SERVICE" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='SERVICE' ORDER BY CHOICE;
">

<DBQUERY Name="ADMDC" DATASOURCE="ICUBase"
  SQL= "SELECT * from ADMDC WHERE KNUMBER=#url.KNUMBER#">

<DBQUERY Name="PATIENT" DATASOURCE="ICUBase"
  SQL= "SELECT * from PATIENT WHERE UNITNUM='#url.UNITNUM#'">

<DBQUERY Name="DNR2" DATASOURCE = "ICUBase"
  SQL = "SELECT DNR from DAILY WHERE TODAYDAT='#url.TODAYDAT#' and
KNUMBER=#url.KNUMBER#">

```

```

<DBQUERY NAME="Health" DATASOURCE="ICUBase"
  SQL = "SELECT DESCR FROM POPUP WHERE (POPUP.FIELD='CHREVAL' AND
POPUP.CHOICE = '#ADMDC.CHREVAL#'); ">

<DBQUERY NAME="Admittyp" DATASOURCE="ICUBase"
  SQL = "SELECT DESCR FROM POPUP WHERE (POPUP.FIELD='ADMITYPE' AND
POPUP.CHOICE = '#ADMDC.ADMITYPE#'); ">

<html>

<head>
<title>Admission Demographics Screen</title>
</head>

<body bgcolor=#ffffff>

<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%><tr><td width=20%><font size=3>Last
Name:</font></td><td width=20%><font size=3>First Name:</font></td><td
width=20%><font size=3>Unit #:</font></td><td width=20%><font
size=3>Admitted to Hospital:</font></td><td width=20%><font
size=3>Admitted to ICU:</font></td></tr>
<DBOUTPUT>
<tr><td><font size=5><input type=text size=15 maxlength=15 name="LNAME"
value="#patient.LNAME#"></font></td><td><font size=5><input type=text
size=15 maxlength=15 name="FNAME"
value="#patient.FNAME#"></font></td><td><font size=5><input type=text
size=12 maxlength=12 name="UNITNUM"
value="#patient.UNITNUM#"></font></td><td><font size=5><input type=text
size=8 maxlength=8 name="H_ADMDAT"
value="#Dateformat(admdc.H_ADMDAT)#"></font></td><td><font size=5><input
type=text size=8 maxlength=8 name="ADMDATE"
value="#Dateformat(admdc.ADMDATE)#"></font></td></tr>
</table>
<table width=100%>
<tr><td valign=top width=25%><font size=3>Date of Birth:</font><font
size=5><input type=text size=8 maxlength=8 name="DOB"
value="#Dateformat(patient.DOB)#"></font></td><td valign=top
width=25%><font size=3>Race:</font>
<select name="RACE">
<option> #patient.RACE#
</DBOUTPUT>
<DBOUTPUT QUERY="Race">
<option>#CHOICE#
</DBOUTPUT>
</select></font></td><td valign=top width=25%><font
size=3>Gender:</font><font size=5>
<select name="SEX" size=1>
<DBOUTPUT QUERY="PATIENT">
<OPTION> #SEX#
</DBOUTPUT>
<option>M</option>
<option>F</option>
</select></font></td></tr>
</table>

<table width=100% border=1>
<tr><td><font size=3>Chronic Health Eval</font></td><td><font size=5>

```

```

<select name="CHREVAL" size=1>
<DBOUTPUT QUERY="Health">
<OPTION> #DESCR#
</DBOUTPUT>
<DBOUTPUT QUERY="CHREVAL">
<option>#DESCR#
</DBOUTPUT>
</select></font></td>
<td><font size=3>ICU:</font></td><td><font size=5>
<select name="ICU">
<DBOUTPUT QUERY="ADMDC">
<OPTION> #ICU#
</DBOUTPUT>
<DBOUTPUT QUERY="ICU">
<option>#CHOICE#
</DBOUTPUT>
</select>
</font></td></tr>
<tr><td><font size=3>Admit Type</font></td><td><font size=5>
<select name="ADMITYPE">
<DBOUTPUT QUERY="Admittyp">
<OPTION> #DESCR#
</DBOUTPUT>
<DBOUTPUT QUERY="Admit">
<option>#DESCR#
</DBOUTPUT>
</select></font></td><td><font size=3>Service:</font></td><td>
<select name="service" size=1>
<DBOUTPUT QUERY="ADMDC">
<OPTION> #SERVICE#
</DBOUTPUT>
<DBOUTPUT QUERY="SERVICE">
<option>#CHOICE#
</DBOUTPUT>
</select>
</td></tr>
<tr><td><font size=3>Admission Reason</font></td>
<td><font size=5><select name="ADREASON">
<DBOUTPUT QUERY="ADMDC">
<OPTION> #ADREASON#
</DBOUTPUT>
<DBOUTPUT QUERY="Reason">
<option>#CHOICE#
</DBOUTPUT>
</select></font></td><td><font size=3>Service Att:</font></td><td><font
size=5>
<select name="ATTENDIN" size=1>
<DBOUTPUT QUERY="ADMDC">
<OPTION> #SVCATT#
</DBOUTPUT>
<DBOUTPUT QUERY="ATTENDIN">
<option>#CHOICE#
</DBOUTPUT>
</select></font></td></tr>
<tr><td><font size=3>Trauma</font></td>
<td><DBIF #ADMDC.TRAUMA# IS NOT "Y">
<td><INPUT TYPE="RADIO" NAME="TRAUMA" VALUE="Y">Yes<INPUT
TYPE="RADIO" NAME="TRAUMA" VALUE="N" CHECKED>No</td>
<DBELSE>

```

```

        <td><INPUT TYPE="RADIO" NAME="TRAUMA" VALUE="Y" CHECKED>Yes<INPUT
TYPE="RADIO" NAME="TRAUMA" VALUE="N">No</td>
</DBIF>

<td>
DNR:</td><td><select name="CODESTATUS" size=1>
<DBOUTPUT QUERY="DNR2">
<OPTION>#DNR#
</DBOUTPUT>
<DBOUTPUT QUERY="DNR">
<option>#CHOICE#
</DBOUTPUT>
</select></td>
</tr>
</table>
<input type = "hidden" name = screen value = "addemol">
<input type = "hidden" Name = KNUMBER value =
"<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>">
</form>
</body>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Discharge Screen -->
<!-- -->
<!-- The discharge screen is provided for state 3 of the -->
<!-- application where users can discharge a patient from -->
<!-- the system. The discharge screen uses the addischarge -->
<!-- sub-form processor to process the data collected. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: discharge.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">
<html>

<head>
<title>Discharge Screen</title>

</head>

<DBQUERY NAME="PATIENT" DATASOURCE="ICUBase"
  SQL = "SELECT LNAME,FNAME FROM PATIENT WHERE UNITNUM='#url.UNITNUM#'">

<DBQUERY NAME="ADMDAT" DATASOURCE = "ICUBASE"
  SQL = "SELECT H_ADMDAT from ADMDC where KNUMBER=#url.KNUMBER#">

<DBQUERY NAME="DISPOSIT" DATASOURCE="ICUBase"
  SQL = "SELECT DESCR FROM POPUP WHERE FIELD='DISPOSIT'">

<DBQUERY NAME="ASA" DATASOURCE="ICUBase"
  SQL = "SELECT DESCR FROM POPUP WHERE FIELD='ASA_CLASS'">

<DBQUERY Name="CheckActive" DATASOURCE="ICUBase"
  SQL = "select total=count(*) from MASTERPROBLEMS where
  KNUMBER=#KNUMBER#
  and ACTIVE='Y' and ADMDIS='A'">

<DBQUERY Name="CheckInactive" DATASOURCE="ICUBase"
  SQL = "select total=count(*) from MASTERPROBLEMS where
  KNUMBER=#KNUMBER#
  and ACTIVE='Y' and ADMDIS=null">

<DBQUERY Name="CheckProcs" DATASOURCE="ICUBase"
  SQL = "select total=count(*) from PROCS where KNUMBER=#KNUMBER# and
  UNITNUM='#unitnum#'">

<SCRIPT>
function editproblem(codenum,problemnumber){

newlocation = "/scripts/dbml.exe?template=icubase/problem2.dbm&KNUMBER="
+ parent.GetCookie("KNUMBER") +
  "&todaydat=" + parent.GetCookie("TODAYDAT") +
  "&unitnum=" + parent.GetCookie("UNITNUM") +
  "&daykey=" + parent.GetCookie("DAYKEY") +

```

```

"&probnum=" + problemnumber + "&dcode=" + codenumber +
"&problem=";
//alert("codenumber= " + codenumber + "and problemnumber= " +
problemnumber);
parent.right.location = newlocation;
}
</SCRIPT>

```

```

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table border=1 width=100%><TR><TD width=50%>
<DBIF #checkActive.total# is NOT "0">

<DBQUERY Name="printactive" DATASOURCE = "ICUBASE"
SQL= "SELECT KNUMBER,UNITNUM, PATIENTPROBNUMBER, ICD9CODE,
LastUpdated, Descr, ACTIVE, OnsetDate, EndDate
FROM MASTERPROBLEMS WHERE (((MASTERPROBLEMS.UNITNUM)='#UNITNUM#') AND
((MASTERPROBLEMS.ACTIVE)='Y'))">

```

<h3>Admission Problem List</h3>

```

<TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=100% BORDER=0><tr>
<td width=10%></td>
<TD width=60%>Problem</TD>
<TD width=10%>Onset Date</TD>
<TD width=10%>Last Updated
</TD>

```

```

</tr>
<DBOUTPUT QUERY="printactive">
<TR>
<td width=10%><INPUT TYPE="Button" value="Edit"
onClick="editproblem('#ICD9CODE#','#PATIENTPROBNUMBER#')"></td>
<TD width=60%> #DESCR#</TD>
<TD width=10%> #DateFormat(ONSETDATE)#</TD>
<TD width=10%> #DateFormat(LastUpdated)#</TD>

```

```

</TR>
</DBOUTPUT>
</TABLE>

```

```

<DBELSE>
<h3>No Admission Problem List</h3>
</DBIF></TD>
<TD WIDTH=50%>
<DBIF #CheckInactive.total# is NOT "0">
<DBQUERY Name="printinactive" DATASOURCE = "ICUBASE"
SQL= "SELECT KNUMBER,UNITNUM, PATIENTPROBNUMBER, ICD9CODE,
LastUpdated, Descr, ACTIVE, OnsetDate, EndDate
FROM MASTERPROBLEMS WHERE (((MASTERPROBLEMS.UNITNUM)='#UNITNUM#') AND
((MASTERPROBLEMS.ACTIVE)='N'))">

```

<h3>Discharge Problem List</h3>

```

        <TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=100% BORDER=0><tr>
        <td width=10%></td>
        <TD width=60%>Problem</TD>
        <TD width=10%>End Date</TD>
        <TD width=10%>Last Updated</TD>
</tr>
<DBOUTPUT QUERY="printinactive">
<TR>
        <td width=10%><INPUT TYPE="Button" VALUE="Edit"
onClick="editproblem('#ICD9CODE#','#PATIENTPROBNUMBER#')"></td>
        <TD width=60%>#DESCR#</TD>
        <TD width=10%> #DateFormat(ENDDate)#</TD>
        <TD width=10%> #DateFormat(LastUpdated)#</TD>
</TR>
</DBOUTPUT>
</TABLE>
<DBELSE>
<h3>No Discharge Problems</h3>
</DBIF></TD></TR>

<tr><td width=50%>
<DBIF #Checkprocs.total# is NOT "0">

<DBQUERY Name="printactive2" DATASOURCE = "ICUBASE"
        SQL= "SELECT * from PROCS WHERE KNUMBER=#KNUMBER# and
UNITNUM='#unitnum#'">

<h3>Procedure List</h3>

        <TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=60% BORDER=0><tr>
        <TD width=50%>Procedure</TD>
        <TD width=10%>Reference</TD>
        <TD width=20% align=right>Procedure Date</TD>
</TD>

</tr>
<DBOUTPUT QUERY="printactive2">
<TR>
        <TD width=50%>#PNAME#</TD>
        <TD width =10%><a
href="http://ovid.med.unc.edu:8888/ovidweb/ovidweb.cgi">Reference</a>
</TD>
        <TD width=20% align=right> #DateFormat(PROCDATE)#</TD>
</TR>
</DBOUTPUT>
</table>

<DBELSE>
<h3>No Procedures Documented</h3>
</DBIF>

</td>
<td width=50%><table width=100%>
<tr><td align=right width=33%> </td><td width=33%> </td></tr>

```

