

EdocWriter User Guide

Introduction

Purpose of EdocWriter

Computer System Requirements and Architecture

Installation

Getting Started

Starting the program

After You Start The program

The Initial (Main) EdocWriter Menu

Customizing the Initial (Main) Menu

Modifying, Deleting, Printing, and Saving a selected item

Common Modifications

Printing Prescriptions and Medicine Instructions

Additional output documents and capabilities

Resetting the Workstation Site or Printers

Using the keyboard to navigate around the menu

Instruction Packages

Packages: Saving and recalling sets of instructions

The HL7 EdocWriter Interface Program

What is HL7?

EdocWriter Internet Browser

Starting and using the browser

EdocWriter Auto Fax and Auto EMAIL

Introduction to Email and Auto Fax Facilities

Modify EdocWriter Data Program

Starting the program

User Access Restrictions

Template Creation and Modification

Care Providers

Printer Table

Medicines and Prescriptions

System Settings Button

Workstation Communication

EdocWriter Chat Program

How the Chat Program Works

Appendix

Template Tokens

Initial Menu Button Specification

Patient Discharge Instruction Specification

Changing the Default Rx, Sig, and Disp Values for Prescriptions

EdocWriter Interfaces - HL7, XML, HTML, SQL, and ODBC

Installing EdocWriter on a Inter/Intranet

XML Interface - Integrating external computer systems and EdocWriter

Trouble Shooting Errors

Problems Encountered Installing, Starting, or Updating

Problems Encountered During Use

Common Trouble Shooting Approaches

EdocWriter User Guide Version 2.4 03/05/2005

Introduction

Purpose of EdocWriter

Thank you for selecting **EdocWriter** for your patient discharge documentation requirements.

The primary purpose of **EdocWriter** is to provide health organizations the ability to implement a system to provide meaningful instructions and reiterate important facts that patients must keep in mind when they leave the health facility. Such capabilities include the ability to create prescriptions, provide doctor notes to outside organizations, or direct the patient to specific referral doctors.

A secondary purpose is to allow health organizations to deploy and customize the system to meet the requirements of diverse users. This system has evolved from a desktop focus to an enterprise focus. Specifically the product was designed to:

- be deployed on *local area networks, wide area networks, intranets, or internets*
- be able to communicate with external computer systems using the **Health Level Seven** standard
- be able to assure patient confidentiality when communicating with external health organizations to which patients were referred
- be able to incorporate the richness of presentation available in *Internet browsers*
- be able to support the integration of personal computer devices
- insure data integrity through centralized control
- utilize the increasingly popular *XML (Extended Markup Language)* standard.

The product is designed to be easily implemented using default settings, and with more effort to customize every facet of the system. **EdocWriter** can be installed by a computer novice on a local workstation if no significant customization is undertaken. Custom or standard, once configured the product is designed to be deployed easily and rapidly to additional workstations.

Computer System Requirements and Architecture

Any new Windows computer can run **EdocWriter**. At a minimum you should have **Windows 95** and *32mb of Ram memory*. Most clients will deploy the system on a *local area network*, some on a *wide area network*, and others may choose to implement parts of the system on either a *internet* or *intranet*. Deployment on networks is more reliable but also more complex.

The remainder of this section is somewhat technical, so you may want to skip it unless you have a good understanding of computer technology.

Computer technology used to develop **EdocWriter**

EdocWriter was developed using MicroSoft's **Visual C++ MFC** facility. *Third party* (non-MicroSoft) vendor tools were used for the *fax server, html rendering* and editing, and the more complex *window graphic user interface controls*. The *Open Database Connectivity standard (ODBC)* is used for the database communications, and the product is delivered with an **ACCESS** database. We will provide the *Structured Query Language* instructions to populate an *ODBC* compliant database other than **ACCESS** if requested to do so.

EdocWriter utilizes the *Extended Markup Language (XML)* both internally and externally. The instruction text, the *HL7* derived input, the saved patient data, as well as the text fed to the *html renderer* are in *XML*. Internally, the system has a *XML* based engine that translates user selections into *XML* instructions. These instructions are saved under each patients name, and provide the basis of recreating a patient encounter.

An external program can communicate with **EdocWriter** by creating the appropriate *XML* commands and sending them to **EdocWriter** via a file that **EdocWriter** polls, or, in a future release, through a *TCP/IP socket*. This would allow hand held devices to communicate with the system remotely.

If deployed on an *intranet* or the *internet*, **EdocWriter** utilizes the *File Transfer Protocol (FTP)*. The system is shipped with an *ODBC driver* for the **mySql** relational database to use as the *inter/intranet* database.

Email support is integrated within the application, so the program does not depend on MicroSoft's **MAPI** facility. Email communication is via a *internet socket* connected to the standard port 25. The database maintains the record of current email addresses and other email configuration parameters.

A program is provided to act as a **Health Level Seven (HL7)** server. If **EdocWriter** is to be integrated into a **HL7** environment, a single *instance* of the **HL7 interface program** should be created and running constantly. This program then forwards the patient information to a common pending patient location for the workstations.

Superior Network Performance

EdocWriter should be installed entirely on a file server where it is accessed by individual workstations. Because the program loads all the table data on startup, the only time a user should notice any degradation in performance is when the system is first started on the workstation, and possibly when printing documents if the printer is slow.

Once loaded **EdocWriter** will use little network bandwidth. The only communications over the network will be the retrieval of instruction text and the writing of two small text files. The retrieved instruction text is cached, so the same information is not read twice.

Installation

The installation program will display a legal document indicating that the product is copyrighted, then ask for your name, and which directory to install to.

During installation, **EdocWriter** may notify you that it wants to install MicroSoft **Data Access Components** or Adobe's **Acrobat Reader**. These products are necessary for **EdocWriter** to communicate with the database and to print out this guide. However if you know you already have them installed, you may not want to reinstall. Reinstallation should not cause a problem.

If you want to use automatic updating from the internet, you will need MicroSoft's **Internet Explorer 4.5** or above installed.

Be sure to set the security rights to the directory to allow both read and writer privileges over the install directory and sub directories.

Installing on Additional Workstations

If you have installed **EdocWriter** on a file server, it is necessary only to create a short-cut on the workstation desktop pointing to the **EdocWriter** file called "edocwriter.exe" on the file server and set the **start in** directory to the **EdocWriter** directory. **EdocWriter** will then configure the workstation the first time this short cut is started (i.e. *clicked*).

EdocWriter does this by initiating an *install program* that will set up the workstation. It will be necessary to restart the workstation after this install program completes.

Setting and Resetting the Workstation Site and Printers

The first time you start **EdocWriter** on each workstation, you will be asked to select the workstation site and set the printers that are going to be used.

You can reset the site information after installation by choosing the **Reset Site and Printers** option in the **Modify Workstation Settings** option on the Menu Bar.

Typically there will only be one site initially, but there can be many. Each site has their own customized user list and certain specific information for output documents like the site title. These settings are specific to each user *log in* name. When this initial dialog appears:

The system can be set to not allow the user to reset the workstation printers by disabling this feature in the *Menu Button Structure XML configuration file*.

- *click* on the appropriate **site**. *Click* on **OK**
- The following two steps will be repeated for each type of output document
- A *dialog window* will be displayed indicating a printer has not been defined for a document type. *Click* **OK**. A *printer dialog* will be displayed.
- *Click* on the **printer** for the document. *click* **OK**.

The program must be terminated and restarted after initially selecting the site and printers, or resetting them.

Getting Started

Starting the program

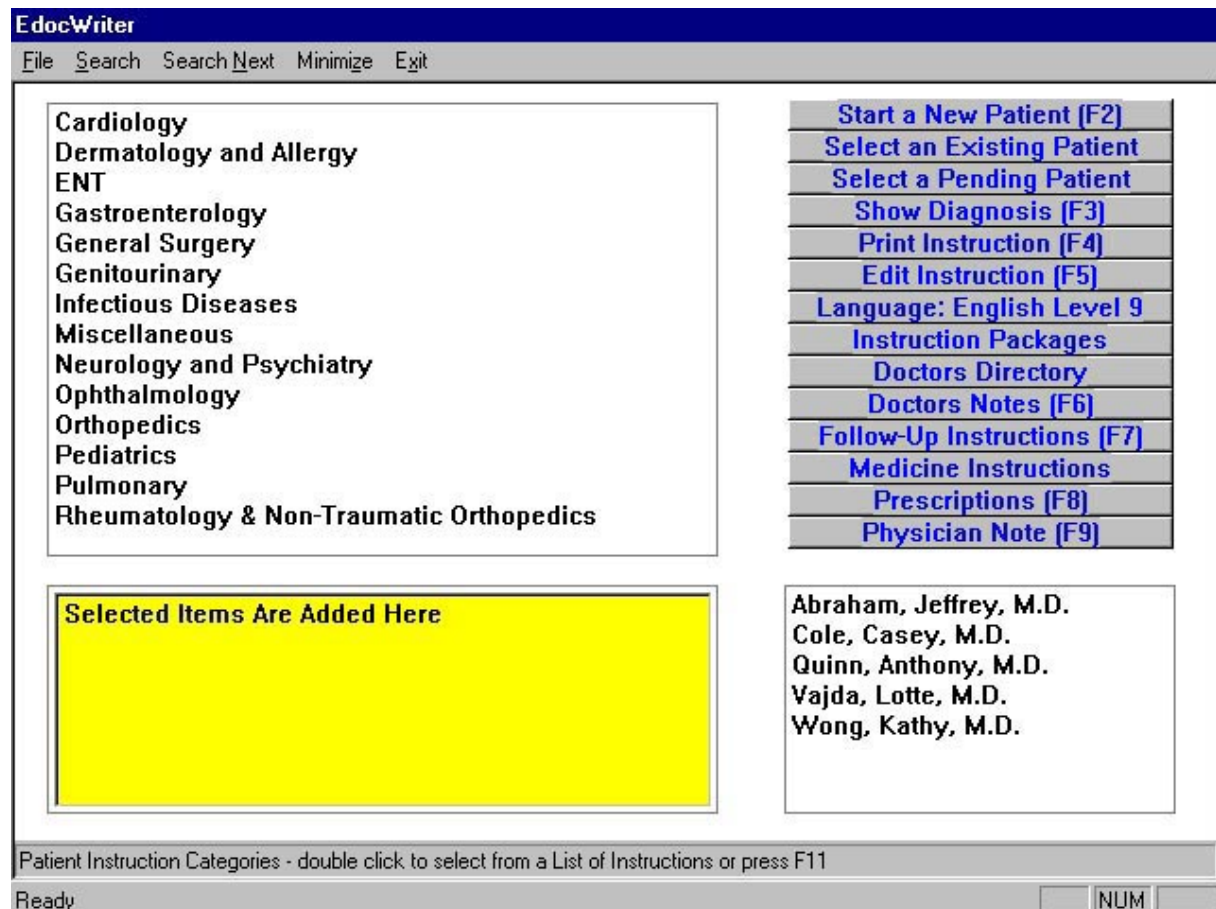
At this point **EdocWriter** should be installed. You should be able to start the program from the *desktop* if you:

- click on **Start**
- click on **Programs**
- click on the **EdocWriter menu group**
- click on **EdocWriter**

Start the program if you have not already.