```

<tr><td align=right width=33%> ICU Outcome </td><td width=33%> <input
type=radio name="OUTCOME" value="A" CHECKED>Alive <input type=radio
name="OUTCOME" value="D"> Dead </td></tr>
<tr><td align=right width=33%> ICU Disposition </td><td width=33%>
<select name="DISPOSIT">
<DBOUTPUT QUERY="DISPOSIT">
<option>#DESCR#
</DBOUTPUT>
</select></td></tr>
<tr><td align=right width=33%> ICU D/C Date </td><td width=33%> <input
type=text VALUE="<DBOUTPUT>#Dateformat(url.todaydat)#</DBOUTPUT>" size=8
maxlength=8 name="DCDATE"> </td></tr>
<tr><td align=right> ICU days </td><td> <input type=text size=4
maxlength=4 name="NICUDAYS"> </td></tr>
</table>
</td></tr>
<tr><td width=50%><table width=100%>
<tr><td width=50%> <td align=center width=50%> ASA Class </td></tr>
<tr><td width=50%> <td width=50%> <select name="ASA">
<DBOUTPUT QUERY="ASA">
<option>#DESCR#
</DBOUTPUT>
</select> </td></tr>
</table>
</td><td width=50%><table width=100%>
<tr><td align=center width=100%> Hospital Outcome </td></tr>
<tr><td width=100%> <input type=radio name="H_OUTCOME" value="A"
CHECKED>Alive <input type=radio name="H_OUTCOME" value="D"> Dead <input
type=radio name="H_OUTCOME" value="U"> Unknown </td></tr>
</table>
</td></tr>
<tr><td width=50%><table width=100%>
<tr><td width=50%> Name: <DBOUTPUT>#patient.LNAME#,
#patient.FNAME#</DBOUTPUT> </td><td width=50%> Admit Date: 06/06/96
</td></tr>
<tr><td width=50%> ID#: <DBOUTPUT>#url.UNITNUM#</DBOUTPUT> </td><td
width=50%> </td></tr>
</table>
</td><td width=50%><table width=100%>
<tr><td width=50%> Hospital D/C Date </td><td width=50%> <input
type=text size=8 maxlength=8 name="H_DCDATE"> </td></tr>
<tr><td width=50%> Hospital Days </td><td width=50%><input type=text
size=4 maxlength=4 name="NHOSPDAYS"></td></tr>
</table>
</td></tr>
</table>
<input type="hidden" name=KNUMBER
value="<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>">
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#url.TODAYDAT#</DBOUTPUT>">
<input type="hidden" name=UNITNUM
value="<DBOUTPUT>#url.UNITNUM#</DBOUTPUT>">
<input type="hidden" name=DAYKEY
value="<DBOUTPUT>#url.DAYKEY#</DBOUTPUT>">
<input type="hidden" name=screen value="addischarge">
</form>
</body>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase History and Physical Exam Screen -->
<!-- -->
<!-- The history and physical exam screen is provided for -->
<!-- subjective assessment of the patient on a daily basis. -->
<!-- The data input into this screen is defaulted to any -->
<!-- text entered on the current day for the particular -->
<!-- patient. If no text is entered, then they are blank. -->
<!-- The Glasgow coma score is calculated from numeric data -->
<!-- entered on this page. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: history1.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<head>
<title>Patient History Screen</title>
</head>

<dbQUERY Name="patient" DATASOURCE="ICUBase"
  SQL = "Select patient.fname, patient.lname, patient.unitnum,
patient.age, admcdc.knumber
  from patient,admcdc WHERE admcdc.knumber = #url.KNUMBER#
  and patient.unitnum = admcdc.unitnum"></dbquery>

<dbquery Name="daily" Datasource = "ICUBase"
  SQL = "select daily.physexam, daily.subjective, daily.meds,
daily.gcseye,
  daily.gcsmotor, daily.gcsverbal from daily,admcdc where
daily.knumber=admcdc.knumber
  and admcdc.knumber = #url.KNUMBER# and daily.todaydat =
'#url.todaydat#'"></dbquery>

<body bgcolor=#ffffff>

<DBOUTPUT>

<table width = 100%><tr><td width =33%>Patient Name: #patient.FNAME#
#patient.LNAME#</td><td width =33%>Age: #patient.AGE#</td><td width =
33%>ID Number: #patient.UNITNUM#</td></tr>
</table>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%>
<tr><td width=8%><font size=3>Subjective:</font></td><td width=30%><font
size=5><textarea name="SUBJECTIVE" rows=2 cols=60 hscroll="off"
wrap>#daily.SUBJECTIVE#</textarea></font></td></tr>

```

```

<tr><td width=8%><font size=3>Physical Exam:</font></td><td><font
size=5><textarea name="PHYSEXAM" rows=2 cols=60 hscroll="off"
wrap>#daily.PHYSEXAM#</textarea></font></td></tr>
</table>
<table width=100%>
<tr><td valign=bottom width=20%><font size=3>Glasgow Coma
Scale</font></td><td width=20%><font size=3>Eye:</font><font size=5>
<input type=text size=2 maxlength=1 name="GCSEYE"
value="#daily.GCSEYE#"></font></td><td width=20%><font
size=3>Verbal:</font><font size=5> <input type=text size=2 maxlength=1
name="GCSVERBAL" value="#daily.GCSVERBAL#"></font></td><td
width=20%><font size=3>Motor: </font><font size=5><input type=text
size=2 maxlength=1 name="GCSMOTOR"
value="#daily.GCSMOTOR#"></font></td><td width=20%></td></tr>
</table>
<table width=100%>
<tr><td width=8%><font size=3>Medications:</font></td><td
width=50%><font size=3><textarea name="MEDS" rows=2 cols=60
hscroll="off" wrap>#daily.MEDS#</textarea></font></td></tr>
</table></DBOUTPUT>

<input type="hidden" name=KNUMBER
value="<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>">
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#url.todaydat#</DBOUTPUT>">
<input type="hidden" name=UNITNUM
value="<DBOUTPUT>#url.unitnum#</DBOUTPUT>">
<input type="hidden" name=DAYKEY
value="<DBOUTPUT>#url.daykey#</DBOUTPUT>">

<input type="hidden" name=screen value="adhistory"
</form>
</body>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Main Screen -->
<!-- -->
<!-- The ICUBase main screen consists of two frames and -->
<!-- several Javascript(TM) functions described in the -->
<!-- accompanying documentation. The left frame is the -->
<!-- menu system which uses the "cookie" functions below -->
<!-- to store navigation information for the application. -->
<!-- The right screen contains data input forms for text -->
<!-- processing. This document is known as Parent. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: icubase.html -->
<!-- -->
<!------->
<html>
<title>ICUBase</title>
<!--<META HTTP-EQUIV="Pragma" CONTENT="no-cache">-->
<script>
    // Public domain cookie functions. They come from Bill Dortch of
    // hIdaho Design.
    function getCookieVal (offset)
    {
        var endstr = document.cookie.indexOf (";", offset);
        if (endstr == -1)
            endstr = document.cookie.length;
        return unescape(document.cookie.substring(offset, endstr));
    }

    // - - - - - Get Value of Cookie - - - - -

    function GetCookie (name)
    {
        var arg = name + "=";
        var alen = arg.length;
        var clen = document.cookie.length;
        var i = 0;

        while (i < clen)
        {
            var j = i + alen;
            if (document.cookie.substring(i, j) == arg)
                return getCookieVal (j);
            i = document.cookie.indexOf(" ", i) + 1;
            if (i == 0) break;
        }

        return null;
    }

    // - - - - - Set Value of Cookie - - - - -

    function SetCookie (name, value)
    {
        var argv = SetCookie.arguments;
        var argc = SetCookie.arguments.length;

```

```

var expires = (argc > 2) ? argv[2] : null;
var path = (argc > 3) ? argv[3] : null;
var domain = (argc > 4) ? argv[4] : null;
var secure = (argc > 5) ? argv[5] : false;

document.cookie = name + "=" + escape (value) +
    ((expires == null) ? "" : ("; expires=" +
expires.toGMTString())) +
    ((path == null) ? "" : ("; path=" + path)) +
    ((domain == null) ? "" : ("; domain=" + domain)) +
    ((secure == true) ? "; secure" : "");
}

// function parser is a generic parse routine taken from
// the JavaScript SourceBook, Gordon McComb p. 543.
function parser (inString, sep)
{
    var numSeps = 1;
    var parse = new Object();
    var count = 1;
    var parseString = inString.toString();

    for (count = 1; count < parseString.length; count++)
    {
        if (inString.charAt(count) == sep)
            numSeps++;
    }

    var start = 0; count = 1; var parseMark = 0; var loopCtrl = 1;

    while (loopCtrl == 1)
    {
        parseMark = parseString.indexOf(sep, parseMark);
        testMark = parseMark;

        if ( (testMark == 0) || (testMark == -1))
        {
            parse[count] = parseString.substring(start,
parseString.length);
            loopCtrl = 0;
            break;
        }

        parse[count] = parseString.substring(start, parseMark);
        start = parseMark + 1;
        parseMark = start;
        count++;
    }
}

function opencode(){
windcode =
window.open("http://chimera.med.unc.edu/scripts/dbml.exe?template=icubas
e/dcode.htm","windcode1");

    if (windcode != null) {

        if (windcode.creator == null) { // the creator stuff is here so,
this work

```

```

// with older netscape browsers. ie
2.x
    windcode.creator = self;
    windcode.opener = self;    // what you really use on the
other page.
    }
}

function opendcodesearch(dcodetext){
var wintext =
"http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/dcodesearch.htm&problem=" + escape(dcodetext) +
    "&KNUMBER=" + parent.GetCookie("KNUMBER") + "&todaydat="
+ parent.GetCookie("TODAYDAT") +
    "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
+ parent.GetCookie("DAYKEY");
windcode = window.open(wintext, "windcode1");

    if (windcode != null) {

        if (windcode.creator == null) {    // the creator stuff is here so,
this work
// with older netscape browsers. ie
2.x
            windcode.creator = self;
            windcode.opener = self;    // what you really use on the
other page.
            }
        }

function openpcode(){
windcode =
window.open("http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/pcode.htm", "windcode1");

    if (windcode != null) {

        if (windcode.creator == null) {    // the creator stuff is here so,
this work
// with older netscape browsers. ie
2.x
            windcode.creator = self;
            windcode.opener = self;    // what you really use on the
other page.
            }
        }

function advanceframe1(dcode){
    parent.right.advanceframe(dcode);
}

function DeleteNavs(){
for (i=1; i<6; i++){
ButtonText = 'button[' + i + ']';
NavText = 'nav[' + i + ']';
SetCookie(ButtonText, false);

```

```

SetCookie(NavText, false);
}
}

function GetNumber(){
for (i=1;i<6;i++){
ButtonText = 'button[' + i + ']';
Button = parent.GetCookie(ButtonText);
if (Button == "true"){
parent.SetCookie("number", i);
}
}
}

function resetbutton(){
for (i=1; i<6; i++){
ButtonText = "button[" + i + "]";
parent.SetCookie(ButtonText, false);
}
}

function resetnav(){
for (i=1; i<6; i++){
NavText = "nav[" + i + "]";
parent.SetCookie(NavText, false);
}
}

screen = new Array(6);

screen[1]="demo4.dbm";
screen[2]="history1.dbm";
screen[3]="vitals1.dbm";
screen[4]="procedure1.dbm";
screen[5]="problem1.dbm";
screen[6]="welcome.dbm";

mousetext = new Array(6);
mousetext[1] = 'Enter Patient Demographics'
mousetext[2] = 'Enter Patient History and Assessment'
mousetext[3] = 'Enter Patient Vital Signs'
mousetext[4] = 'Enter Patient Procedures'
mousetext[5] = 'Enter Patient Problem List'
mousetext[6] = 'Quit'

function checkDate(){
month = "";
day = "";
year = "";
datestring = '1/30/94';
slen = datestring.length;
first = (datestring.indexOf('/') != -1) ? datestring.indexOf('/') + 1 :
0;
second = (datestring.lastIndexOf('/') != -1) ?
datestring.lastIndexOf('/') + 1 : 8;
for (i=0; i<first -1; i++){
month = month + datestring.charAt(i);
}
for (i=first; i<second -1;i++){
day = day + datestring.charAt(i);
}
}

```