After You Start The program

The *main window* will be shown. It has buttons on the top right, a **Instruction Categories List** on the top left, a **Physician User List** on the bottom right, and a **Selected Items List** (none so far) on the bottom left.



Example: Create and Print A Simple Patient Instruction

At a minimum you need a patient name, doctor's name, and an instruction. The most simple discharge document would require the following steps:

- *click* on the **New Patient Button**.
- enter the requested information (note the patient name will be added to the lower right list box). The cursor will move to the **physician user** 's list.
- *double click* the appropriate **physician user** name. **EdocWriter** can be set to automatically add the name of last physician selected . The cursor will move to the **patient instruction category** list.
- *double click* on the appropriate **patient instruction category**. A **patient instruction** list for this category will be displayed. **EdocWriter** can be set to display all the patient instructions immediately without selecting a category first
- *double click* on the appropriate **patient instruction**(note the patient instruction will be added to the lower left box.)
- *click* on the **Print Button** or *push* **Function Key F5**.

Example: Create and Print A Simple Patient Instruction Using the HL7 Interface

If your facility has the Health Level 7 interface enabled, to create a minimal patient discharge document would require the following steps:

- *click* on the **Pending Patient Button**. An **admitted patients** list will be displayed.
- *double click* on the appropriate **patient name**. The patient name will be added to the lower right list box. The cursor will move to the **physician user's** list.
- *double click* the **physician user** name. **EdocWriter** can be set to automatically add the name of last physician. The cursor will move to the **patient instruction category** list.
- *double click* on the appropriate **patient instruction category**. A **patient instruction** list for this category will be displayed. **EdocWriter** can be set to display all the patient instructions immediately without selecting a category first
- *double click* on the appropriate **patient instruction**(note the patient instruction will be added to the lower left box.)
- *click* on the **Print Button** or *push* **Function Key F5**.

Example: Create and Print A Simple Patient Instruction with HL7 Interface and overrides enabled

- *click* on the **Pending Patient Button**. An **admitted patients** list will be displayed.
- *double click* on the appropriate **patient name**. The patient name will be added to the lower right list box. The cursor will move to the **patient instruction** list.
- *double click* on the appropriate **patient instruction** (note the patient instruction will be added to the lower left box.)
- *click* on the **Print Button** or *push* **Function Key F5**.

To avoid having to reach for the mouse, use the Function Keys, the *tab*, or *up/down* keys on the keyboard.

The Initial (Main) EdocWriter Menu

Okay, so we can produce a simple instruction. What is the rest of this stuff on the main menu? Although this initial menu is pretty self-explanatory, here is an overview:

The Menu Bar

On the top is the typical Windows Menu Bar with **File**, **Search**, **Search Next**, and **Minimize** options.

Here is a short description of each

- **File** : Go here to exit from the program.
- **File->Help**: To invoke the help system.
- **File->Modify Data**: This will take you to a dialog to change or add instructions or database information. Access to this function can be eliminated or restricted.
- **File->Go Online**: If the internet is available it will take you to the *Customer Support page* or check for and download *program updates*. Access to this function can be eliminated
- **File->Modify Workstation Settings** : This selection results in the following options being displayed:
 - File->Modify Workstation Settings->**Configuration Values** : Display the values used that are defined in the database.
 - File->Modify Workstation Settings->**Reset Site and Printers** : To change the site and printer settings stored in the workstation's registry. Access to this function can be eliminated
 - File->Modify Workstation Settings->**Change Language** : Changes the language of the instructions for the current patient.
 - File->Modify Workstation Settings->**Reinitialize Workstation Data** : Will reread the database for any changes in the users, care providers, templates, medicine, and configuration settings. Access to this function can be eliminated.
 - File->Modify Workstation Settings->**Test Display Alternatives** : To temporarily change how diagnosis and patient instruction information is displayed and collected. Access to this function can be eliminated.
 - **Search**: Will search for the first diagnosis or instruction containing specific text in their titles
 - **Search Next**: Will search for the next diagnoses or instructions containing specific text in their titles
 - **Minimize**: To minimize the program window so that you can do other things on the workstation.

You can invoke these functions without the use of the mouse by *pushing* the *ALT* key and character that is underlined at the same time (e.g. the File function would be ALT+F).

Menu Buttons

In the upper right are a number of buttons. The user can set which buttons are to be displayed. Here are the buttons available:

- **Start a new Patient Button** clears all existing client information entered and requests a patient name (and other information if required).
- **Select An Existing Patient Button** brings in all the information generated during a prior session for a particular patient on a specific day.
- **Pending Patient Button** used to select from the list of admitted patients sent from the **HL7** interface.
- **Show PI Instructions Category/Show Diagnosis Button** changes whether the **Patient Instruction Category List** or the **Diagnosis Tree List** is displayed.
- **Print Button** prints the patient *discharge* document that includes patient instructions associated with diagnoses, doctors notes, prescriptions or follow-up notes.
- **Edit Button** allows for editing a patient *discharge* document prior to being printed.
- **Language Button** changes instruction language.
- **Font Size Button** (not shown) changes the font size of patient instruction.
- **PICombo Switch Button** (not shown) changes the upper left list between showing *patient instructions* in a *combo list box* and a display of *patient instruction categories*. This is an alternative to setting the workstation default option for this via the menu bar . For more information see this section about using a combo list box..
- **Doctors Directory Button** displays information on doctors and allows a physician to be added to the user list temporarily.
- **Doctors Note Button** creates doctor notes.
- **Follow-Up Button** creates a note requesting the patient to follow up with outside treatment.
- **Medicine Instruction Button** inserts medicine instructions.
- **Prescription Button** creates prescriptions and inserts appropriate medicine use

- instructions.
- The **Physician Note Button** is a short cut to the follow-up note allowing the physician to enter text into the discharge document.

Patient Instructions or Diagnoses List

There are a lot of options available here. Directions on options will be given in greater detail later, but a summary will be provided here because this part of the screen is so visible. In the upper left is a box that alternates between showing either **Patient Instruction** lists or **Diagnoses** lists. By default a **Patient Instruction Category** list is displayed here. If your organization wants to attach and print a diagnosis on the *discharge instruction*, there are a number of options:

- Enable the **Show PI Instructions Category/Show Diagnosis Button**. This button switches the display between the **Patient Instruction List** and the **Diagnosis Tree List**.
- Set the system to display the **Diagnoses** list initially.

There are additional options here that dramatically affect what the user sees:

- diagnosis information can be displayed in a *combo list box* instead of a *tree diagram*
- the **Patient Instruction** can be displayed instead of first selecting a *Patient Instruction Category*.

If the **Patient Instruction Categories** are shown and the user *double clicks* on one of the **Patient Instruction Categories**, a **Patient Instruction List** for that category will be displayed. Once a patient instruction has been selected from this list, the appropriate instruction is added to the list of instructions and notes to be printed on the *discharge instruction*.

Physician User List

In the lower right is a **Physician User List**. Individuals can be selected and identified as the physician of record on the instructions.

Immediately after entering a patient name, the program will place the user in the **Physician User List**. The name of the doctor selected for the prior patient instruction is selected by default. A simple ENTER key stroke will select that doctor. **EdocWriter** can be set to automatically add the name of last physician, bypassing this step.

Alternatively, a doctor can be selected by *double-clicking* on an individual entry with the mouse or by using the down arrow key to highlight the desired name, followed by an ENTER key. You can also type in the first character of the name to scroll as well.

There are a number of options available that will be addressed later.

Assistant and Additional Care Provider List

If an organization utilizes physician assistants or would like to add individuals other than the physician, the user can set the system to ask for this individual after the physician is selected. The **Physician Assistant/Physician Users list Button** will be displayed if this option is chosen. Immediately after the physician user is selected, the list of physicians is replaced by a list of assistants/additional care providers. More than one health care provider can be added to the discharge document. **EdocWriter** can be set to allow for none, **one**, or **more than one** additional care providers. If the **more than one** option is selected, the system will not move to the patient instruction list box automatically after a selection is made.

Customizing the Initial (Main) Menu

EdocWriter is designed to encourage changing the initial menu to match your preferences and business requirements. For instance, by default the patient instructions were selected first by selecting the patient instruction category, and then selecting from a list of patient instructions. You could set the program to display the diagnoses first.

Display Diagnoses initially instead of the Patient Instructions

- Temporarily: *click* on **Test Display Alternatives** within the on the Menu Bar at the top of the menu, then **Show Diagnoses Initially**
- To set the default: *click* on **Modify Data** in on the Menu Bar at the top of the menu, then **System Settings**, then **Configuration**, and check the **Start with Diagnosis** *check box* in the **Test Display Alternatives** section.

Display Patient Instructions automatically after a Diagnosis is selected

Instead of *clicking* on the third button, **Show PI Instructions Category/Show Diagnosis Button**, the user can set the list to appear right after the diagnosis selection. To change:

- Temporarily: **Test Display Alternatives** in on the Menu Bar at the top of the menu, then **Show PI List After**
- To set the default: *clicking* on **Modify Data** in on the Menu Bar at the top of the menu, then selecting **System Settings**, then **Configuration**, and check the **Display PI List After Diagnosis** *check box* in the **Test Display Alternatives** section.

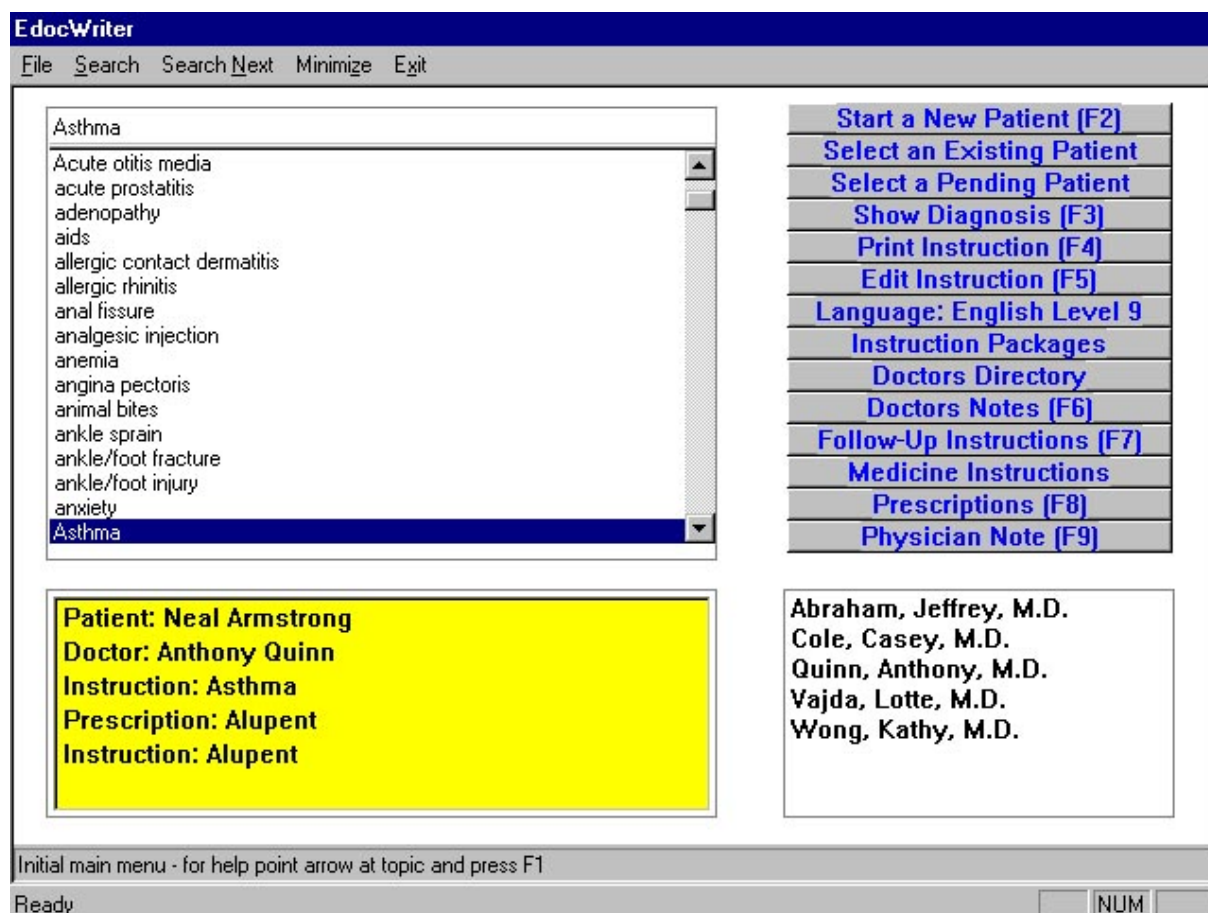
Select a Patient Instruction or Diagnosis by typing in the first characters of the name

Do not like to use the mouse? This will present what MicroSoft refers to as a *combination edit and list boxes*. Instead of scrolling to the desired item, the user can type in the first few characters, and the list will automatically scroll to the desired place (it should be noted that even in a plain *list box*, entering the first character will cause the list to scroll to that part of the list). To change:

- Temporarily: *clicking* on **Test Display Alternatives** in on the Menu Bar at the top of the menu, then **Show (PI or Diagnosis) as Combo List**
- To set the default: *clicking* on **Modify Data** in on the Menu Bar at the top of the menu, then selecting **System Settings**, then **Configuration**, Check the **Use a Combo List for Patient Instructions** *check box* in the **Test Display Alternatives** section.

The user can also create a menu buttons to allow the user to switch between the list types.

An example of the display using a patient instruction combo list box:



Select physician assistants to be included on printed documents

The printed discharge document must provide the name of the physician. The physician assistant can also be listed. If this option is set, a list of physician assistants will be presented immediately after the physician has been selected. Some clients may wish to include more than one care provider or assistant. There are three options available, to not allow for any, to allow for just one care provider (in addition to the physician), and to allow an unlimited number.

To set the system for a single additional care provider/assistant:

- clicking on **Modify Data** in on the Menu Bar at the top of the menu, then selecting **System Settings**, then **Configuration**, Check the **Enable Assistant List**

The care provider information can be then inserted into the discharge document where desired in the *Patient Instruction Header Template*.

Allow Many Assistants to be included on discharge instructions

To set the system for multiple care providers/assistants:

- clicking on **Modify Data** in on the Menu Bar, click on **System Settings**, then **Configuration**, click on the appropriate box.

The care provider information can be then inserted into the discharge document where desired in the *Patient Instruction Header Template*.

Modifying, Deleting, Printing, and Saving a selected item

The **Selected Items** list allows the user to make changes to the selected items.

Double Click to edit instructions from the Selected Items List

The user can edit items from this list by:

- *double clicking* on the item to be edited. The instruction will be displayed in an editor.
- change the text as desired.
- enter an *ESC keystroke* or *click* on the window exit to terminate. Any changes made will be saved. Reselect the item if you decide to not save the changes.

Using the Delete Key to delete instructions from the Selected Items List

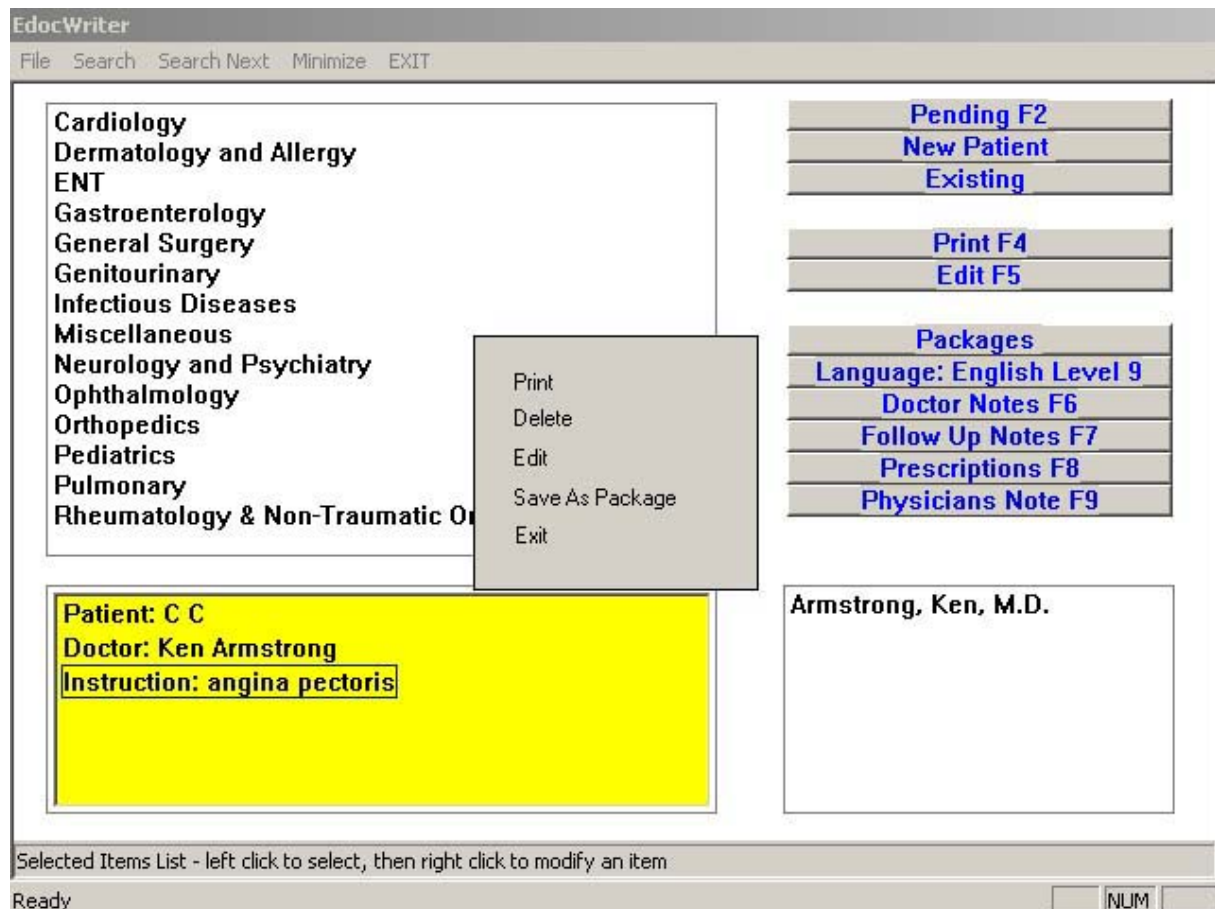
As the user selects instructions to add to the patient's discharge document, they are listed in the box in lower right corner of the main window - the **Selected Items List**.

The user can delete items from this list by:

- *click* on the item to be deleted.
- *push* the **delete key** on the *keyboard*.

Right Click to delete, edit, print, or save from the Selected Items List

Selected items can be modified by a *right click* on the item in the **Selected Items** list. A dialog box will be displayed.



A *click* on an option will:

- **Print** the item. If the selection is a *patient instruction* the entire *discharge instruction* will be printed.
- **Delete** the item. This is the same as using the *Del* key.
- **Edit** the item. This is the same as a *double click*
- **Save** the item as a package. The user will be asked to enter a label to be displayed to the user. The default label is the current label. The user will also be asked to give the macro a name. This would allow the user to create their custom patient instructions.

Changing the user physician name

Changing the selected physician

- *double-click* on a new doctor name in the **Physician Users** list.

Common Modifications

EdocWriter is designed to be customized. The more common types of modifications are presented in this section.

Modifying a prior Patient Discharge Instruction

- *click* on the **Select an Existing Patient Button**. A **patient list** will be displayed.
- *click* on the desired **Patient**. The patient will be added to the **Selected Items List**.

When first invoked, this presents a list of patients processed through **EdocWriter** for the current day.

Adding a user name to the initial main menu

There are two ways to add a physician not on the **Current Physician Users list**.
For the remainder of the EdocWriter session

- If the physician's name appears in the **Doctors Directory**, *click* on the **Doctors Directory Button**, and then *double-click* on the desired name. The name will be added to the end of the **Physician User List** for the remainder of the **EdocWriter** session.

By default

- *Start* and then *click* on the "Care Provider" button in the **EdocWriter Modify** program..
- select **Existing** or **New**
- check the **On Physician Menu List** or the **On Assistant Menu List** check box.

Adding a Referral Care Provider

Adding a referral doctor or organization is the same as adding a user. If an organization is being added, enter the name you would like the organization to be identified by in the **last name** parameter, and leave the first name blank. Because the lists the referral care providers are selected from and the *tokens* used in the *discharge instructions* use the **last name** parameter, the user and patient will see a organization name or a physicians last name.

To add a referral doctor or organization then requires only to:

- *Start* and then *click* on the "Care Provider" button in the **EdocWriter Modify** program..
- select **Existing** or **New**
- select **New**
- enter the appropriate data.

Printing Prescriptions and Medicine Instructions

Description of the prescription dialog window

When you *click* on the **Prescriptions** button from the main window, you will see a dialog window presented like the one shown here:

Here is a list of the elements in the dialog window

- In the upper left is a **List of Medicines**.
- In the bottom lower half of the screen are the **Rx**, **Disp**, and **Sig** *combo list* boxes. When a medicine is selected these boxes are filled by either clicking on the values shown in the *list* boxes of the *combo lists* or by entering new values in the *edit box* of the *combo lists*. If a new value, or combination of values, is entered (as is the case in the example), the combination will be saved in the database. The combination will then appear before the default choices the next time the prescription dialog is invoked for that medicine. The entire row of values for the **rx**, **sig**, and **disp** can be selected with one click of the mouse on the **rx** column.
- In the middle on top is the **Display Pediatric Information Only** *check-box*. If this is checked, then only pediatric medicine is displayed.
- In the center is the **Prescription Form** group. The **Refill** group contains *controls* affecting the *prescription form*. The **Refill Quantity** and **Do Not Refill** are mutually exclusive, as are the **Dispense As Written** and the **Voluntary Formulary**. You can change the text printed for each on the *prescription form*
- Below this group is a **Note** *edit box*. This is displayed only if the medicine selected has a note associated it. It is for physician information only, and does not appear on any instructions.
- On the upper left is an **Output Documents** group. The **Issue Instructions** radio box is *checked* if medicine instructions are to be included. If no instructions exist, it will be *grayed out*. The **Create Prescription** radio box is *checked* if a prescription is to be included.
- On the left side is a **System Table Modification** group. There is shown a **Auto Add Unique Rx** *check box* and two buttons. You can add medicines or prescriptions by **clicking** on either of the buttons. If the **Auto Add Unique Rx** *check box* is checked any unique combination of prescription, disp, and sig instructions entered by the user will automatically be added to the database. Note that the example shows a unique combination because the quantity of 20 is not currently shown in the list of dispense quantities. The default behavior of the **Auto Add Unique Rx** *check box* is set in the patient instruction structure xml file.