```

    }
    for (i=second; i<datestring.length; i++){
    year = year + datestring.charAt(i);
    }
    islegal = (parseInt(month) <13 && parseInt(month) > 0 && parseInt(day)>0
    && parseInt(day)<32) ? true: false;

    islegal = (islegal && parseInt(month) != 1 && parseInt(month) != 3 &&
    parseInt(month) != 5 && parseInt(month) != 7 && parseInt(month) != 8 &&
    parseInt(month) != 10 && parseInt(month) != 12 && parseInt(day)<31) ?
    true: false;

    islegal2 = (islegal && parseInt(month)==2 && parseInt(day) < 30) ? true
    : false;
    //alert(islegal);
    //alert(islegal2);
    isLeap = (parseInt(year)%4==0)? true: false;
    islegal2 = (islegal2 && parseInt(month)==2 && !isLeap && parseInt(day) <
    29) ? true: false;
    islegal = (islegal || islegal2)?true:false;
    isDate = (first != 2 && first != 3) ? false: true;
    isDate2 = (second != 4 && second != 5 && second != 6) ? false: true;
    isDate = (isDate && isDate2 && second-first<4 && Date.parse(datestring)
    !=0 && islegal) ? true: false;
    titles = Date.parse(datestring);
    alert(isDate);}
</script>

<frameset COLS='75,*' >
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/select
.dbm' name='left' MARGINWIDTH=0 MARGINHEIGHT=0 scrolling='no' NORESIZE
border=0>
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/welcom
e.dbm' name='right' MARGINWIDTH=0 MARGINHEIGHT=0 border=0>
</frameset>

<body bgcolor=#ffffff>
<h1><A
href="http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/icuba
se.html" target="ICUBase">Click here to re-start ICUBase</a>
</body>

</html>

```

```

<!------->
<!--
<!--
<!--      The ICUBase Lines Screen
<!--
<!--      The liness screen is not used
<!--      in the ICUBase project because
<!--      they are now included with the procedures list
<!--
<!--      Written By Joe Mirrow
<!--
<!--      filename: lines.dbm
<!--
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<head>
<title>Daily Lines and Procedures Screen</title>
</head>

<DBQUERY NAME="patient" DATASOURCE="ICUBase"
  SQL = "SELECT FNAME,LNAME,UNITNUM,ADMDATE, H_ADMDAT FROM ADMDC WHERE
(KNUMBER=#url.id#); ">

<DBQUERY Name="FINDLines" DATASOURCE="ICUBase"
  SQL = "SELECT * FROM DAILY WHERE KNUMBER=#url.id#">

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%>
<DBOUTPUT QUERY="patient">
<tr><td width=25%>Patient: #FNAME# #LNAME#</td><td width=25%>Unit ##:
#UNITNUM#</td><td width=25%>Admitted to Hospital:
#DateFormat(H_ADMDAT)#</td><td width=25%>ICU Date:
#DateFormat(ADMDATE)#</td></tr>
</DBOUTPUT></table>
<table border=1 width=100%>
<tr><td width=50%><strong>Lines in Place</strong></td><td
width=50%><strong>Procedures Performed</strong></td></tr>
<tr><td align=center width=50%><table width=100%>

<DBIF #FINDLines.ALINE# IS NOT "Y">
  <tr><td align=right width=25%>Arterial</td><td align=center
width=50%><input type=checkbox name="ALINE" ></td></tr>
<DBELSE>
  <tr><td align=right width=25%>Arterial</td><td align=center
width=50%><input type=checkbox name="ALINE" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.CVPLINE# IS NOT "Y">
  <tr><td align=right width=50%>CVP</td><td align=center
width=25%><input type=checkbox name="CVPLINE" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>CVP</td><td align=center
width=25%><input type=checkbox name="CVPLINE" CHECKED></td></tr>
</DBIF>

```

```

<DBIF #FINDLines.LUMEN3# IS NOT "Y">
  <tr><td align=right width=50%>Triple Lumen</td><td align=center
width=25%><input type=checkbox name="LUMEN3" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Triple Lumen</td><td align=center
width=25%><input type=checkbox name="LUMEN3" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.SWANGANZ# IS NOT "Y">
  <tr><td align=right width=50%>Swan-Ganz</td><td align=center
width=25%><input type=checkbox name="SWANGANZ" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Swan-Ganz</td><td align=center
width=25%><input type=checkbox name="SWANGANZ" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.ICPMONIT# IS NOT "Y">
  <tr><td align=right width=50%>ICP Monitor</td><td align=center
width=25%><input type=checkbox name="ICPMONIT" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>ICP Monitor</td><td align=center
width=25%><input type=checkbox name="ICPMONIT" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.CHESTTUBE# IS NOT "Y">
  <tr><td align=right width=50%>Chest Tube</td><td align=center
width=25%><input type=checkbox name="CHESTTUBE" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Chest Tube</td><td align=center
width=25%><input type=checkbox name="CHESTTUBE" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.EPIDURAL# IS NOT "Y">
  <tr><td align=right width=50%>Epidural</td><td align=center
width=25%><input type=checkbox name="EPIDURAL" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Epidural</td><td align=center
width=25%><input type=checkbox name="EPIDURAL" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.ETT_TRACH# IS NOT "Y">
  <tr><td align=right width=50%>EtTube/Trach</td><td align=center
width=25%><input type=checkbox name="ETT_TRACH" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>EtTube/Trach</td><td align=center
width=25%><input type=checkbox name="ETT_TRACH" CHECKED></td></tr>
</DBIF>

</table>
</td><td align=center width=50%><table width=100%>

<DBIF #FINDLines.PROALINE# IS NOT "Y">
  <tr><td align=right width=50%>Arterial Line</td><td align=center
width=50%><input type=checkbox name="PROALINE" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Arterial Line</td><td align=center
width=50%><input type=checkbox name="PROALINE" CHECKED></td></tr>
</DBIF>

```

```

<DBIF #FINDLines.PROCVP# IS NOT "Y">
  <tr><td align=right width=50%>CVP Line</td><td align=center
width=50%><input type=checkbox name="PROCVP" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>CVP Line</td><td align=center
width=50%><input type=checkbox name="PROCVP" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.PRO3LUMN# IS NOT "Y">
  <tr><td align=right width=50%>Triple Lumen</td><td align=center
width=50%><input type=checkbox name="PRO3LUMN" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Triple Lumen</td><td align=center
width=50%><input type=checkbox name="PRO3LUMN" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.PROSWAN# IS NOT "Y">
  <tr><td align=right width=50%>Swan-Ganz</td><td align=center
width=50%><input type=checkbox name="PROSWAN" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Swan-Ganz</td><td align=center
width=50%><input type=checkbox name="PROSWAN" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.PROICPMO# IS NOT "Y">
  <tr><td align=right width=50%>ICP Monitor</td><td align=center
width=50%><input type=checkbox name="PROICPMO" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>ICP Monitor</td><td align=center
width=50%><input type=checkbox name="PROICPMO" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.PROCHESTTU# IS NOT "Y">
  <tr><td align=right width=50%>Chest Tube</td><td align=center><input
type=checkbox name="PROCHESTTU" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Chest Tube</td><td align=center><input
type=checkbox name="PROCHESTTU" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.PROEPIDURA# IS NOT "Y">
  <tr><td align=right width=50%>Epidural</td><td align=center
width=50%><input type=checkbox name="PROEPIDURA" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Epidural</td><td align=center
width=50%><input type=checkbox name="PROEPIDURA" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.PROINTUBAT# IS NOT "Y">
  <tr><td align=right width=50%>Intubation</td><td align=center
width=50%><input type=checkbox name="PROINTUBAT" ></td></tr>
<DBELSE>
  <tr><td align=right width=50%>Intubation</td><td align=center
width=50%><input type=checkbox name="PROINTUBAT" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.DIALYSIS# IS NOT "Y">
  <tr><td align=right width=50%>Dialysis</td><td align=center
width=50%><input type=checkbox name="DIALYSIS" ></td></tr>
<DBELSE>

```

```

    <tr><td align=right width=50%>Dialysis</td><td align=center
width=50%><input type=checkbox name="DIALYSIS" CHECKED></td></tr>
</DBIF>

<DBIF #FINDLines.ENDOSCOPY# IS NOT "Y">
    <tr><td align=right width=50%>Endoscopy</td><td align=center
width=50%><input type=checkbox name="ENDOSCOPY" ></td></tr>
<DBELSE>
    <tr><td align=right width=50%>Endoscopy</td><td align=center
width=50%><input type=checkbox name="ENDOSCOPY" CHECKED></td></tr>
</DBIF>

</table>
</td></tr>
</table>

<input type="hidden" name=KNUMBER value="<DBOUTPUT>#url.id#</DBOUTPUT>">
<input type="hidden" name=screen value="adlines"></form>
</body>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Navigation Screen -->
<!-- -->
<!-- The ICUBase navigation screen is fairly simple to -->
<!-- understand. The buttons are written as up, down, -->
<!-- visited (t) or not (f) depending on the cookie button -->
<!-- states. Each button is processed and displayed. -->
<!-- Once a user clicks on a new screen, the form on the -->
<!-- right is submitted and the nav form calls itself with -->
<!-- the new data and waits for the new right screen. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: nav.dbm -->
<!-- -->
<!------->
<html>
<title>Selection of Admission or Progress Note</title>
<script>

function written(){

count = (parent.GetCookie("state") == "2") ? 2 : 1;
if (parent.GetCookie("state") == "3"){count=6};

for (i=count; i<6; i++){
ButtonText = 'button[' + i + ']';
NavText = 'nav[' + i + ']';
Button = parent.GetCookie(ButtonText);
Nav = parent.GetCookie(NavText);
newmousetext = "" + parent.mousetext[i] + "";

if (Button=="false" && Nav=="false"){
document.write('<tr><td><A HREF="javascript:changeState(' + this.i + ')"
onMouseOver="parent.window.status=' + newmousetext + ';return
true;"><IMG SRC="http://chimera.med.unc.edu/icubase/' + this.i +
'uf.gif" BORDER=0></A></td></tr>')
}
else if (Button=="true" && Nav=="false"){
document.write('<tr><td><A HREF="javascript:changeState(' + this.i + ')"
onMouseOver="parent.window.status=' + newmousetext + ';return
true;"><IMG SRC="http://chimera.med.unc.edu/icubase/' + this.i +
'df.gif" BORDER=0></A></td></tr>')
}
else if (Button=="false" && Nav=="true"){
document.write('<tr><td><A HREF="javascript:changeState(' + this.i + ')"
onMouseOver="parent.window.status=' + newmousetext + ';return
true;"><IMG SRC="http://chimera.med.unc.edu/icubase/' + this.i +
'ut.gif" BORDER=0></A></td></tr>')
}
else if (Button=="true" && Nav=="true"){
document.write('<tr><td><A HREF="javascript:changeState(' + this.i + ')"
onMouseOver="parent.window.status=' + newmousetext + ';return
true;"><IMG SRC="http://chimera.med.unc.edu/icubase/' + this.i +
'dt.gif" BORDER=0></A></td></tr>')
}
}
}

```

```

newmousetext = "Return to ICUBase Start Screen";
document.write('<tr><td><A HREF="javascript:changeState(6)"
onMouseOver="parent.window.status=' + newmousetext + '";return
true;"><IMG SRC="http://chimera.med.unc.edu/icubase/done.gif"
BORDER=0></A></td></tr>')
}

```

```

function changeState(theState){
numValue=parseInt(theState,10);

```

```

if (numValue != 6){
  if (numValue == 5){
    parent.SetCookie("problemmove", true);
  }
  if (parent.GetCookie("prevnumValue") == "5"){
    parent.SetCookie("problemmove", false);
  }
  if (numValue == 4){
    parent.SetCookie("procedureremove", true);
  }
  if (parent.GetCookie("prevnumValue") == "4"){
    parent.SetCookie("procedureremove", false);
  }
  //submit the form
  parent.right.document.forms[0].submit();
  //Check to see where you came from
  NavText = "nav[" + parent.GetCookie('prevnumValue') + "]"
  parent.SetCookie(NavText,true);
  //Store the previous button
  parent.SetCookie("prevnumValue", numValue);

  //Call the reset button function to reset all the buttons
  parent.resetbutton();
  //NOW make your button the active button
  ButtonText = "button[" + numValue + "]";
  parent.SetCookie(ButtonText, true);
  parent.GetNumber();

  //Then call this form again to rewrite the page
  parent.left.location="/scripts/dbml.exe?template=icubase/nav.dbm";
}

else if (numValue == 6) {
  parent.SetCookie("state", 0);
  //submit the form
  parent.right.document.forms[0].submit();
  parent.SetCookie("problemmove", false);
  parent.resetbutton();
  parent.resetnav();
  parent.SetCookie("KNUMBER", 0);

  parent.left.location="/scripts/dbml.exe?template=icubase/select.dbm";
}

```

```
}  
</script>  
  
<script>  
<!-- Page Script -->  
var i  
document.write('<body bgcolor=#ffffff>')  
document.write('<table width=70 border=0 marginwidth=0 marginheight=0>')  
  
written()  
  
document.write('</table>')  
document.write('</body>')  
  