- Below the **System Table Modification** group is a **Print on Controlled Rx Printer** *check box*. If the system has been set up with an optional controlled prescription printer entry in the Printer Table, this box will be checked when a medicine is selected that has been identified as being a controlled medicine in the Medicine Table. This control will be ignored if no controlled prescripion printer definition exists in the Printer Table.
- At the bottom are the **Cancel**, **Print Prescription**, **Display Substitutes**, and **OK** buttons. The **Print** button will print the prescription immediately and save the prescription information, while the **OK** button will save the prescription information and print when the *discharge instruction* is printed. The **Display Substitutes** button will display alternative medicines. The user can select any of the alternatives by clicking on it in the **Rx Combo list box**. An example of what happens when this button is *clicked* is shown below.

Creating a Prescription

- click* on the **Prescriptions** button from the main window.
- double click* on the medicine you want. The cursor will skip to the **Rx** box. If you do not see the medicine you want, you can add it by using the **Add a New Medicine** button to the right in the **System Table Modification** group.
- press* the *down arrow* key or *click* or *enter* the first characters of the prescription you want.
- select or edit any values in the **Rx**, **Disp**, and **Sig** *combo list* boxes by *clicking* in the *list boxes* or entering the values desired in the *edit box*. The values entered will be remembered and made available the next time.
- Prescriptions can require the user to input specific prescription information - for instance a specific quantity. Such information is denoted by two or more underlines ("___"). These lines should be replaced with values. **EdocWriter** will not allow the user to exit the dialog successfully unless such fields are filled with information.
- click* on the **OK** button.

Additional output documents and capabilities

Printing a Work slip or Doctor's Note

A *work slip* or *Doctors Note* is a note on behalf of a patient for an outside organization. It can be printed on a specific type of printer to allow for small forms. To create such a note:

- *click* on the **Doctors Note Button**
- *click* on the desired **Doctors Note**. The instruction may request information from the user. The note will be added to the **Selected Items** list.

Printing a Referral Note or Follow-Up Note

This type of note inserts instructions into the discharge document indicating the need for further medical attention.

- *click* on the **Follow Up Note Button**
- *click* on the desired **Note**. The instruction may request information from the user. The note will be added to the **Selected Items** list.

Inserting a physicians note into the discharge document

A physician note can be included in the *discharge instruction* to add instructions specific to the patient

- *click* on the **Physician Note Note Button**. A word processor type of *dialog window* will be displayed.
- after the text is entered, *click* on the **OK** button or hit the *escape* key.

Faxing a copy of the discharge document to a referral doctor

A copy of the discharge document containing the referral follow-up text can be sent to the referral doctor can automatically or on an exception basis.

- One time basis: *click* on **File** in on the Menu Bar at the top of the menu, then select **Fax Current Discharge Document**. **EdocWriter** will request the fax printer to use the first time each session. You will need to enter the fax number.
- The fax server must be installed and enabled
- Create a new template containing only appropriate text to be sent
- Map the new template to the template being provided to the patient
- When selected, the *template* to be sent will be added to the *Selected Items List*. If not deleted, it will be sent when the *discharge instruction* is sent to the fax number that exists for the referral doctor exists in the *Doctors Directory*
- The fax server must be installed and enabled
- One a one time basis, use the **Sqlloader** to set all *template map parameter* values to equal their own *key* value.
- When selected, the *template* to be sent will be added to the *Selected Items List*. If not deleted, it will be sent when the *discharge instruction* is sent to the fax number that exists for the referral doctor exists in the *Doctors Directory*

Including medicine instructions

If there is an instruction for a medicine, the system will print it in the discharge document. The

medicine instruction is included by default with the prescription. check box.

Alternatively, medicine instructions can be printed without a prescription form being generated through the **Medicine Instruction Button** on the initial main menu.

Resetting the Workstation Site or Printers

To reset the printers

- From the main **EdocWriter** window, *click* on **File** menu option, then *click* on **Workstation** submenu option.
- *click* on **reset printers ...** A *dialog window* will be displayed.
- *click* on the appropriate **site**. *Click* on **OK**
- The following two steps will be repeated for each type of output document
- A *dialog window* will be displayed indicating a printer has not been defined for a document type. *Click* **OK**. A *printer dialog* will be displayed.
- *Click* on the **printer** for the document. *click* **OK**.

Using the keyboard to navigate around the menu

The Enter Key

Every button, dialog and list should have a default value. Hitting enter will automatically select the default value. For lists, the default value is highlighted, for buttons the default value will have a rectangle of dots (hard to explain, but it is obvious when you see it). For instance, when first started, an **Enter** invokes the **New Patient Button**. After the first name is entered, an **Enter** key will move to the last name, and after that an *Enter* will move to the **Physician Users** list, and so on.

The Tab Key

The tab key will generally move you to the next button or list.

The Up and Down Arrow Keys

These keys can be used both to navigate about the main menu and about the list and combo list boxes. Using the arrow keys will move the "focus" (be highlighted) either up or down. Hitting the Down arrow key in a combo list box will cause the first element to gain focus, thereby allowing use of the Page Up and Page Down keys

The Page Up and Page Down Key

These keys will cause lists and combo lists to rapidly scroll up and down. The lists must have "focus" (be highlighted)

Keyboard Function Keys

The function keys at the top of the keyboard will immediately invoke movement to specific buttons and lists. The default mapping of the keys to the buttons or lists is -

- F1 HELP

- F2 START A NEW PATIENT BUTTON
- F3 SHOW DIAGNOSES/PATIENT INSTRUCTIONS BUTTON
- F4 PRINT INSTRUCTION BUTTON
- F5 EDIT INSTRUCTION BUTTON
- F6 DOCTORS DIRECTORY BUTTON
- F7 DOCTORS NOTES BUTTON
- F8 FOLLOW-UP NOTES BUTTON
- F9 PRESCRIPTIONS BUTTON
- F10 PHYSICIAN NOTE BUTTON
- F11 DOCTORS LIST
- F12 PATIENT INSTRUCTION/DIAGNOSIS LIST

The functions keys are mapped in a clockwise direction beginning with the upper right corner button.

The user can change what buttons are displayed, the order, and the mapping of the function keys by modifying the Button Structure XML file .

Instruction Packages

Packages: Saving and recalling sets of instructions

A *package* is a set of instructions that have been saved to be recalled at a later time. The reasons for doing this is to save time and increase quality of care. Here are some specific reasons:

- to minimize errors you create a set of instructions and prescriptions that have been tailored for a specific situation.
- each physician may have their own library of specific instructions that have been customized for them.
- your organization see patients more than once. You want to create a set of prescriptions that they will receive each time they see you.

The default library is can be can be set to be unique for each user or based upon some other value.

Saving Instructions to create a Package

How to create a package

- The standard **Windows Drag and Drop** facility is used to create new packages. Hopefully you are familiar with this, but if you are not, the instructions and a couple of tries should be sufficient to do it ... *Select* the instructions as you normally would. All the items should be shown in the *Selected Items List*.
- *Drag* the instructions by *clicking* on the first item, and then while simultaneously holding down the *shift key*, *click* on the last item to be saved. As you hold down the *shift key* you can keep the mouse *clicked* on the *highlighted* items. *Drag* them to the **Instruction Packages** button. A *File Dialog* will be displayed. You can release the *shift key* and mouse button.
- *Click* on the directories shown until you find the one you want. New directories can be created, but this must be done outside of the program using the standard **Windows Explorer or My Computer** tools.
- *Enter* the name you want to associate with the saved instructions, and *click* on Save.

Retrieving saved instructions in a Package

How to retrieve an Instruction Package

- *Click* on the **Instruction Package** button. A *File Dialog* will be displayed.
- *Click* on the directories shown until you find the name of the *package* that you want.
- *Double click* on the desired *package*. The *package* will be added to the *Selected Items List*.

The HL7 EdocWriter Interface Program

What is HL7?

The **HL7 Interface** is used in the health care industry to transmit information between computer programs. This common standard allows an organization to integrate products from a variety of vendors. Patient information is often available from your patient admission system. **EdocWriter** can access this information to save you the time of entering patient name and account information.

Starting the HL7 EdocWriter Interface Program

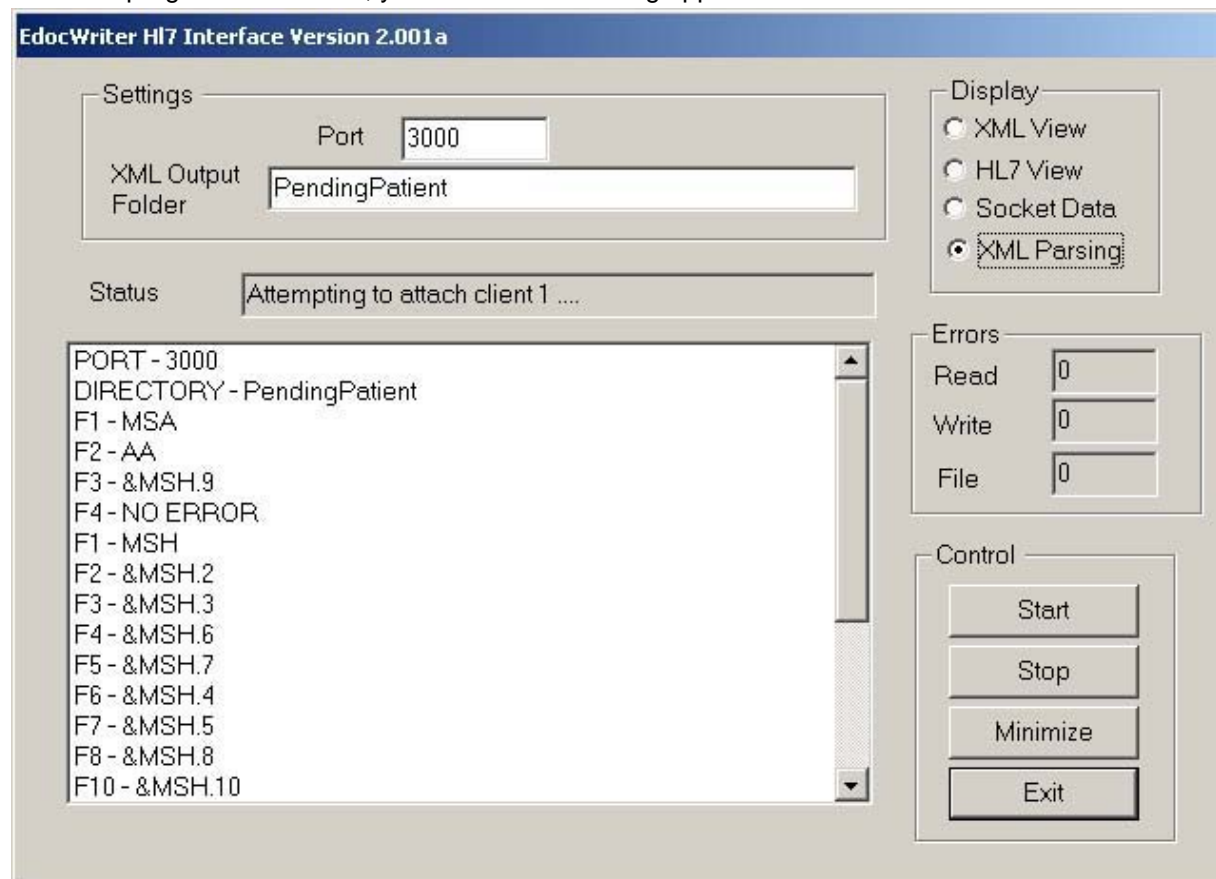
The **HL7 EdocWriter Interface** Program acts as a *HL7 server* receiving notification of admission information from the computer software processing patient admissions. When it receives this information, the **HL7 EdocWriter Interface** Program creates an *XML command file* containing the patient information and sends it to the Pending Patient Directory.