</script>  
</html>
```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--      The ICUBase UNC Hospitals Procedure Code Menu      -->
<!--                                     -->
<!--      This screen generates links to procedure codes from the-->
<!--      M_PCODE and PCODE tables in the ICUBASE database.      -->
<!--      Codes are escaped and stored in Javascript (TM)         -->
<!--      variables in the parent document.  Both the text string-->
<!--      and the path are stored in arrays and are called if    -->
<!--      the link is clicked on by the user.                   -->
<!--                                     -->
<!--      Written By Joe Mirrow                                   -->
<!--                                     -->
<!--      filename: pcode.dbm                                    -->
<!--                                     -->
<!------->
<html>

<title>Procedure Codes</title>

<body bgcolor="#ffffff">

<script>

function nextframe(framenumber, pointer, endofc, descr){
var newlocation =
"/scripts/dbml.exe?template=icubase/pcode.dbm&nextpoint=" +
escape(pointer) + "&frame=" + framenumber + "&endofc=" + endofc;
var secondlocation =
"/scripts/dbml.exe?template=icubase/pcode2.dbm&frame=" + framenumber;
frametext = '&nextpoint=' + escape(pointer) + '&frame=' + framenumber +
'&endofc=' + endofc
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = descr;
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

function nextframe2(framenumber, pointer, endofc, full){
if (endofc=="N"){
endofc = "Y";
}

if (endofc == "X"){
parent.cycleopener(pointer);
parent.close();
}

var newlocation =
"/scripts/dbml.exe?template=icubase/pcode.dbm&nextpoint=" +
escape(pointer) + "&frame=" + framenumber + "&endofc=" + endofc;
var secondlocation =
"/scripts/dbml.exe?template=icubase/pcode2.dbm&frame=" + framenumber;
frametext = '&nextpoint=' + escape(pointer) + '&frame=' + framenumber +
'&endofc=' + endofc
parent.frame[framenumbr] = frametext;
parent.frametext[framenumbr] = full;
}

```

```

if (endofc != "X"){
parent.frames[1].location = newlocation;
parent.frames[0].location = secondlocation;
}

}

</script>

<DBSET #TEMPFRAME# = #url.frame#>
<DBSET #NEXTFRAME# = #IncrementValue(TEMPFRAME)#>
<DBQUERY Name="unescape" DATASOURCE="ICUBASE"
    SQL = "unescape '#url.nextpoint#'">

    <DBIF #url.endofc# IS "N">

        <DBQUERY Name="first" DATASOURCE="ICUBase"
            SQL = "select * from MPCODE where POINTER =
'#unescape.nextpoint#'">
            <UL>
                <DBOUTPUT QUERY = "first">
                    <A HREF="javascript:nextframe('#NEXTFRAME#',
'#first.NEXTPOINT#', '#first.ENDOFC#', '#first.DESCR#')">
                        #first.DESCR#</a>
                    <br>
                </DBOUTPUT>
            <DBELSE>
                <DBQUERY Name="second" DATASOURCE="ICUBase"
                    SQL = "select * from PCODE where POINTER =
'#unescape.nextpoint#'">
                    <UL>
                        <DBOUTPUT QUERY = "second">
                            <A
HREF="javascript:nextframe2('#NEXTFRAME#', '#PCODE#', '#ENDOFc#', '#DESCR#
')">
                                #DESCR#</a>
                            <br>
                        </DBOUTPUT>
                    </UL>
                </DBIF>

            </DBIF>

        </DBIF>

    </DBIF>

</body>
</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase UNC Hospitals Procedure Code Menu -->
<!-- -->
<!-- This screen generates procedure code engines from the -->
<!-- M_PCODE and PCODE tables in the ICUBASE database. -->
<!-- This screen is frame opener for the procedure code -->
<!-- screens pcode.dbm and pcode2.dbm -->
<!-- Arrays store frame text and search strings and the -->
<!-- cycleopener function passes the code back to the -->
<!-- html form that opened the coding window -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: pcode.htm -->
<!-- -->
<!------->
<html>
<title>Procedure Codes</title>
<META HTTP-EQUIV="Pragma" CONTENT="no-cache">
<script>
function cycleopener(pcode){
opener.advanceframe1(pcode);
}

frame = new Array(5);
frame[1] = '';
frame[2] = '';
frame[3] = '';
frame[4] = '';
frame[5] = '';

frametext = new Array(5);
frametext[1] = '';
frametext[2] = '';
frametext[3] = '';
frametext[4] = '';
frametext[5] = '';
</script>

<frameset rows="20%,80%">
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/pcode2
.dbm&frame=0' name='pcode2' MARGINWIDTH=0 MARGINHEIGHT=0>
<frame
src='http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/pcode.
dbm&frame=0&nextpoint=STARTUP&endofc=N' name='pcode1' MARGINWIDTH=0
MARGINHEIGHT=0>
</frameset>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase UNC Hospitals Procedure Code Menu -->
<!-- -->
<!-- This screen generates the upper menu system for the -->
<!-- procedures coding engine. To do this, entries from the -->
<!-- lower frame are unescaped and stored in Javascript (TM) -->
<!-- variables in the parent document. Both the text string -->
<!-- and the path are stored in arrays and are called if -->
<!-- the link is clicked on by the user. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: pcode2.dbm -->
<!-- -->
<!------->
<html>
<title>ICD-9 Blank</title>
<body bgcolor="#ffffff">

<script>
function CallSelf(framenumber){
    frameNo = 'frame' + framenumber;

    newlocation = "/scripts/dbml.exe?template=icubase/pcode.dbm" +
    parent.frame[framenum];
    parent.frames[1].location = newlocation;
    newlocation = "/scripts/dbml.exe?template=icubase/pcode2.dbm&frame=" +
    framenumber;
    parent.frames[0].location = newlocation;
}

function WriteFrame(frame){
    parent.frames[0].document.write('<UL><IMG SRC="/icubase/open.gif"
    BORDER=0><a href="/scripts/dbml.exe?template=icubase/pcode.htm"
    target="_top">Procedure Codes</A><UL>');
    for (i=1; i<frame + 1; i++){
        frametext= '<IMG SRC="/icubase/open.gif" BORDER=0><A
        HREF="javascript:CallSelf(' + i + ')">' + parent.frametext[i] +
        '</A><UL>'
        parent.frames[0].document.write(frametext);
    }
}

framenum = <dboutput>#url.frame#</dboutput>;
parent.frames[0].WriteFrame(framenum);
</script>
</body>
</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Problem List Screen 1 -->
<!-- -->
<!-- The problem list screen shows both active and inactive -->
<!-- problems for a current patient. It uses the -->
<!-- MASTERPROBLEMS table to generate each list. The edit -->
<!-- button next to each problem calls problem2.dbm. -->
<!-- An interface to the menu code screen (dcode.htm) and -->
<!-- the soundex search (dcodesearch.dbm) is provided. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: problem1.dbm -->
<!-- -->
<!-- ----->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>
<script>

function editproblem(codenum,problemnum){

newlocation = "/scripts/dbml.exe?template=icubase/problem2.dbm&KNUMBER="
+ parent.GetCookie("KNUMBER") +
      "&todaydat=" + parent.GetCookie("TODAYDAT") +
      "&unitnum=" + parent.GetCookie("UNITNUM") +
      "&daykey=" + parent.GetCookie("DAYKEY") +
      "&probnum=" + problemnum + "&dcode=" + codenum +
      "&problem=";
//alert("codenum= " + codenum + "and problemnum= " +
problemnum);
parent.right.location = newlocation;
}

function getdcode(){
//alert("calling parent");
parent.opendcode();
}

function getsearch(dcodetext){
//alert(dcodetext);
parent.opendcodesearch(dcodetext);
}

function advanceframe(dcode){
newlocation =
"/scripts/dbml.exe?template=icubase/problemprocess2.dbm&newproblem=&dcode="
+ dcode + "&knumber=" + parent.GetCookie("KNUMBER");
parent.right.location = newlocation;
}

</script>

<DBSET #KNUMBER#=#url.KNUMBER#>
<DBSET #todaydat# = #url.todaydat#>
<DBSET #unitnum# = #url.unitnum#>

```

<DBSET #daykey# = #url.daykey#>

<DBQUERY NAME="patient" DATASOURCE="ICUBase"
SQL = "SELECT patient.FNAME, patient.LNAME, admdc.ADMDATE,
admdc.UNITNUM, admdc.H_ADMDAT FROM ADMDC,PATIENT
WHERE ADMDC.KNUMBER=#KNUMBER# and
ADMDC.UNITNUM=Patient.UNITNUM AND ADMDC.UNITNUM = '#UNITNUM#'; ">

<DBQUERY Name="CheckActive" DATASOURCE="ICUBase"
SQL = "select total=count(*) from MASTERPROBLEMS where
KNUMBER=#KNUMBER#
and UNITNUM='#unitnum#' and ACTIVE='Y'">

<DBQUERY Name="CheckInactive" DATASOURCE="ICUBase"
SQL = "select total=count(*) from MASTERPROBLEMS where
KNUMBER=#KNUMBER#
and UNITNUM='#unitnum#' and ACTIVE='N'">

<head>
<title>Admission Problem List Screen</title>
</head>

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/problemprocess.dbm
method="POST">
<table width=100%>
<DBOUTPUT QUERY="patient">
<tr><td width=25%>Patient: #FNAME# #LNAME#</td><td width=25%>Unit ##:
#unitnum#</td><td width=25%>Admitted to Hospital:
#DateFormat(H_ADMDAT)#</td><td width=25%>ICU Admit Date:
#DateFormat(ADMDATE)#</td></tr></DBOUTPUT>
</table>
<table width=100%>
<DBIF #checkActive.total# is NOT "0">

<DBQUERY Name="printactive" DATASOURCE = "ICUBASE"
SQL= "SELECT KNUMBER,UNITNUM, PATIENTPROBNUMBER, ICD9CODE,
LastUpdated, Descr, ACTIVE, OnsetDate, EndDate
FROM MASTERPROBLEMS WHERE (((MASTERPROBLEMS.UNITNUM)='#UNITNUM#') AND
((MASTERPROBLEMS.ACTIVE)='Y'))">

<h3>Active Problem List</h3>

<TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=100% BORDER=0><tr>
<td width=10%></td>
<TD width=60%>Problem</TD>
<TD width=10%>Reference</TD>
<TD width=10%>Onset Date</TD>
<TD width=10%>Last Updated
</TD>

</tr>
<DBOUTPUT QUERY="printactive">

```

<TR>
    <td width=10%><INPUT TYPE="Button" value="Edit"
onClick="editproblem('#ICD9CODE#','#PATIENTPROBNUMBER#')"></td>
    <TD width=60%> #DESCR#</TD>
    <TD width =10%><a
href="http://ovid.med.unc.edu:8888/ovidweb/ovidweb.cgi">Reference</a>
</TD>
    <TD width=10%> #DateFormat (ONSETDATE)#</TD>
    <TD width=10%> #DateFormat (LastUpdated)#</TD>

</TR>
</DBOUTPUT>
</TABLE>

<DBELSE>
<h3>No Active Problem List</h3>
</DBIF>
<DBIF #CheckInactive.total# is NOT "0">
<DBQUERY Name="printinactive" DATASOURCE = "ICUBASE"
    SQL= "SELECT KNUMBER,UNITNUM, PATIENTPROBNUMBER, ICD9CODE,
LastUpdated, Descr, ACTIVE, OnsetDate, EndDate
FROM MASTERPROBLEMS WHERE (((MASTERPROBLEMS.UNITNUM)='#UNITNUM#') AND
((MASTERPROBLEMS.ACTIVE)='N'))">

<h3>Inactive Problem List</h3>

    <TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=100% BORDER=0><tr>
    <td width=10%></td>
    <TD width=60%>Problem</TD>
    <TD width=10%>Reference</TD>
    <TD width=10%>End Date</TD>
    <TD width=10%>Last Updated</TD>

</tr>
<DBOUTPUT QUERY="printinactive">
<TR>
    <td width=10%><INPUT TYPE="Button" VALUE="Edit"
onClick="editproblem('#ICD9CODE#','#PATIENTPROBNUMBER#')"></td>
    <TD width=60%>#DESCR#</TD>
    <TD width=10%><a
href="http://ovid.med.unc.edu:8888/ovidweb/ovidweb.cgi" >Reference</a>
</TD>
    <TD width=10%> #DateFormat (ENDDate)#</TD>
    <TD width=10%> #DateFormat (LastUpdated)#</TD>

</TR>
</DBOUTPUT>
</TABLE>
<DBELSE>
<h3>No Inactive Problem List</h3>
</DBIF>

<br>
<h3>Enter a New Problem </h3>

```

```

<INPUT TYPE="Button" VALUE="Click Here To Use Menu System"
onClick="getdcode()">
<BR><BR>
(Free Text: SOUNDEX SEARCH)<BR>
<textarea name="newproblem" rows=4 cols=60 hscroll="off"
wrap=""></textarea><br>
<INPUT TYPE="Button" NAME="SUBMIT" VALUE="Or Enter Search Text"
onClick="getsearch(document.forms[0].newproblem.value)">

```

```

<input type="hidden" name=KNUMBER
value="<DBOUTPUT>#KNUMBER#</DBOUTPUT>">
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#todaydat#</DBOUTPUT>">
<input type="hidden" name=UNITNUM
value="<DBOUTPUT>#unitnum#</DBOUTPUT>">
<input type="hidden" name=DAYKEY value="<DBOUTPUT>#daykey#</DBOUTPUT>">
<input type="hidden" name=screen value="adproblem">
</form>

```

```

</body>

```

```

</html>

```

```

<!------->
<!-->
<!-->
<!-- The ICUBase Problem List Screen 2 -->
<!-->
<!-- The second problem screen allows the user to interact -->
<!-- with the patient's current problem. This screen is -->
<!-- linked to the DAILYPROBLEMS table of the database -->
<!-- and is processed by adproblem.dbm. There are two ways -->
<!-- to get to this screen - from either of the coding -->
<!-- engines (to code a result) or by an edit of a current -->
<!-- problem in the database. -->
<!-->
<!-- Written By Joe Mirrow -->
<!-->
<!-- filename: problem2.dbm -->
<!-->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<head>
<title>Edit a Problem Screen</title>
</head>
<DBIF #url.problem# is ">
  <DBQUERY Name="dcodequery" DATASOURCE="ICUBase"
    SQL= "Select * from DCODE where Dcode='#url.dcode#'">

    <DBQUERY Name="dcodepatient" DATASOURCE="ICUBase"
      SQL = "select total=count(*), active,onsetdate,enddate from
masterproblems where icd9code='#url.dcode#' and knumber=#url.KNUMBER#
group by active,onsetdate,enddate">

      <DBQUERY Name="dcodesearch" DATASOURCE="ICUBase"
        SQL = "select total=count(*) from dcode where
Dcode='#url.dcode#'">

<DBELSE>
  <DBQUERY Name="dcodepatient" DATASOURCE="ICUBase"
    SQL = "select total=0, active,onsetdate,enddate from
masterproblems where icd9code='#url.dcode#' and knumber=#url.KNUMBER#">

    <DBQUERY Name="dcodesearch" DATASOURCE="ICUBase"
      SQL = "select total=count(*), dcode.full_descr from dcode where
soundex('#url.problem#') = soundex(dcode.full_descr) group by
full_descr">
</DBIF>

<DBIF #dcodesearch.total# GREATER THAN "0">

  <DBQUERY NAME="patient" DATASOURCE="ICUBase"
    SQL = "SELECT patient.FNAME, patient.LNAME, admdc.ADMDATE,
admdc.UNITNUM, admhc.H_ADMDAT FROM ADMDC,PATIENT
WHERE ADMDC.KNUMBER=#url.KNUMBER# and
ADMDC.UNITNUM=Patient.UNITNUM AND ADMDC.UNITNUM = '#url.UNITNUM#'; ">

  <body bgcolor=#ffffff>

```

```

<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
  <table width=100%>
    <DBOUTPUT QUERY="patient">
      <tr><td width=25%>Patient: #FNAME# #LNAME#</td><td width=25%>Unit ##:
#UNITNUM#</td><td width=25%>Admitted to Hospital:
#DateFormat(H_ADMDAT)#</td><td width=25%>ICU Date:
#DateFormat(ADMDATE)#</td></tr></DBOUTPUT>
    </table></DBOUTPUT>
    <table width=100%>
      <h3>Edit a Problem</h3>

      <DBIF #url.problem# is "">
        <DBOUTPUT Query="dcodequery">
          <input type="hidden" name=DCODETEXT value="#FULL_DESCR#">
          Problem Text: #FULL_DESCR#
        </DBOUTPUT>
        <br>

      <DBELSE>

        Select the ICD-9 Text:
        <select name="DCODETEXT">
          <DBOUTPUT QUERY="dcodequery">
            <option>#FULL_DESCR#
          </DBOUTPUT>
        </select>

        <a href =
"http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/problem1.d
bm&KNUMBER=<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>&todaydat=<DBOUTPUT>#url.to
daydat#</DBOUTPUT>&unitnum=<DBOUTPUT>#url.unitnum#</DBOUTPUT>&daykey=<DB
OUTPUT>#url.daykey#</DBOUTPUT>">CLICK HERE IF NOT IN THIS LIST</a>
        <br>
      </DBIF>

      <table width=100%><tr><td width = 25%>

      <DBIF #dcodepatient.total# is "1">

        <DBQUERY Name="textsearch" DATASOURCE="ICUBase"
          SQL = "select assessmentplan from dailyproblems where
knumber=#url.KNUMBER#
          and todaydat='#url.todaydat#' and
patientprobnumber=#url.probnun#">

        <DBIF #dcodepatient.active# is "Y">
          <INPUT TYPE="RADIO" NAME="active" VALUE="Y" CHECKED> Active <BR>
          <INPUT TYPE="RADIO" NAME="active" VALUE="N"> Inactive <BR>
          <INPUT TYPE="RADIO" NAME="active" VALUE="0"> Delete</td>
          <td width = 25%>Problem Severity: <INPUT TYPE="TEXT"
NAME="ProbSev" VALUE="" SIZE=3 MAXLENGTH=3></td>
          <td width = 25%>Onset Date:
          <DBOUTPUT>#DateFormat(dcodepatient.onsetdate)#</DBOUTPUT>
          <INPUT TYPE="hidden" NAME="onset"
VALUE="#<DBOUTPUT>#DateFormat(dcodepatient.onsetdate)#</DBOUTPUT>" SIZE=8
MAXLENGTH=8></td>
          <td width = 25%>End Date: <INPUT TYPE="TEXT" NAME="enddate"
VALUE="" SIZE=8 MAXLENGTH=8></td>
        </table>

```

```

Assessment, Recommendation and Plan:<br>
<textarea name="assessmentplan" rows=4 cols=60 hscroll="off"
wrap=""><DBOUTPUT>#textsearch.assessmentplan#</DBOUTPUT></textarea><br>
<DBELSE>

    <INPUT TYPE="RADIO" NAME="active" VALUE="Y"> Active <BR>
    <INPUT TYPE="RADIO" NAME="active" VALUE="N" CHECKED> Inactive <BR>
    <INPUT TYPE="RADIO" NAME="active" VALUE="0"> Delete</td>
    <td width = 25%>Problem Severity: <INPUT TYPE="TEXT"
NAME="ProbSev" VALUE="" SIZE=3 MAXLENGTH=3></td>
    <td width = 25%>Onset Date: <INPUT TYPE="TEXT" NAME="onset"
VALUE="<DBOUTPUT>#Dateformat(url.todaydat)#</DBOUTPUT>" SIZE=8
MAXLENGTH=8></td>
    <td width = 25%>End Date:
<DBOUTPUT>#Dateformat(dcodepatient.onsetdate)#</DBOUTPUT>
    <INPUT TYPE="hidden" NAME="enddate"
VALUE="<DBOUTPUT>#Dateformat(dcodepatient.onsetdate)#</DBOUTPUT>" SIZE=8
MAXLENGTH=8></td>
</table>
Assessment, Recommendation and Plan:<br>
<textarea name="assessmentplan" rows=4 cols=60 hscroll="off"
wrap=""><DBOUTPUT>#textsearch.assessmentplan#</DBOUTPUT></textarea><br>

</DBIF>

<DBELSE>
<INPUT TYPE="RADIO" NAME="active" VALUE="Y" CHECKED> Active <BR>
<INPUT TYPE="RADIO" NAME="active" VALUE="N"> Inactive <BR>
<INPUT TYPE="RADIO" NAME="active" VALUE="0"> Delete</td>
<td width = 25%>Problem Severity: <INPUT TYPE="TEXT" NAME="ProbSev"
VALUE="" SIZE=3 MAXLENGTH=3></td>
<td width = 25%>Onset Date: <INPUT TYPE="TEXT" NAME="onset"
VALUE="<DBOUTPUT>#Dateformat(url.todaydat)#</DBOUTPUT>" SIZE=8
MAXLENGTH=8></td>
<td width = 25%>End Date: <INPUT TYPE="TEXT" NAME="enddate" VALUE=""
SIZE=8 MAXLENGTH=8></td></table>
    Assessment, Recommendation and Plan:<br>
    <textarea name="assessmentplan" rows=4 cols=60 hscroll="off"
wrap=""></textarea><br>
    </DBIF>

<input type="SUBMIT" name = "Submit" Value = "Submit">

<input type="hidden" name=KNUMBER
value="<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>">
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#url.todaydat#</DBOUTPUT>">
<input type="hidden" name=UNITNUM
value="<DBOUTPUT>#url.unitnum#</DBOUTPUT>">
<input type="hidden" name=DAYKEY
value="<DBOUTPUT>#url.daykey#</DBOUTPUT>">
<input type="hidden" name=PROBNUM
value="<DBOUTPUT>#url.probnum#</DBOUTPUT>">
<input type="hidden" name=screen value="adproblem2">
</form>

```

```
<DBELSE>
  <h1>Problem could not be found from your SOUNDEX Search</h1>
<BR>
  Click <a href =
    "http://chimera.med.unc.edu/scripts/dbml.exe?template=icubase/problem1.d
    bm&KNUMBER=<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>&todaydat=<DBOUTPUT>#url.to
    daydat#</DBOUTPUT>&unitnum=<DBOUTPUT>#url.unitnum#</DBOUTPUT>&daykey=<DB
    OUTPUT>#url.daykey#</DBOUTPUT>">here</a> to return.

</DBIF>

</body>

</html>
```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Problem Process screen -->
<!-- -->
<!-- This screen simply increments the active problem number-->
<!-- of a patient in the database so that no two problems -->
<!-- can have the same numeric representation in the -->
<!-- MASTERPROBLEMS table -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: problemprocess.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<title>Process Problem Screen</title>
  <DBQUERY NAME="Probnum" DATASOURCE="ICUBase"
    SQL = "SELECT LAST=MAX(PATIENTPROBNUMBER) FROM MASTERPROBLEMS WHERE
KNUMBER=#form.knumber#">

    <DBSET #TEMPNUM# = #Probnum.LAST#>
    <DBSET #NEWPROBNUMNO# = #IncrementValue(TEMPNUM)#>
    <DBIF #NEWPROBNUMNO# IS 0>
      <DBSET #NEWPROBNUMNO# = 1>
    </DBIF>
  </script>
  if (parent.GetCookie("state") != 0){

newlocation = "/scripts/dbml.exe?template=icubase/"+
parent.screen[parent.GetCookie('number')]+
      "&KNUMBER=" + parent.GetCookie("KNUMBER") + "&todaydat="
+ parent.GetCookie("TODAYDAT") +
      "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
+ parent.GetCookie("DAYKEY");
  //}
  }
  else{
newlocation = "/scripts/dbml.exe?template=icubase/welcome.dbm"
  }

  parent.right.location=newlocation;

</script>

</html>

```

```

<!------->
<!-->
<!-->
<!-- The ICUBase (second) Problem Process screen -->
<!-->
<!-- This screen simply increments the active problem number-->
<!-- of a patient in the database so that no two problems -->
<!-- can have the same numeric representation in the -->
<!-- MASTERPROBLEMS table. It is essentially the same as -->
<!-- problemprocess1.dbm except that it may be called by -->
<!-- nav.dbm whereas the other cannot. -->
<!-->
<!-- Written By Joe Mirrow -->
<!-->
<!-- filename: problemprocess2.dbm -->
<!-->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<title>Process Problem Screen</title>

  <DBQUERY NAME="Probnum" DATASOURCE="ICUBase"
    SQL = "SELECT LAST=MAX(PATIENTPROBNUMBER) FROM MASTERPROBLEMS WHERE
    KNUMBER=#url.knumber#">

    <DBSET #TEMPNUM# = #Probnum.LAST#>
    <DBSET #NEWPROBNUMNO# = #IncrementValue(TEMPNUM)#>
    <DBIF #NEWPROBNUMNO# IS 0>
      <DBSET #NEWPROBNUMNO# = 1>
    </DBIF>
  </script>
  if (parent.GetCookie('problemmove') == "true"){
    problemnumber = <DBOUTPUT>#NEWPROBNUMNO#</DBOUTPUT>
    problem = '<dboutput>#url.newproblem#</dboutput>'
    dcoderesult = '<dboutput>#url.dcoderesult#</dboutput>'

    newlocation = "/scripts/dbml.exe?template=icubase/problem2.dbm&KNUMBER="
    + parent.GetCookie("KNUMBER") +
      "&todaydat=" + parent.GetCookie("TODAYDAT") +
      "&unitnum=" + parent.GetCookie("UNITNUM") +
      "&daykey=" + parent.GetCookie("DAYKEY") +
      "&probnum=" + problemnumber + "&dcode=" + dcoderesult
    + "&problem=" + problem;
  }
  else
  {
    newlocation = "/scripts/dbml.exe?template=icubase/" +
    parent.screen[parent.GetCookie('number')] +
      "&KNUMBER=" + parent.GetCookie("KNUMBER") + "&todaydat="
    + parent.GetCookie("TODAYDAT") +
      "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
    + parent.GetCookie("DAYKEY");
  }
  parent.right.location=newlocation;
</script>
</html>

```