To start the HL7 EdocWriter Interface Program

- From the **Windows Desktop** click on **start**
- **click** on **programs**
- **click** on **EdocWriter**
- **click** on **HL7 EdocWriter Interface**

Description of Program User Interface

Once the program has started, you should see a dialog appear like the one shown below:



A list of the various *controls* follows:

- In the upper right is a **Display** group. These *radio buttons* are used to set the type of information that will be displayed in the *list box* to the left. There are these choices:
 - display the raw input data
 - display how the segments are created from the input data
 - display the xml to be sent
 - display the parsed xml read from the configuration file
- Below this group is the **Errors** group. This will show the cumulative errors encountered on the *HL7 port* and writing to the *Pending Patient Directory*.
- At the lower left is the **Control** group. The **Start** will open the *HL7 port*, the **Stop** will close the *HL7 port* if it is not actively reading, and the **Exit** will terminate the *HL7 port* if it is actively reading and exit the program.

Setting up the HL7 EdocWriter Interface Program

The *TCP/IP socket port* is used to communicate between the program and the client's *HL7 facility* (some other computer system). The port number will likely have to be changed to whatever arbitrary number the *HL7 facility* wants to use. At a minimum, this facility should send a packet consisting of a *HL7 start character*, *MSH message*, a *PID message*, and a *HL7 end message character*.

The **Edocwriter HL7 interface** will send back to this facility a packet consisting of a *HL7 start character*, *MSH message*, a *MSA message*, and a *HL7 end message character*.

In a perfect world all that is necessary to get the interface running is to start the program and wait for the data to be sent.

HL7 XML Configuration File

The **Edocwriter HL7 interface** reads a file called **edochl7.xml** containing configuration instructions. The file can define the following:

- the port number to read the data from.
- defines the return MSA segment.
- defines the return MSH segment.
- defines the output XML.
- specifies the output directory.
- a switch to be used if EBCDIC is received for the segment field delimiter.
- defines how multi-site implementations are to be handled.

Both segments and the output XML is defined by the use of a constant or a *variable* pointing to another element. A variable can be recognized by the use of the *&* character followed by a segment field identifier. For instance:

```
<F3><VARIABLE>MSH.9</VARIABLE></F3>
```

means retrieve the value found in the 9th field of the MSH segment. The first field is the segment name field, and it is defined as position 1. This differs from the HL7 documentation where the MSH segment actually starts with position 0. Some segment fields contain more than one value. The HL7 name for the name (XPN) and address (XAD) fields are currently defined.

An example of the file follows:

```
<HL7-SERVER>
```

```
<PORT>3000</PORT>
```

```
<!-- FIELD INDEX MSA STARTS WITH 1 HERE - HL7 DOC STARTS WITH 0. SO MSA 1 IS MSA 0
```

IN THE HL7 SPEC -->

<MSA-OUTPUT>

<F1>MSA</F1>

<F2>AA</F2>

<F3><VARIABLE>MSH.9</VARIABLE></F3>

<F4>NO ERROR</F4>

</MSA-OUTPUT>

<!-- FIELD INDEX MSH STARTS WITH 1 HERE - HL7 DOC STARTS WITH 0 SO MSH.1 IS MSH FIELD 0 IN THE HL7 SPEC -->

<MSH-OUTPUT>

<F1>MSH</F1>

<F2><VARIABLE>MSH.2</VARIABLE></F2>

<F3><VARIABLE>MSH.3</VARIABLE></F3>

<F4><VARIABLE>MSH.6</VARIABLE></F4>

<F5><VARIABLE>MSH.7</VARIABLE></F5> <F6><VARIABLE>MSH.4</VARIABLE></F6>

<F7><VARIABLE>MSH.5</VARIABLE></F7>

<F8><VARIABLE>MSH.8</VARIABLE></F8>

<F10><VARIABLE>MSH.10</VARIABLE></F10>

<F11><VARIABLE>MSH.11</VARIABLE></F11>

</MSH-OUTPUT> <XML-OUTPUT>

<PATIENT-LASTNAME><VARIABLE>XPN.1</VARIABLE></PATIENT-LASTNAME>

<PATIENT-FIRSTNAME><VARIABLE>XPN.2</VARIABLE></PATIENT-FIRSTNAME>

<PATIENT-MIDDLENAME><VARIABLE>XPN.3</VARIABLE></PATIENT-MIDDLENAME>

<PATIENT-ADDRESSLINE1><VARIABLE>XAD.1</VARIABLE></PATIENT-ADDRESSLINE1>

<PATIENT-CITY><VARIABLE>XAD.3</VARIABLE></PATIENT-CITY>

<PATIENT-STATE><VARIABLE>XAD.4</VARIABLE></PATIENT-STATE>

<PATIENT-ZIPCODE><VARIABLE>XAD.5</VARIABLE></PATIENT-ZIPCODE>

</XML-OUTPUT>

<SITE>

<DIRECTORY>

PendingPatient </DIRECTORY>

</SITE>

```

<!-- this sets the delimiter for ebcdic <FIELD_DELIMITER_DECIMAL_VALUE>
-1 </FIELD_DELIMITER_DECIMAL_VALUE>
-->

<!-- this sets the up multi-site identifier <SITE-ID-FIELD>
3 </SITE-ID-FIELD>
<SITE-ID-SEGMENT>
MSH </SITE-ID-SEGMENT>
-->

<!-- this sets the directories for multi-site <SITE>
<DIRECTORY>
PendingSiteOne </DIRECTORY>
<SITE-ID-VALUE>
SJC </SITE-ID-VALUE>
</SITE>
<SITE>
<DIRECTORY>
PendingSiteTwo </DIRECTORY>
<SITE-ID-VALUE>
SFC </SITE-ID-VALUE>
</SITE>
-->
</HL7-SERVER>

```

How to handle multiple sites

The following is an example where the xml output is directed to one of two sites based upon the value of segment number 3 of the MSH message. If the value at this location is "SJC", then the data is sent to "PendingSiteOne", and if the value is "SFC" then the data is sent to "PendingSiteTwo".

```

<HL7-SERVER>
<SITE-ID-MESSAGE>MSH</SITE-ID-MESSAGE>
<SITE-ID-SEGMENT>3</SITE-ID-SEGMENT>
<SITE>
<DIRECTORY>PendingSiteOne</DIRECTORY>

```

```
<SITE-ID-VALUE>SJC</SITE-ID-VALUE>  
</SITE>  
<SITE>  
<DIRECTORY>PendingSiteTwo</DIRECTORY>  
<SITE-ID-VALUE>SFC</SITE-ID-VALUE>  
</SITE>  
</HL7-SERVER>
```

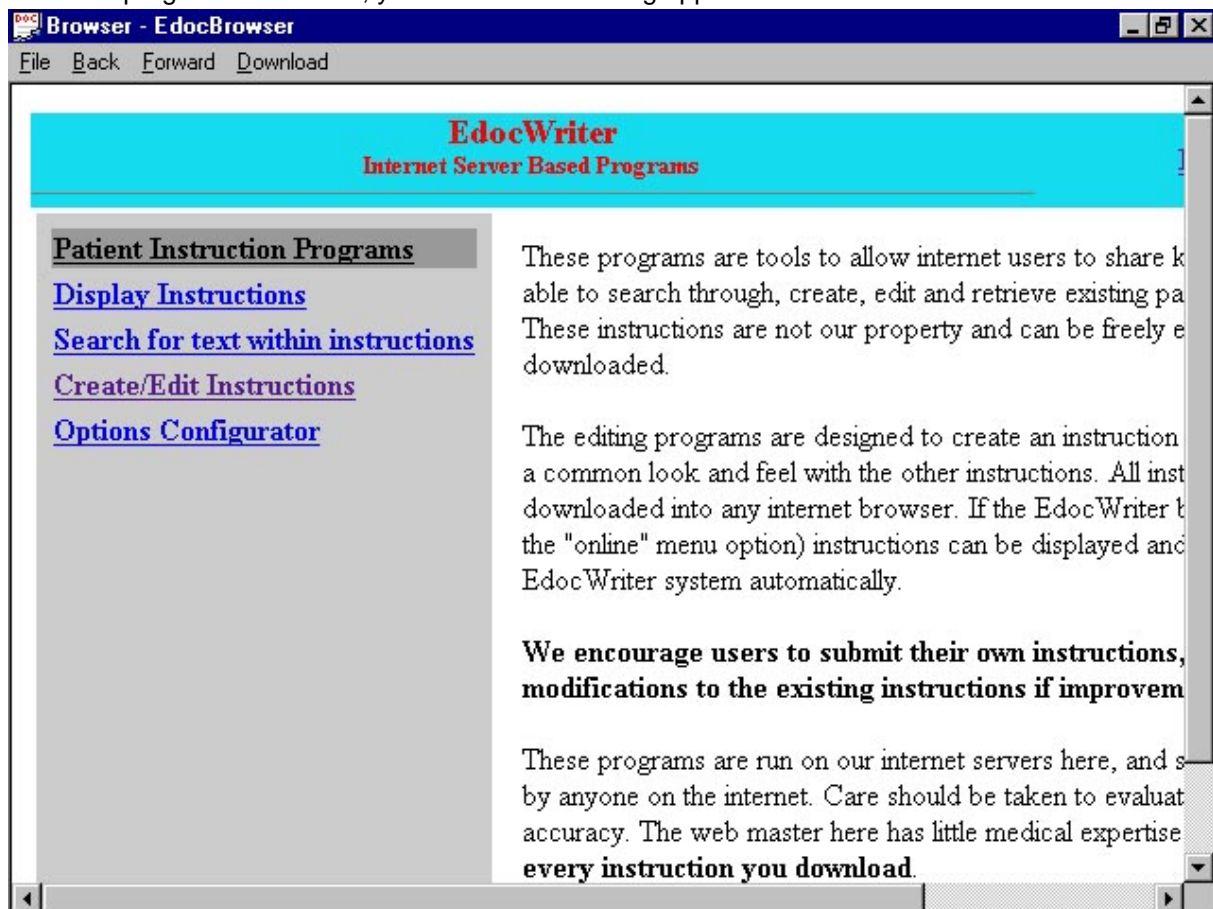
EdocWriter Internet Browser

Starting and using the browser

To start the *internet browser* click on the File and then Go Online Menu Bar and finally the SupportSite selection. The other options listed here invoke the browser, but point to specific pages.

The browser only allows the user to navigate to pages on the **EdocWriter Web Site**.

Once the program has started, you should see a dialog appear like the one shown below:



EdocWriter Web Based Facilities

A "Download" menu option allows the user to download patient instructions and invoke some automatic configuration tools from **EdocWriter** Workshop on the web site.

The user can navigate to this page by *clicking* on the **Customer Support** link on the **EdocWriter** Home page and then *clicking* on the **Web Workshop Link** on the **EdocWriter Customer Support** page.

Checking for updates

A customized *web page* for each version of **EdocWriter** exists to inform the user when an update is available. To check for an update, *click* on the File and then Go Online Menu Bar and finally the Update EdocWriter selection.

Before an update is run, the user must make sure no one is using **EdocWriter**.

EdocWriter Auto Fax and Auto Email

Introduction to Email and Auto Fax Facilities

EdocWriter can automatically notify an external agency a patient has been referred to them through either fax or email. Additionally, a prescription can automatically be sent to a pharmacy via fax or email.

Patient privacy is an issue. The system has been designed to meet any privacy concerns by allowing the user to specify what information is to be transmitted. Specifically the *discharge instruction* is not sent, just a template associated with the selected *follow-up note*. If privacy is not a concern, this associated template can contain a command instructing that the entire *discharge instruction* is to be included.

The system can be configured to send faxes or emails (or both), either through a central server, or directly from each workstation. A central server is the recommended approach because it is more reliable and provides better control.

Setting up the auto Email function

The requirements for either Email or fax are similar. The most significant difference is that the auto fax function requires the specification of fax printer. Instead of repeating the instructions, follow the instructions for Setting up the auto fax function , substituting "email" or "fax" where appropriate.

Summary of basic Steps for setting up Auto Fax or Auto Email

- Set up the autofax on the fax server using the **installautofax.exe**.
- Add the appropriate token to the patient instruction configuration file.
- Verify that the enable fax or email directory is enabled in the configuration table.
- Verify that the fax directory is specified in the configuration table and that the directory does exist. Relative paths should be used.
- Turn the enable email or fax option in the *Includes* part of the Modify Care Provider dialog. If global changes are to be made, it would be quicker to identify the referral physicians that can receive sent information in the Care Provider table.
- Associate the template to be used when a follow up instruction is selected in the Modify Template Dialog. An association must exist for each follow up instruction that will result in a fax being sent.
- If using the auto email, enter the email server address, reply to address, and email subject line in the **EdocMailServer** configuration file.
- Restart the program if changes have been made after the program has been started.

Setting up the auto fax function

When the user selects a follow up instruction referring the patient to an outside care provider, **EdocWriter** will check to see if the auto fax or email functions are enabled, and secondly whether a template exists that is associated with the follow up instruction that has been selected. If these conditions are met, then a fax or email notification will appear in the **Selected Items List**. The user can delete this notification from the list, and it will not be sent. If not deleted, the fax or email will be sent when the *Discharge Instruction* is printed.

- If implementing auto fax, verify that the **EdocWriterFax** exists in the list of printers on any workstation that is faxing. If it does not, a **EdocWriter Autofax Installation** program is available in the **EdocWriter** directory (filename: **Install AutoFax**). If a centralized server is

being used, the printer would only have to be installed on the workstation the server program is being run on.

- If all faxes or emails are to be done by a central fax server, Enable the auto fax directory parameter in the Configuration table and specify the directory . This will cause **EdocWriter** to write information to the directory specified so it can be read by the server. If this parameter is not enabled, then the fax will be sent from the local workstation.
- Verify that the patient instruction structure includes the appropriate fax or email tokens .
- Verify that there is a fax templates for each of the follow-up notes that will result in referrals.
- Verify that there are fax numbers for each of the referral doctors.
- Verify that the file called **edocmailserver.xml** exists in the main **EdocWriter** directory.

Associating fax and email templates with follow-up note templates

The process is to first create a template of the *type fax* or **Email**, and then create a link to a template of the *follow-up note type*.

- Create a new template per the instructions above
- *click* **Select .. templates for Email or Faxes** from the **Template Maintenance Dialog**.
- *click* **Select .. templates for Email or Faxes** from the **Template Maintenance Dialog**, and **click on next**.
- *click* on the *follow-up note* that you want to fax or Email automatically from the *list box* on the right side.
- *click* on the *fax or Email template* to be sent when the selected *follow-up note* is chosen by the user.
- *click* on the **fax this** and/or **Email this** *radio button* indicating if the **relationship** applies to either or both.
- **click** on the **Add Relationship** button.

Including the Discharge Instruction in an Auto Fax or Email

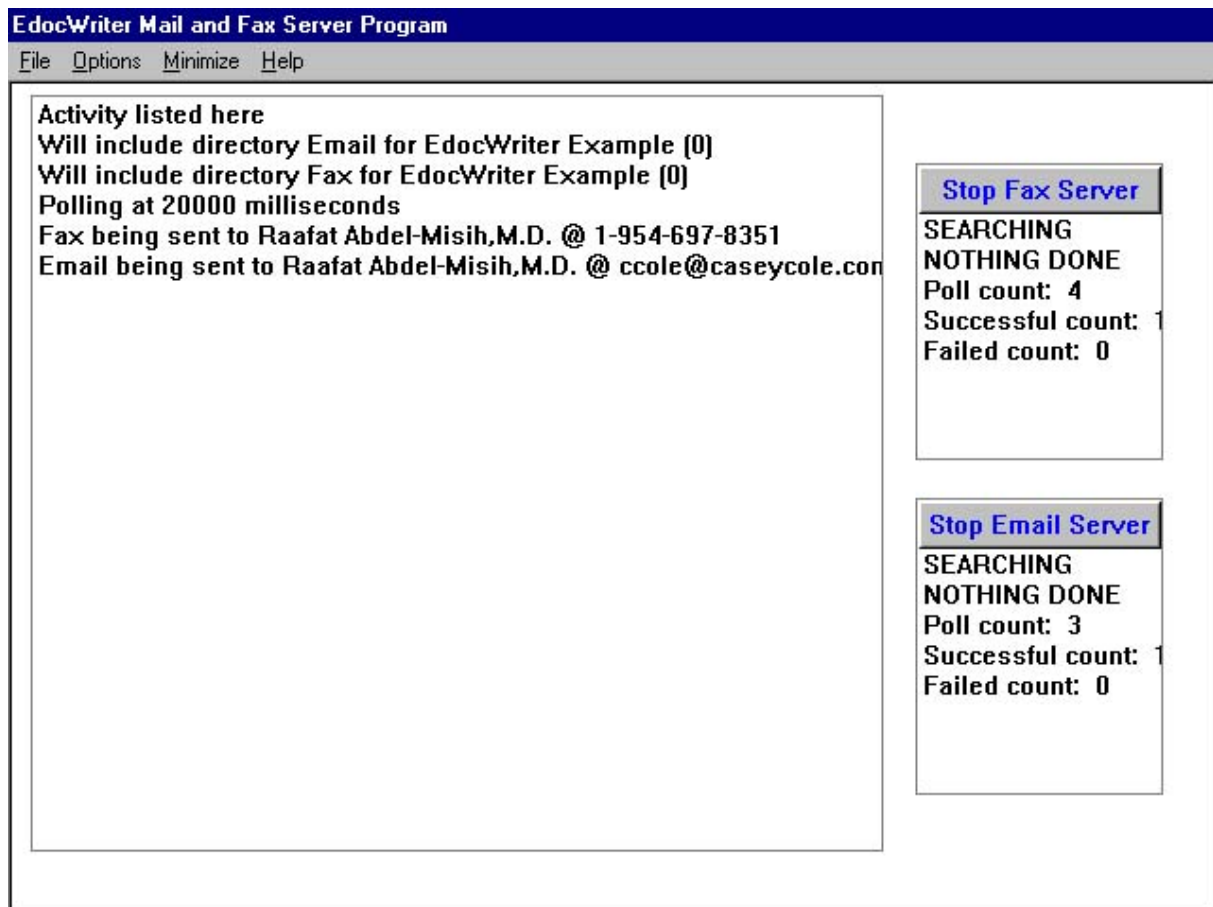
A *fax* or *Email* template can include the token **ADD_PI**, which will cause the entire *discharge instruction* to be inserted in place of the token.

The **EdocWriter Auto Fax and Mail Server** is designed to run on a centralized computer and process fax and email requests from all sites. This is an alternative to sending such messages directly from each workstation to the recipients. Using a centralized server should reduce maintenance issues and increase reliability.

When the program is running it will periodically search for email or faxes that have been generated. When found, the program will send the information to the individual specified, and the information will be marked as have been sent. If the program is not running, email or faxes to be sent will continue to accumulate until the server program is run. After starting, the program will wait for the delay time period (approximately 20 seconds), and then begin searching. This is to allow the program to be started automatically whenever the computer server is restarted if the program is included in the list of *start up tasks*.

Description of Program User Interface

Once the program has started, you should see a dialog appear like the one shown below:



The following *controls* are available:

- A *button* to toggle the processing of fax information.
- A *button* to toggle the processing of email information.
- A *list box* displaying the recipients and the transmission type.
- A *list box* displaying the most recent status of the fax subsystem.
- A *list box* displaying the most recent status of the email subsystem.
- An *Options Menu Bar* choice that can cause the display of the text being sent or detailed transmission information.
- A *Minimize Menu Bar* choice that can be used to hide the display by moving it to the *task bar*.

EdocWriter Mail Server XML Configuration File

Configuration information is read from a xml file called **edocmailserver.xml** by **EdocMailerServer** and **EdocWriter**.

- specifies of often input directories are searched.
- specifies the input email directories.
- specifies the input fax directories.
- specifies the autofax printer system parameters.