```

<!------->
<!-->
<!-->
<!-- The ICUBase Procedure List Screen 1 -->
<!-->
<!-- Essentially the same as the problem list screen except -->
<!-- that it does not have an active and inactive listing -->
<!-- Uses the PROCS table to generate the list. -->
<!-- An interface to the menu code screen (pcode.htm) is -->
<!-- provided. -->
<!-->
<!-- Written By Joe Mirrow -->
<!-->
<!-- filename: problem1.dbm -->
<!-->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>
<script>

function getpcode(){
parent.openpcode();
}

function advanceframe(pcode){
newlocation =
"/scripts/dbml.exe?template=icubase/procedureprocess2.dbm&pcode=result="
+ pcode + "&KNUMBER=" + parent.GetCookie("KNUMBER");

parent.right.location = newlocation;
}

</script>

<DBSET #KNUMBER#=#url.KNUMBER#>
<DBSET #todaydat# = #url.todaydat#>
<DBSET #unitnum# = #url.unitnum#>
<DBSET #daykey# = #url.daykey#>

<DBQUERY NAME="patient" DATASOURCE="ICUBase"
SQL = "SELECT patient.FNAME, patient.LNAME, admdc.ADMDATE,
admdc.UNITNUM, admhc.H_ADMDAT FROM ADMDC,PATIENT
WHERE ADMDC.KNUMBER=#KNUMBER# and
ADMDc.UNITNUM=Patient.UNITNUM AND ADMDC.UNITNUM = '#UNITNUM#'; ">

<DBQUERY Name="CheckActive" DATASOURCE="ICUBase"
SQL = "select total=count(*) from PROCS where KNUMBER=#KNUMBER# and
UNITNUM='#unitnum#'">

<head>
<title>Admission Procedure List Screen</title>
</head>

<body bgcolor=#ffffff>

```

```

<form action = /scripts/dbml.exe?template=icubase/procedureprocess.dbm
method="POST">
<table width=100%>
<DBOUTPUT QUERY="patient">
<tr><td width=25%>Patient: #FNAME# #LNAME#</td><td width=25%>Unit ##:
#unitnum#</td><td width=25%>Admitted to Hospital:
#DateFormat(H_ADMDAT)#</td><td width=25%>ICU Admit Date:
#DateFormat(ADMDATE)#</td></tr></DBOUTPUT>
</table>
<table width=100%>
<DBIF #checkActive.total# is NOT "0">

<DBQUERY Name="printactive" DATASOURCE = "ICUBASE"
SQL= "SELECT * from PROCS WHERE KNUMBER=#KNUMBER# and
UNITNUM='#unitnum#'">

<h3>Current Procedure List</h3>

<TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=60% BORDER=0><tr>
<TD width=50%>Procedure</TD>
<TD width=10%>Reference</TD>
<TD width=20% align=right>Procedure Date</TD>
</TD>

</tr>
<DBOUTPUT QUERY="printactive">
<TR>
<TD width=50%>#PNAME#</TD>
<TD width =10%><a
href="http://ovid.med.unc.edu:8888/ovidweb/ovidweb.cgi">Reference</a>
</TD>
<TD width=20% align=right> #DateFormat(PROCDATE)#</TD>

</TR>
</DBOUTPUT>
</TABLE>

<DBELSE>
<h3>No Current Procedures</h3>
</DBIF>

<br>
<INPUT TYPE="Button" VALUE="Click Here To Use Menu System"
onClick="getpcode()">

<input type="hidden" name=KNUMBER
value="<DBOUTPUT>#KNUMBER#</DBOUTPUT>">
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#todaydat#</DBOUTPUT>">
<input type="hidden" name=UNITNUM
value="<DBOUTPUT>#unitnum#</DBOUTPUT>">
<input type="hidden" name=DAYKEY value="<DBOUTPUT>#daykey#</DBOUTPUT>">
<input type="hidden" name=screen value="adprocedure">
</form>

</body>
</html>

```

```

<!------->
<!---->
<!---->
<!-- The ICUBase Procedure List Screen 2 -->
<!---->
<!-- The second procedure screen allows the user to interact-->
<!-- with the patient's current problem. This screen is -->
<!-- linked to the PROCS table of the database -->
<!-- and is processed by adprocedure.dbm. -->
<!---->
<!-- Written By Joe Mirrow -->
<!---->
<!-- filename: procedure2.dbm -->
<!---->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF/DTD HTML//EN">

<html>
<head>
<title>Procedures Screen</title>
</head>
<dbQUERY Name="patient" DATASOURCE="ICUBase"
  SQL = "Select patient.fname, patient.lname, patient.unitnum,
admdc.knumber, admdc.ADMDATE
  from patient,admdc WHERE admdc.knumber = #url.KNUMBER# and
patient.unitnum='#url.unitnum#'
  and patient.unitnum = admdc.unitnum"></dbquery>

<DBQUERY NAME="procedures" DATASOURCE="ICUBASE"
  SQL = "SELECT ICUATT,ICUFELLOW,ICURES from PROCS WHERE
DAYKEY=#url.DAYKEY#">

  <DBSET #PCODETOTAL# = 0>
  <DBQUERY Name="pcodequery" DATASOURCE="ICUBASE"
  SQL= "Select * from PCODE where pcode='#url.pcoderesult#'">

<DBQUERY NAME="INDIC" DATASOURCE="ICUBase"
  SQL = "select CHOICE from popup where field = 'INDIC' order by
CHOICE">

<DBQUERY NAME="SITE" DATASOURCE="ICUBase"
  SQL = "select CHOICE from popup where field = 'SITE' order by CHOICE">

<DBQUERY NAME="TYPE" DATASOURCE="ICUBase"
  SQL = "select CHOICE from popup where field = 'TYPE' order by CHOICE">

<DBQUERY NAME="ICUATT" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ICUATT' ORDER BY CHOICE;
">

<DBQUERY NAME="ICUFELLOW" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ICUFELLOW' ORDER BY
CHOICE; ">

<DBQUERY NAME="ICURES" DATASOURCE="ICUBase"

```

```

SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='ICURES' ORDER BY CHOICE;
">

```

```

<DBQUERY NAME="COMP" DATASOURCE="ICUBase"
SQL = "select CHOICE from popup where field='COMP2' OR field='COMP1'
ORDER BY CHOICE">

```

```

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%>
<DBOUTPUT>
<tr><td width=33%> Patient:  #patient.FNAME# #patient.LNAME#</td><td
width=33%> Unit Number:  #patient.UNITNUM#</td>
</DBOUTPUT>
<td width=34%> Procedure Date:  <input type=text size=8 maxlength=8
name="PROCDATE"
VALUE="<DBOUTPUT>#Dateformat(url.TODAYDAT)#</DBOUTPUT>"></td></tr>
</table>

```

```

<table width=100%>
<tr><td width=33%> Procedure:
<DBOUTPUT>#pcodequery.descr#</DBOUTPUT>

```

```

</td><td width=33%>Indications:
<select name="INDIC" size=1>
<DBOUTPUT QUERY="INDIC">
<option>#CHOICE#
</DBOUTPUT>
</select></td></tr>
<tr><td width=33%>Insertion Site:
<select name="SITE" size=1>
<DBOUTPUT QUERY="SITE">
<option>#CHOICE#
</DBOUTPUT>
</select></td><td width=33%>Side:

```

```

<input type=radio name="SIDE" value="R"> <strong>R</strong>
<input type=radio name="SIDE" value="L"> <strong>L</strong>
<input type=radio name="SIDE" value="U"> <strong>U</strong>

```

```

</td><td width=34%>
Date Removed:  <input type=text size=8 maxlength=8
name="DREMOVE"></td></tr>
<tr><td width=33%> Catheter Type:
<select name="TYPE" size=1>
<DBOUTPUT QUERY="TYPE">
<option>#CHOICE#
</DBOUTPUT>
</select>
</td><td width=33%> Medication:

```

```

<input type=radio name="MED" value="Lidocaine">
<strong>Lidocaine</strong>
<input type=radio name="MED" value="Other"> <strong>Other</strong>

```

```

</td><td width=34%></td></tr>

```

```

<tr><td width=33%> Cutdown?

    <input type=radio name="CUTDOWN" value="Y"> <strong>Yes</strong>
    <input type=radio name="CUTDOWN" value="N"> <strong>No</strong>

</td><td width=33%></td><td width=34%></td></tr>
<tr>
<td width=33%> Changed Over Wire?

    <input type=radio name="WIRED" value="Y"> <strong>Yes</strong>
    <input type=radio name="WIRED" value="N"> <strong>No</strong>

</td>
<td width=34%> Complications:
<select name="COMP" multiple size=5>

<DBOUTPUT QUERY="COMP">
<option>#CHOICE#
</DBOUTPUT>
</select></td><td width=34%>Hold down "Ctrl" to select multiple
complications (Maximum of 2)</td></tr>
</table>
<table width=100%>
<tr><td width=10% align = right> Description: </a></td><td
width=90%><textarea name="DESCR" rows=2 cols=60 hscroll="off"
wrap></textarea></td></tr>
</table>
<table width=100%>
<tr><td width=33%> Resident:
<select name="ICURES" size=1>
<DBOUTPUT query="procedures">
<OPTION> #ICURES#
</DBOUTPUT>
<DBOUTPUT QUERY="ICURES">
<option>#CHOICE#
</DBOUTPUT>
</select></td><td width=33%> Fellow:
<select name="ICUFELLOW" size=1>
<DBOUTPUT query="procedures">
<OPTION> #ICUFELLOW#
</DBOUTPUT>
<DBOUTPUT QUERY="ICUFELLOW">
<option>#CHOICE#
</DBOUTPUT>
</select></td><td width=34%> Attending:
<select name="ICUATT" size=1>
<DBOUTPUT query="procedures">
<OPTION> #ICUATT#
</DBOUTPUT>
<DBOUTPUT QUERY="ICUATT">
<option>#CHOICE#
</DBOUTPUT>
</select></td></tr>
<tr><td></td><td><input type="SUBMIT" name = "Submit" Value =
"Submit"></td><td></td></tr>

</table>

```

```
<input type="hidden" name=PNAME
value="<DBOUTPUT>#pcodequery.descr#</DBOUTPUT>">
<input type="hidden" name=BILLCODE
value="<DBOUTPUT>#url.pcoderesult#</DBOUTPUT>">
<input type="hidden" name=PROCKEY
value="<DBOUTPUT>#url.procnum#</DBOUTPUT>">
<input type="hidden" name=KNUMBER
value="<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>">
<input type="hidden" name=TODAYDAT
value="<DBOUTPUT>#url.todaydat#</DBOUTPUT>">
<input type="hidden" name=UNITNUM
value="<DBOUTPUT>#url.unitnum#</DBOUTPUT>">
<input type="hidden" name=DAYKEY
value="<DBOUTPUT>#url.daykey#</DBOUTPUT>">
<input type="hidden" name=screen value="adprocedure">
</form>
</body>