An example of the file is provided below.

```
<EDOCMAILSERVER>
```

```
<POLL_SECS>30</POLL_SECS>
```

<FAX>

<PRINTER> edocautofax </PRINTER>

<DRIVER> edocautofax </DRIVER>

<PORT> edocautofax </PORT>

<DIRECTORY> FAX </DIRECTORY>

<COVERPAGE_PATH> TemplateData\FaxCoverPage.pg </COVERPAGE_PATH>

<RETRY_SEND_COUNT>1</RETRY_SEND_COUNT>

<RETRY_DELAY_SECS>30</RETRY_DELAY_SECS>

<PREFACE_FAX>9,</PREFACE_FAX>

</FAX>

<EMAIL>

<DIRECTORY> EMAIL </DIRECTORY>

<MAIL-SERVER-ADDRESS> www.youremailserver.com </MAIL-SERVER-ADDRESS>

<SUBJECT-LINEY> Patient Referral </SUBJECT-LINE>

<REPLY-TO-EMAIL> replytoname@youremailserver.com </REPLY-TO-EMAIL>

</EMAIL>

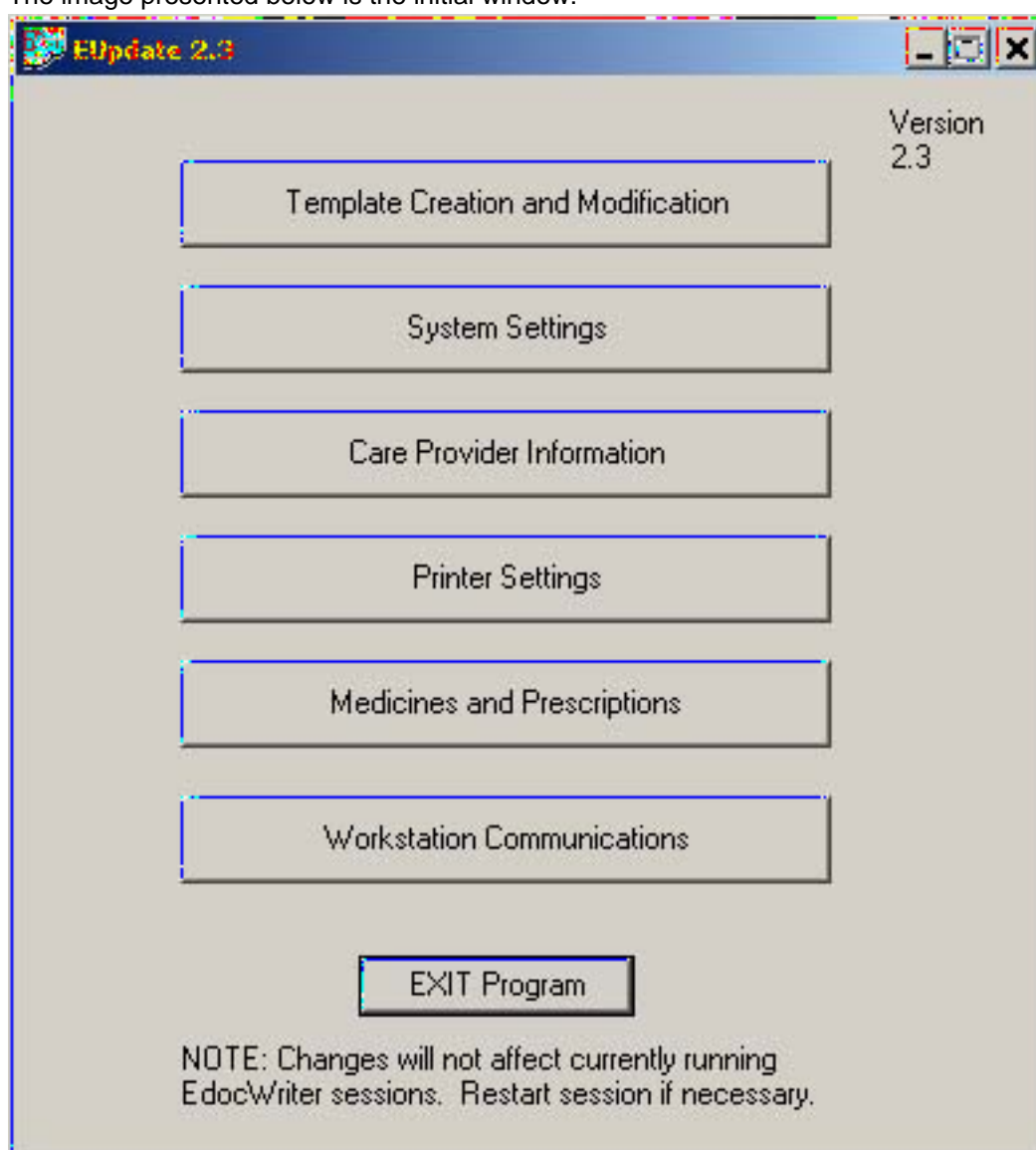
</EDOCMAILSERVER>

Modify EdocWriter Data Program

Starting the program

This program can be started from the *EdocWriter Program Group* in the *Windows Start* or from the main program menu through the **Modify Workstation Settings** option in the **EdocWriter** menu bar. The **Modify Data** option in the **EdocWriter** menu bar can be disabled so that users are prevented from making modifications.

The image presented below is the initial window:



User Access Restrictions

User Access from the **Modify Data** option in the **EdocWriter** menu bar can be restricted by changing the **Modify Command** parameter in the *Configuration Table*.

The following command line options will hide the appropriate buttons:

- --NoSystem
- --NoPrinter
- --NoTemplate
- --NoCareProvider
- --NoRx
- --NoUcom

Template Creation and Modification

Template Creation and Modification Dialog

A *template* is a file containing *XML tokens* and text used to display all the information that is given to patients. The information here is merged with information generated from the user's selections. *Templates* are divided into *types* and *versions*. Examples of *types* of templates are medicine instructions, follow-up notes, and output formatting templates such as a *prescription form* or *discharge instruction header*. Examples of *versions* are *English Level 5* or *Spanish*.

Click on the **Template Creation and Modification** button will result in the following be displayed:

The screenshot shows a dialog box titled "Template Maintenance Dialog". It is divided into two main sections. The first section, "Changes to template text", contains two radio buttons: "Edit an existing template (or create a new language version)" and "Create a new template". The second section, "Changes to table definitions", contains three radio buttons: "Just change where an existing template is listed (note: not often used)", "Create an Alias", and "Specify which templates to use for eMail or Faxes". At the bottom of the dialog, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

The **Template Maintenance Dialog** two *groups*, the **Changes to template text** *group* has:

- **Edit an existing template (or create a new language version** *radio button* which is used to modify the text of an existing template or to create a new *version*. If you already have an instruction for "Headaches" in *English Level 9*, then you would *click* on this to create a *French version*.

- **Create a new template** would be selected where no *version* in any language exists.

The **Changes to table definitions** *group* has:

- **Just change where an existing template is listed** *radio button* changes the information about the template in the *database*. This would be used to change the description or delete a template.
- **Create an alias** allows you to use list a patient instruction under multiple descriptive titles or categories. For instance the same instruction could be called "Fractured Arm" and "Broken Arm."
- **Specify which templates to use for eMail or Faxes** allows you to send a copy of a template that is purged of any information that should not be sent. For instance, a follow up note sent to a referral doctor may only contain information that the patient was referred and to contact the referee for additional information.

How EdocWriter Text Processing Works

EdocWriter has many of the characteristics of a word processor application. It takes information stored on "boiler plate" documents and merges it with stored information and information entered by the user.

EdocWriter presents information to the users using *HTML*, the same technology as *internet browsers*. For those who are technically sophisticated, the program requires the source data be *well-formed HTML* as well. To press this a bit further, the program does not require that the source instructions be valid to a specified *DTD*, however the instructions provided with the system are.

Creating and editing source documents consists of using a *HTML* word processor to enter text and indicating the information to be inserted by placing tokens representing the desired information into the text. Although conceptually you can use any *HTML* capable word processor, many currently do not create *well-formed HTML*. We have modified the *editor* that comes with **EdocWriter** to create only *well-formed* text.

Tokens: Inserting patient and doctor information

A token is a symbol within a *template* that informs **EdocWriter** to replace it with specific patient information. Tokens are available for almost any piece of information available on patients and doctors. When you select an instruction or note, **EdocWriter** will search for *tokens* in the templates (word processing documents) associated with those instructions and notes. **EdocWriter** then replaces the *tokens* with the actual information and adds the resulting merged information to the discharge document being created.

A *token* to insert information looks like this:

```
<?TOKEN "TOKEN-NAME" ?>
```

where "TOKEN-NAME" is replaced by the name of the specific information to be inserted.

The *editor* that comes with **EdocWriter** allows you to *click* from a list of *tokens* so you don't need to know this detail. However, for the more technical minded, an example follows.

This is an example of the XML used to create a particular follow up note. The markup that starts with "<?" is a *processing instruction*. Notice that the last *processing instruction* invokes a routine to prompt for and insert a date.

```
<FOLLOW-UP-INSTRUCTION> Call <?TOKEN "REFERRAL-NAME" ?> (<?TOKEN "REFERRAL-PHONE" ?>) at <?TOKEN "REFERRAL-ADDRESS-LINE1" ?>, <?TOKEN "REFERRAL-CITY" ?> today or as soon as possible. Let the office know that you were seen at <?TOKEN "ORG-NAME" ?> (<?TOKEN "ORG-PHONE" ?>) and that you were told to call the office to arrange a follow up visit by <?ASK-DATE?>. </FOLLOW-UP-INSTRUCTION>
```

Tokens: Prompting for information from the user

Another *token* will result in the user being prompted to enter information. It is called a *prompt token*. A *prompt token* looks like this:

```
<PROMPT "QUESTION-TEXT" />
```

where "QUESTION-TEXT" will be used to form the prompt text. For instance, if the QUESTION-TEXT were to be replaced by "Please enter the number of stitches", then this will result in the *Question Dialog* displaying this text above a data entry box. The results of whatever the user enters replaces the *prompt token* in the text.

Again, the *editor* that comes with **EdocWriter** allows you to *click* from a list of *tokens* so you don't need to know this detail. However, for the more technical minded, an example follows.

This is an example of the XML used to create a particular doctor note. The markup that starts with "<?" is a *processing instruction*.

```
<DOCTOR-NOTE-INSTRUCTION> <NEXT-LINE /> Doctor's Note for <?TOKEN PATIENT-NAME ?>:
<?PROMPT "Enter comments here" ?> </DOCTOR-NOTE-INSTRUCTION>
```

Modifying the template of an instruction or form

To modify an existing template

- Invoke the EdocWriter Modify Program.
- *Click* on **Template Creation and Modification** button. The **Template Maintenance and Modificaton** *property page* will be shown.
- *Click* on the **Edit an existing template** *check box*, and then *click* on the **Next** button. The **Select the template type ...** *list box* will be displayed with the *template types* displayed.
- *Click* on the type of *template* and then *click* on the **Next** button. The titles of all the *templates* of the selected type will be displayed.
- *Click* on the *template* to be modified and then *click* on the **Next** button. The *template versions* will be displayed.
- *Click* on the *template version* to be modified and then *click* on the **Finish** button. An *editor* will be started, the *template* can be edited.

Creating a new template of an instruction or form

To create a new template template

- Invoke the EdocWriter Modify Program.
- *Click* on **Template Creation and Modification** button. The **Template Maintenance and Modificaton** *property page* will be shown.
- *Click* on the **Create a new template** *check box*, and then *click* on the **Next** button. The **Select the template type ...** *list box* will be displayed with the *template types* displayed.
- *Click* on the type of *template* and then *click* on the **Next** button. A *dialog box* with the title **Enter the template title** will be displayed.
- *Enter* the description of the *template* into the *edit box*. What you enter here will be displayed in the *list boxes* shown to users to make selections from. *Click* on the **Next** button. The *template versions* will be displayed.
- *Click* on the *template version* to be created and then *click* on the **Finish** button. An *editor* will be started, the *template* can be edited.