</html>
```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Procedure Process screen -->
<!-- -->
<!-- This screen simply increments the active proc number -->
<!-- of a patient in the database so that no two procedures -->
<!-- can have the same numeric representation in the -->
<!-- PROCS table -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: procedureprocess.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>

<title>Procedure Process Screen</title>

  <DBQUERY NAME="Probnum" DATASOURCE="ICUBase"
    SQL = "SELECT LAST=MAX(PROCKEY) FROM PROCS WHERE
KNUMBER=#form.knumber#">

    <DBSET #TEMPNUM# = #Probnum.LAST#>
    <DBSET #NEWPROCNO# = #IncrementValue(TEMPNUM)#>
    <DBIF #NEWPROCNO# IS 0>
      <DBSET #NEWPROCNO# = 1>
    </DBIF>
  </script>
  if (parent.GetCookie("state") != 0){

newlocation = "/scripts/dbml.exe?template=icubase/" +
parent.screen[parent.GetCookie('number')]+
      "&KNUMBER=" + parent.GetCookie("KNUMBER") + "&todaydat="
+ parent.GetCookie("TODAYDAT") +
      "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
+ parent.GetCookie("DAYKEY");

  }

  else{
newlocation = "/scripts/dbml.exe?template=icubase/welcome.dbm"
  }

parent.right.location=newlocation;

</script>

</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase (second) Procedure Process screen -->
<!-- -->
<!-- This screen simply increments the active proc number -->
<!-- of a patient in the database so that no two procedures -->
<!-- can have the same numeric representation in the -->
<!-- PROCS table. It is essentially the same as -->
<!-- procedureprocess.dbm except that it may be called by -->
<!-- nav.dbm whereas the other cannot. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: procedureprocess2.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<html>
<title>Process Problem Screen</title>

    <DBQUERY NAME="Probnum" DATASOURCE="ICUBase"
        SQL = "SELECT LAST=MAX(PROCKEY) FROM PROCS WHERE
KNUMBER=#url.knumber#">

        <DBSET #TEMPNUM# = #Probnum.LAST#>
        <DBSET #NEWPROCNO# = #IncrementValue(TEMPNUM)#>
        <DBIF #NEWPROCNO# IS 0>
            <DBSET #NEWPROCNO# = 1>
        </DBIF>
    </script>

    if (parent.GetCookie('procedureremove') == "true"){
        procedurenumber = <DBOUTPUT>#NEWPROCNO#</DBOUTPUT>;
        pcoderesult = '<dboutput>#url.pcoderesult#</dboutput>';

        newlocation =
        "/scripts/dbml.exe?template=icubase/procedure2.dbm&KNUMBER=" +
        parent.GetCookie("KNUMBER") +
            "&todaydat=" + parent.GetCookie("TODAYDAT") +
            "&unitnum=" + parent.GetCookie("UNITNUM") +
        "&daykey=" + parent.GetCookie("DAYKEY") +
            "&procnum=" + procedurenumber + "&pcoderesult=" +
        pcoderesult;
    }
    else
    {

        newlocation = "/scripts/dbml.exe?template=icubase/" +
        parent.screen[parent.GetCookie('number')] +
            "&KNUMBER=" + parent.GetCookie("KNUMBER") + "&todaydat="
        + parent.GetCookie("TODAYDAT") +
            "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
        + parent.GetCookie("DAYKEY");
    }
    parent.right.location=newlocation;
</script>
</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Progress Form -->
<!-- -->
<!-- This is a wierd little form that is required to process -->
<!-- the welcome.dbm screen of the application so that the -->
<!-- user can select a patient for a progress note or -->
<!-- discharge. First it checks to see the application -->
<!-- state then processes the welcome screen. If no patient-->
<!-- is selected it returns an error. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: progress.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<HTML>
<TITLE>ADMIT</TITLE>
<BODY>

<DBIF #parameterexists(form.patients)# IS "YES">

<dbquery name = "getunitnum" datasource="ICUBASE"
    SQL = "select UNITNUM =
ltrim(stuff('#form.patients#',1,charindex(',', '#form.patients#'),''))">
    <DBSET #UNITNUM# = #getunitnum.UNITNUM#>
<DBQUERY name = "getKNUMBER" datasource="ICUBASE"
    SQL = "Select KNUMBER from ADMDC WHERE UNITNUM='#getunitnum.UNITNUM#'
and active=1">
    <DBSET #KNUMBER# = #getKNUMBER.KNUMBER#>
<DBELSE>
    <DBSET #KNUMBER# = "0">
    <DBSET #UNITNUM# = "0">
</DBIF>

<script>

admitKNUMBER=<dboutput>#KNUMBER#</dboutput>
admitUNITNUM=<dboutput>#UNITNUM#</dboutput>

parent.SetCookie("UNITNUM", admitUNITNUM);
parent.SetCookie("KNUMBER", admitKNUMBER);

if (admitUNITNUM != 0){

if (parent.GetCookie("state") != 3){
    var newlocation = "/scripts/dbml.exe?template=icubase/"+
parent.screen[parent.GetCookie("number")] +
    "&KNUMBER=" + parent.GetCookie("KNUMBER") +
"&todaydat=" + parent.GetCookie("TODAYDAT") +
    "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
+ parent.GetCookie("DAYKEY");
}
}

```

```

else{
var newlocation = "/scripts/dbml.exe?template=icubase/discharge.dbm"+
    "&KNUMBER=" + parent.GetCookie("KNUMBER") +
    "&todaydat=" + parent.GetCookie("TODAYDAT") +
    "&unitnum=" + parent.GetCookie("UNITNUM") + "&daykey="
+ parent.GetCookie("DAYKEY");
}
}
else{
var newlocation = "/scripts/dbml.exe?template=icubase/welcome.dbm";

parent.left.location = "/scripts/dbml.exe?template=icubase/select.dbm";
}

parent.right.location=newlocation;
</script>

</BODY>
</HTML>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Main Navigation Screen -->
<!-- -->
<!-- The ICUBase main navigation screen appears when the -->
<!-- application is opened and essentially sets the state -->
<!-- of the application once a button is clicked. The -->
<!-- JavaScript(TM) setCookie function is invoked to do -->
<!-- this. State 1 = New Patient. State 2 = Progress Note -->
<!-- State 3 = Discharge and State 4 = Quit -->
<!-- In addition, the function "hacks" the server clock -->
<!-- to determine the appropriate DAYKEY and TODAYDAT -->
<!-- variables - which it stores in the cookie -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: Select.dbm -->
<!-- -->
<!------->
<html>
<title>Selection of Admission or Progress Note</title>
<script>

parent.DeleteNavs();

//DONT Get the DAYKEY and TODAYDAT from Javascript! (client dependent)
//Because it gets it from the client not the server (DUH!)
<DBQUERY NAME="clock" DATASOURCE="ICUBase"
SQL = "select daydate = convert(char(12),getdate(),107) + ' ' +
convert(char(12),getdate(),108)">
now = new Date("<DBOUTPUT>#clock.daydate#</dboutput>")
//alert(now);
var month = now.getMonth()+1;
var theday = now.getDate();
var year = now.getYear();
var hour = now.getHours();
var minute = now.getMinutes();
var TODAYDAT1 = month + "/" + theday + "/" + year;
if (TODAYDAT1 != "0" && TODAYDAT1 != null) {

var newdaykey = now.toGMTString();
var DAYKEY1 = Date.parse(newdaykey);
OldDAYKEY = parent.GetCookie("DAYKEY")
OldTODAYDAT = parent.GetCookie("TODAYDAT")
if (OldDAYKEY == null || OldTODAYDAT == null){
parent.SetCookie("DAYKEY", DAYKEY1);
parent.SetCookie("TODAYDAT", TODAYDAT1);
}
}
else{
parent.left.location = "/scripts/dbml.exe?template=icubase/select.dbm";
}

function changeState(theState){
snumValue=parseInt(theState,10);

if (snumValue ==1) {

```

```

// parent.store.state=1;
parent.SetCookie("state", 1);
// parent.store.button[1] = true;
parent.SetCookie("button[1]", true);
//var Ret = parent.GetCookie("button[1]");
//alert (Ret);
// parent.store.prevnumValue = 1;
parent.SetCookie("prevnumValue", 1);
parent.GetNumber();
parent.right.location="/scripts/dbml.exe?template=icubase/demo3.dbm" +
"&todaydat=" + parent.GetCookie("TODAYDAT") + "&daykey=" +
parent.GetCookie("DAYKEY");
parent.left.location="/scripts/dbml.exe?template=icubase/nav.dbm";
}
else if (snumValue == 2) {
// parent.store.state = 2;
parent.SetCookie("state", 2);
//parent.store.button[2] = true;
parent.SetCookie("button[2]", true);
// parent.store.prevnumValue = 2;
parent.SetCookie("prevnumValue", 2);
parent.GetNumber();
parent.right.document.forms[0].submit();
parent.left.location="/scripts/dbml.exe?template=icubase/nav.dbm";
}

else if (snumValue == 3) {
// parent.store.state = 3;
parent.SetCookie("state", 3);
parent.GetNumber();
parent.right.document.forms[0].submit();
parent.left.location="/scripts/dbml.exe?template=icubase/nav.dbm";
//parent.store.discharge=true;
}

else if (snumValue == 4) {
parent.close()
}
}
</script>

<script>
<!-- Page Script -->
var mousetext1 = 'Enter a New Admission';
var mousetext2 = 'Progress Note - Select a Patient to Begin';
var mousetext3 = 'Discharge A Patient - Select a Patient To Begin';
var mousetext4 = 'Quit';

document.write('<body bgcolor=#ffffff>')
document.write('<table width=60 border=0 marginwidth=0 marginheight=0>')
document.write('<tr><td><A HREF="javascript:changeState(1)"
onMouseOver="window.parent.status=mousetext1;return true;"><IMG
SRC="http://chimera.med.unc.edu/icubase/admitup.gif"
BORDER=0></A></td></tr>')
document.write('<tr><td><A HREF="javascript:changeState(2)"
onMouseOver="window.parent.status=mousetext2;return true;"><IMG
SRC="http://chimera.med.unc.edu/icubase/pgnup.gif"
BORDER=0></A></td></tr>')

```

```
document.write('<tr><td><A HREF="javascript:changeState(3)"  
onMouseOver="window.parent.status=mousetext3;return true;"><IMG  
SRC="http://chimera.med.unc.edu/icubase/dischargeup.gif"  
BORDER=0></A></td></tr>')  
document.write('<tr><td><A HREF="javascript:changeState(4)"  
onMouseOver="window.parent.status=mousetext4;return true;"><IMG  
SRC="http://chimera.med.unc.edu/icubase/quit.gif"  
BORDER=0></A></td></tr>')  
document.write('</table>')  
document.write('</body>')  
</script>  
</html>
```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--           The ICUBase Store Screen                                     -->
<!--                                     -->
<!--   The store screen is not included in the ICUBase                   -->
<!--   application but is referenced here so that future                 -->
<!--   programmers know why not.  Store.dbm was used to store           -->
<!--   state and button variables that are now stored in the           -->
<!--   cookie.  Store was included in its own 1 pixel fram             -->
<!--   so it did not appear on the users screen.  The problem          -->
<!--   with this setup was that store lost all of its data             -->
<!--   when the screen was resized - causing the application          -->
<!--   to crash.  This does not happen using the cookie               -->
<!--                                     -->
<!--           Written By Joe Mirrow                                     -->
<!--                                     -->
<!--           filename: store.dbm                                       -->
<!--                                     -->
<!------->
<html>
<title>Store Frame</title>

<body bgcolor="#ffffff">
<script>
frame = new Array(5);
frame[1] = '';
frame[2] = '';
frame[3] = '';
frame[4] = '';
frame[5] = '';

frametext = new Array(5);
frametext[1] = '';
frametext[2] = '';
frametext[3] = '';
frametext[4] = '';
frametext[5] = '';
</script>
</html>

```

```

<!------->
<!-- -->
<!-- -->
<!-- The ICUBase Vital Signs Screen -->
<!-- -->
<!-- The vital signs screen processes information for three -->
<!-- tables in the ICUBase database: DAILYVITALS, DAILYVENT -->
<!-- and DAILYLABS. This screen is very similar to the -->
<!-- standalone ICUBase application so no attempts were made-->
<!-- to alter the information. -->
<!-- -->
<!-- Written By Joe Mirrow -->
<!-- -->
<!-- filename: vitals1.dbm -->
<!-- -->
<!------->
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">

<DBQUERY NAME="VENTMODE" DATASOURCE="ICUBase"
  SQL = "SELECT CHOICE FROM POPUP WHERE FIELD='VENTMODE' ORDER by
CHOICE; ">

<DBQUERY NAME="patient" DATASOURCE="ICUBase"
  SQL = "SELECT FNAME, LNAME from PATIENT WHERE
UNITNUM='#url.UNITNUM#'">

<DBQUERY NAME="ADMDC" DATASOURCE="ICUBase"
  SQL = "SELECT ADMDATE, H_ADMDAT, UNITNUM FROM ADMDC WHERE
KNUMBER='#url.KNUMBER#'">

<DBQUERY NAME="VITALS" DATASOURCE="ICUBase"
  SQL = "SELECT ART_HCO3, ART_CO2, ART_O2, SBP, DBP, HR, CVP, WEDGE,
CARD_OUT,
        TMAX, RR, FIO2, PS, ART_PH, FLUIDS_IN, FLUIDS_OUT FROM
DAILYVITALS
        WHERE UNITNUM='#url.UNITNUM#' AND DAYKEY=#url.DAYKEY# AND
        TODAYDAT='#url.TODAYDAT#' AND KNUMBER=#url.KNUMBER#'">

<DBQUERY NAME="LABS" DATASOURCE="ICUBase"
  SQL = "SELECT NA, CL, HEMOGLOBIN,
        WBC, K, HCO3, CREAT, ACREAT, HCT, PLATELETS, ALBUMIN, PHOSPHATE
        FROM DAILYLABS WHERE UNITNUM='#url.UNITNUM#' AND
DAYKEY=#url.DAYKEY# AND
        TODAYDAT='#url.TODAYDAT#' AND KNUMBER=#url.KNUMBER#'">

<DBQUERY NAME="VENT" DATASOURCE="ICUBase"
  SQL = "SELECT VENTMODE, VENT_RATE, TIDAL_VOL, PEEP, VEN_SAT
        FROM DAILYVENT WHERE UNITNUM='#url.UNITNUM#' AND
DAYKEY=#url.DAYKEY# AND
        TODAYDAT='#url.TODAYDAT#' AND KNUMBER=#url.KNUMBER#'">

<DBSET #POTASSIUM# = #LABS.K#>
<html>

<head><title>Vital Signs Screen</title>
</head>

```

```

<body bgcolor=#ffffff>
<form action = /scripts/dbml.exe?template=icubase/admit.dbm
method="POST">
<table width=100%>
<DBOUTPUT>
<tr><td width=25%>Patient: #PATIENT.FNAME# #PATIENT.LNAME#</td><td
width=25%>Unit #: #ADMDC.UNITNUM#</td><td width=25%>Admitted to
Hospital: #DateFormat(ADMDC.H_ADMDAT)#</td><td width=25%>ICU Date:
#DateFormat(ADMDC.ADMDATE)#</td></tr>
</DBOUTPUT></table>
<font size=3><strong>Vital Signs</strong></font>
<DBOUTPUT>
<table width=100%>
<tr><td width=11%><font size=3>SBP</font></td><td width=11%><font
size=3>DBP</font></td><td width=11%><font size=3>HR</font></td><td
width=11%><font size=3>CVP</font></td><td width=11%><font
size=3>PCWP</font></td><td width=11%><font size=3>CO</font></td><td
width=11%><font size=3>Tmax</font></td><td width=12%><font
size=3>RR</font></td></tr>
<tr><td width=11%><input type=text size=3 maxlength=3 name="SBP"
value="#vitals.SBP#"></td><td width=11%><input type=text size=3
maxlength=3 name="DBP" value="#vitals.DBP#"></td><td width=11%><input
type=text size=3 maxlength=3 name="HR" value="#vitals.HR#"></td><td
width=11%><input type=text size=3 maxlength=3 name="CVP"
value="#vitals.CVP#"></td><td width=11%><input type=text size=3
maxlength=3 name="PCWP" value="#vitals.WEDGE#"></td><td width=11%><input
type=text size=5 maxlength=5 name="CO"
value="#vitals.CARD_OUT#"></td><td width=11%><input type=text size=5
maxlength=5 name="TMAX" value="#vitals.TMAX#"></td><td width=12%><input
type=text size=3 maxlength=3 name="RR" value="#vitals.RR#"> </td></tr>
</table></DBOUTPUT>
<font size=3><strong>Ventilatory Parameters:</strong></font>
<table width=100%>
<DBOUTPUT>
<tr><td width=10%>Vent Mode:</td><td align=right
width=8%>FIO<sub>2</sub>:</td><td align=right width=10%><input type=text size=5
maxlength=5 name="FIO2" value="#vitals.FIO2#"></td><td align=right
width=10%>Vent Rate:</td><td align=right width=9%><input type=text size=4
maxlength=4 name="VENTRATE" value="#VENT.VENT_RATE#"></td><td
align=right width=8%>TV: </td><td align=right width=9%><input type=text size=3
maxlength=3 name="TV" value="#VENT.TIDAL_VOL#"></td><td align=right
width=9%>PEEP: </td><td align=right width=9%><input type=text size=3 maxlength=3
name="PEEP" value="#VENT.PEEP#"></td><td align=right width=9%>Sat:
</td><td align=right width=9%><input type=text size=3 maxlength=3 name="VEN_SAT"
value="#VENT.VEN_SAT#"></td></tr>
<tr><td align=right width=10%><select name="VENTMODE" size=1>
<option>#VENT.VENTMODE#
</DBOUTPUT>
<DBOUTPUT QUERY="VENTMODE">
<option>#CHOICE#
</DBOUTPUT>
<DBOUTPUT>
</select></td><td align=right width=8%></td><td align=right width=10%><strong>Blood
Gas</strong></td><td align=right width=10%>pH:</td><td align=right width=9%><input
type=text size=5 maxlength=5 name="PH" value="#vitals.ART_PH#"></td><td
align=right width=8%>pO<sub>2</sub>:</td><td align=right width=9%><input type=text size=3
maxlength=3 name="PO2"
value="#vitals.ART_O2#"></td><td align=right width=9%>pCO<sub>2</sub>:</td><td align=right width=9%><input type=text size=3
maxlength=3 name="PCO2" value="#vitals.ART_CO2#"></td><td align=right width=9%

```

```

align=right>HCO<sub><font size=2>3</font></sub>:</td><td width=9%><input
type=text size=5 maxlength=5 name="HCO3"
value="#vitals.ART_HCO3#"></td></tr>
</table>
<font size=3><strong>Fluid Balance</strong></font>
<table width=100%>
<tr><td width=33%><font size=3>Fluid Input: </font><input type=text
size=7 maxlength=7 name="fluidinput" value="#vitals.FLUIDS_IN#"></td><td
width=33%><font size=3>Fluid Output: </font><input type=text size=7
maxlength=7 name="fluidoutput" value="#vitals.FLUIDS_OUT#"></td><td
width=34%></td></tr>

</table>

<font size=3><strong>Laboratory Values:</strong></font>
<table width=100%>
<tr><td align=center width=12%><font size=3>Na </font></td><td
align=center width=13%><font size=3>Cl</font></td><td align=center
width=12%><font size=3>Albumin</font></td><td align=center
width=13%><font size=3>Phosphate</font></td><td align=center
width=12%><font size=3>Hgb</font></td><td align=center width=13%><font
size=3>WBC</font></td><td align=center width=25%></td></tr>
<tr><td align=center width=12%><input type=text size=3 maxlength=3
name="NA" value="#labs.NA#"></td><td align=center width=14%><input
type=text size=3 maxlength=3 name="Cl" value="#labs.CL#"></td><td
align=center width=12%><input type=text size=3 maxlength=3
name="ALBUMIN" value="#labs.ALBUMIN#"></td><td align=center
width=14%><input type=text size=3 maxlength=3 name="PHOSPHATE"
value="#labs.phosphate#"></td><td align=center width=12%><input
type=text size=4 maxlength=4 name="HGB"
value="#labs.HEMOGLOBIN#"></td><td align=center width=15%><input
type=text size=4 maxlength=4 name="WBC" value="#labs.WBC#"></td><td
align=center width=25%></td></tr>
<tr><td align=center width=12%><input type=text size=4 maxlength=4
name="K" value="#POTASSIUM#" ></td><td align=center width=14%><input
type=text size=5 maxlength=5 name="LHCO3" value="#labs.HCO3#"></td><td
align=center width=12%><input type=text size=5 maxlength=5 name="CR"
value="#labs.CREAT#"></td><td align=center width=14%><select
name="ACUTECHANGE" size=1>
<option>#labs.ACREAT#
<option>
<option>N
<option>Y
</select>
</td><td align=center width=12%><input type=text size=4 maxlength=4
name="HCT" value="#labs.HCT#"></td><td align=center width=15%><input
type=text size=4 maxlength=4 name="PLT"
value="#labs.PLATELETS#"></td><td align=center width=25%>
</td></tr>
<tr><td align=center width=12%><font size=3>K</font></td><td
align=center width=14%><font size=3>HCO</font><sub><font
size=3>3</font></sub></td><td align=center width=12%><font
size=3>Cr</font></td><td align=center width=14%><font size=3>Acute
Chg?</font></td><td align=center width=12%><font
size=3>Hct</font></td><td align=center width=15%><font
size=3>PLT</font></td><td align=center width=25%><font
size=3></font></td></tr>
</DBOUTPUT>
</table>

```

```
<input type="hidden" name=KNUMBER  
value="<DBOUTPUT>#url.KNUMBER#</DBOUTPUT>">  
<input type="hidden" name=TODAYDAT  
value="<DBOUTPUT>#url.todaydat#</DBOUTPUT>">  
<input type="hidden" name=UNITNUM  
value="<DBOUTPUT>#url.unitnum#</DBOUTPUT>">  
<input type="hidden" name=DAYKEY  
value="<DBOUTPUT>#url.daykey#</DBOUTPUT>">  
<input type="hidden" name=screen value="advitals">  
</form>  
</body>  
  
</html>
```

```

<!------->
<!--                                     -->
<!--                                     -->
<!--           The ICUBase Welcome Screen                                     -->
<!--                                     -->
<!--   The ICUBase Welcome screen provides a list of active                 -->
<!--   patients in the database for the user to select.                     -->
<!--   The selection is processed for states 2 and 3 (see                   -->
<!--   select.dbm) by the progress.dbm screen.                             -->
<!--                                     -->
<!--           Written By Joe Mirrow                                         -->
<!--                                     -->
<!--           filename: welcome.dbm                                         -->
<!--                                     -->
<!------->
<html>
<head>
<title>Welcome</title></head>
<body bgcolor=#ffffff>
<center>
<h2>Welcome<br>
to<br>
ICUBase<br></h2>

<br><br>
Instructions: Select a patient to Enter a Progress Note or Discharge<br>
and click the Appropriate Button on the Left Side of the Screen or click
New Admission<br><br><br>
Patient Name, Unit Number

<DBQUERY NAME="getpatients" Datasource = "ICUBASE"
  SQL = "Select  admdc.unitnum, patient.fname, patient.lname from
admdc,patient where
          admdc.active = 1 and admdc.unitnum = patient.unitnum and
patient.lname <> '' and patient.fname <> '' ">
<form action = /scripts/dbml.exe?template=icubase/progress.dbm
method="POST">

<select name="patients" size = 10>
<DBOUTPUT QUERY="getpatients">
<option>#getpatients.fname# #getpatients.lname#, #getpatients.unitnum#
</DBOUTPUT>
</select>
</form>
</center>
</body>
<html>

```

REFERENCES

- Aydin, CE, Rice RE. Social worlds, individual differences, and implementation: predicting attitudes toward a medical information system. *Information and Management*, 1991; 20:119-36
- Board of Directors of the American Medical Informatics Association, "Standards for Medical Identifiers, Codes, and Messages Needed to Create an Efficient Computer-stored Medical Record", *JAMIA*, 1:1 1994. pp 1-7.
- Chin, HL, Krall, M Implementation of a Comprehensive Computer-Based Patient Record System in Kaiser Permanente's Northwest Region *M.D. Computing* 1997; 14:41-45.
- Cimino, James J, MD, Socrates A. Socratous, Paul D. Clayton, PhD, Internet as Clinical Information System: Application Development Using the World Wide Web, *JAMIA* 2:273-284, 1995.
- Cimino, James J., "Data Storage and Knowledge Representation for Clinical Workstations", *International Journal of Bio-Medical Computing*, 34(1-4), 1994, pp 185-194.
- Dick, R.M. and Steen, E.B. The Computer-Based Patient Record, Institute of Medicine, Washington, D.C., 1991.
- Hammond J.E., R.G.Berger, T.S. Carey, S.M. Fakhry, R. Rutledge, T.J. Cleveland, J.P. Kichak, N.M. Tsongalis, M.J. Dempsey, C.F. Ayscue. Report of the Clinical Workstation and Clinical Data Repository Utilization at UNC Hospitals *Proc Annu Symp Comput Appl Med Care*, pp 276-280, 1994.
- Kohane IS, Greenspun P, Fackler, J, Cimino C, Szolovits P, Building National Electronic Medical Record Systems via the World Wide Web, *JAMIA*, 3;191-207, 1995
- Lowe HJ, Lomax EC, Polonkey SE. The World Wide Web: a review of an emerging Internet-based technology for the distribution of biomedical information *JAMIA* 3:1-14, 1996.
- McComb, Gordon JavaScript Source Book, Wiley Computer Publishing, 1996 pp 431-460.
- Nenov V, Klopp J, Remote Analysis of Physiological Data from Neurosurgical ICU Patients, *JAMIA* 3: 318-327, 1996
- Waters, Kathleen and Murphey, Gretchen. Systems Analysis and Computer Applications in Health Information Management Aspen Systems Corporation, 1983.

Willard, Keith E. MD, MSEE, J.H. Hallgren BS, B. Sielaff PhD, D. P. Connelly MD,
PhD, The Deployment of a World Wide Web (W3) Based Medical Information System,
Proc Annu Symp Comput Appl Med