Care Providers

Modifying care provider information

A *care provider* in **EdocWriter** is a user or referral person or agency. The same information is maintained for all care providers. Care provider information is maintained through the **EdocWriter Modify** program. To make modifications:

- Start the **EdocWriter Modify** program.
- *click on Care Providers*
- select **Existing** or **New**

Here is an example of what should be displayed for a user:

Enter the information about the care provider here

1- First	<input type="text" value="Neal"/>
2- Last Name	<input type="text" value="Abraham"/>
3- Title	<input type="text" value="M.D."/>
4- Organization	<input type="text" value="Medical Center"/>
5- Address Line 1	<input type="text" value="PO Box 501"/>
6- Address Line 2	<input type="text"/>
7- City	<input type="text" value="Metropolis"/>
8- State	<input type="text" value="NY"/>
9- Zipcode	<input type="text" value="99999"/>

Phone and Email Addresses
 Voice Fax Email

Includes
 On Physician Menu On Assistant Menu
 User Message Recipient Auto Mail Recipient

DEA Number	<input type="text" value="BA4222222"/>
Site Identifier	<input type="text"/>
Doctor Specific Patient Instruction Version	<input type="text"/>

Adding a Referral doctor

- *click* on **Modify Data** on on the Menu Bar at the top of the menu
- *click* on **Care Provider Information**
- select **Existing** or **New**
- select **New**
- enter the appropriate data.

Printer Table

Modifying Printer Table Elements

The **Printer Table** is control the format and number of copies for each of the type of output document types. To modify Printer Table settings

- Invoke the EdocWriter Modify Program.
- *Click* on **Printer Settings** button. A *tree list box* containing all parameter settings will be displayed. The settings will be organized by output document type.
- *Double-click* on the item to be modified.

Bottom Margin : Amount of space in inches between bottom of page and text. A value could be .50 for one half of an inch.

Copies : Number of copies printed.

document : System use only. This value will be used for the printer of this type.

Font : The font to be used for this document.

Footer Margin : Amount of space in inches between bottom of page and the page number. A value could be .50 for one half of an inch.

Header Margin : Amount of space in inches between top of page and the header printed on the second and subsequent lines of an instruction.

Left Margin : Amount of space in inches between left side of page and text. A value could be .50 for one half of an inch.

Left Margin : Amount of space in inches between left side of page and text. A value could be .50 for one half of an inch.

Relative Font Size : A value of 0 is normal, 1 is larger, -1 is smaller. The theoretical range is -7 to +7, but a value of 1 or 2 is most appropriate.

Right Margin : Amount of space in inches between right side of page and text. A value could be .50 for one half of an inch.

Top Margin : Amount of space in inches between top of page and text. A value could be .50 for one half of an inch.

Medicines and Prescriptions

Creating, modifying or deleting a medicine

Medicines be created directly from the **Prescription Dialog**. Once this information is entered, it can only be modified by using the **Modifiy EdocWriter Data** program. New medicines can be created as well.

To create, modify or delete a medicine

- Invoke the EdocWriter Modify Program.
- *Click* on **Medicines and Prescriptions** button. A *dialog window* will be shown with a **Medicine** *button* and a **Prescription** *button*.
- *Click* on the **Medicine** *button*. A list of available medicines will be shown.
- *Click* on the one you want to modify or delete. If you want to delete, *click* on the Delete, otherwise *click* on Edit and a **...Select a Medicine Instruction or Doctor Note** *dialog window* will be shown.
- *Click* on the desired medicine instruction if one is desired, or *click* on the **No Instruction** *checkbox* if none is to be used. You can also add text to the **Note** *edit box*. This text will be

displayed when a user selects the medicine when creating a prescription.

Creating, modifying or deleting a prescription

Prescriptions be created directly from the **Prescription Dialog**. Once this information is entered, it can only be modified by using the **Modify EdocWriter Data** program. New prescriptions can be created as well.

To create, modify or delete a prescription

- Invoke the EdocWriter Modify Program.
- Click on **Medicines and Prescriptions** button. A *dialog window* will be displayed with a **Medicine** *button* and a **Prescription** *button*.
- Click on the **Prescription** *button*. A list of available medicines will be shown.
- Click on the one that has a prescription you want to modify. A list of the available prescriptions will be shown.
- Click on the one prescription you want to modify or delete. If you want to delete, *click* click on the Delete, otherwise *click* on *parameter* you want to change.

System Settings Button

Clicking on this button allows for modification of the *site configuration* information. Two buttons will be shown: **Internet** and **Configuration**.

The **Internet** selection will modify data that deals with communications over *TCP/IP*. This would include *email servers*, *ftp servers*, and *database servers*.

The **Configuration** selection will modify data that is used to customize the program.

Modifying Configuration Table Parameters

The **Configuration Table** is the foundation of any customizations. Each *site* is has a unique set of **Configuration Table**. To modify Configuration Table settings

- Invoke the EdocWriter Modify Program.
- Click on **Systems Settings** button. The **Modify System Configuration and Internet Settings** *dialog box* will be shown.
- Click on the **Configuration Settings** button. A *tree list box* containing all settings will be displayed. The settings will be organized in groups.
- *Double-click* on the item to be modified. What happens next depends on the type of information required.

List of Configuration Table Parameters

Display Options

Invoke PI Dialog after Diagnosis : Immediately after a diagnosis is selected, the list of patient instructions is shown.

Display Options

Patient Account Length : Entering a account number length greater than zero will force entry of an account number of that specific length. A value of zero will cause a value to be entered, but no specific length will be required. A empty value will allow but not force a value to be entered.

Display Options

Start with Diagnosis : Sets the initial data displayed to be diagnoses, not patient instructions, or patient instruction categories

Display Options

Use a Combo List for Diagnoses : Causes the diagnoses to be displayed in a "list" instead of a "tree".

Display Options

Use a Combo List for Patient Instructions : Instead of first displaying the patient instruction categories, all available patient instructions are displayed

Display Options

Use Diagnosis PI Link : Enables the automatic linking of a patient instruction with a diagnosis. After a diagnosis is selected, the program will automatically insert the associated instruction, or will select and associate the next selected instruction if no association exists.

Display Options

Use Doctors Last Name first : Doctor names are displayed and sorted in last name alphabetic order.

Feature Options

Collect Demographics : deprecated

Feature Options

Collect Patient Account Numbers : A account number can be entered for new patients if this flag is set. Entering a account number length in that option can force entry of an account number.

Feature Options

Command File Polling MilliSeconds : Number of milliseconds between polling of the XML Command File.

Feature Options

Delete patient html files : Deletes the html file when the patient's xml data file is deleted.

Feature Options

Enable Additional Care Provider : Allows for the addition of any number of additional care providers. Will prevent the program from automatically inserting the last selected care provider. Cannot be used with the Use Physician Assist option.

Feature Options

Enable Auto Select of Additional Care Provider User : Automatically selects the last additional care provider user.

Feature Options

Enable Auto Select of User Physician : Automatically selects the last physician user.

Feature Options

Enable Diagnoses : if set, displays the Patient Instruction/Diagnosis Button to switch the type of information currently displayed.

Feature Options

Enable Email Directory : instead of sending the email from each workstation, send it to the email directory

Feature Options

Enable Estudy : System use only.

Feature Options

Enable Fax Directory : instead of sending the fax from each workstation, send it to the fax directory

Feature Options

Enable Internet : Instructs the program to utilize the TCP/IP settings in the INTERNET table to retrieve data

Feature Options

Enable Language Button : Enables the display of the current default language button.

Feature Options

Enable Prescription EMail : Enables the creation of a document to be faxed to a pharmacy. The document will be based upon a template associated with the prescription template used

Feature Options

Enable Prescription Fax : Enables the creation of a document to be faxed to a pharmacy. The document will be based upon a template associated with the prescription template used

Feature Options

Enable Referral EMail : Enables the creation of a document to be sent by email to physicians patients are being nameerred to. The document will be based upon a template associated with the follow up note template used

Feature Options

Enable Referral Fax : Enables the creation of a document to be sent by fax to physicians patients are being nameerred to. The document will be based upon a template associated with the follow up note template used

Feature Options

Macro Default Directory Token : Token value (without surrounding braces) that is used to create or use when a macro is read or written.

Feature Options

Read XML Command file : Instructs program to poll for an XML command file, and process the XML if found.

Feature Options

Use Internet : instructs system to use FTP for file transfers.

Feature Options

Use Pending Patient Facility : Enables the Pending Patient Button

Feature Options

Use Physician Asst : Enables the display of Physician Assistants after the selection of the physician user.

Filename

User Message Filename : If specified, the browser will display this message file the first time each user is selected for a patient instruction.

Location of Directories

Email Directory : path where Emails are stored.

Location of Directories

Fax Directory : path where Faxes are stored.

Location of Directories

Graphics Directory : Directory of graphic images. Graphics must be stored here.

Location of Directories

Instruction Directory Path : Complete path of the directory containing the templates.

Location of Directories

Log File Path : path where the program will write out a log of the XML commands generated.

Location of Directories

Macro Directory : path where macro XML Command Files are found. The instruction templates must be located here.

Location of Directories

Patient Data Directory Path : Complete path where the files containing the information in XML for each patient will be created and retrieved.

Location of Directories

Pending Patient Directory :

Location of Directories

System Directory Path : system use only

Location of Directories

Workstation Directory Path : system use only

Option Parameter Values

Default Version : default language version. Must be of the form ".xxx.xml", where "xxx" is the language specifier.

Option Parameter Values

Fax and Email Prescription Template Key : This key specifies the template to be used for auto fax or email prescriptions.

Option Parameter Values

File Name format : This is for system use only. Do not change.

Option Parameter Values

Internet table key : The key of the entity in the INTERNET table that contains the parameters that will be used for TCP/IP communications if enable by the Enable Internet Flag.

Option Parameter Values

Modify Command : Specifies the command line used to invoke the modify program. The syntax is program option1 ... optionN

Option Parameter Values

Number of days patient data is saved : After specified number of days, patient data xml files are deleted.

Option Parameter Values

Number of hours pending patient data is saved : After specified number of hours, pending data xml files are deleted.

Option Parameter Values

Pharmacy Care Provider Key : This key specifies the pharmacy that is to receive faxes or

emails.

Screen

Button Size X : Percent of screen to allocate to the width of the rectangle containing the buttons. Must have a value from 1 to 100.

Screen

Button Size Y : Percent of screen to allocate to the height of the rectangle containing the buttons. Must have a value from 1 t

Screen

Buttons Offset X : Percent of screen before the top of the rectangle containing the buttons. Must have a value from 1 t

Screen

Buttons Offset Y : Percent of screen between the left margin and the rectangle containing the buttons. Must have a value from 1 t

Screen

Doctor Box Offset X :

Screen

Doctor Box Offset Y :

Screen

Doctor Box Size X : Percent of screen to allocate to the width of this list box. Must have a value from 1 to 100.

Screen

Doctor Box Size Y : Percent of screen to allocate to the height of this list box. Must have a value from 1 to 100.

Screen

PI Box Size X : Percent of screen to allocate to the width of this list box. Must have a value from 1 to 100.

Screen

PI Box Size Y : Percent of screen to allocate to the height of this list box. Must have a value from 1 to 100.

Screen

PI Offset X : Percent of screen between the left margin and the rectangle containing the list. Must have a value from 1 to 100.

Screen

PI Offset Y : Percent of screen before the top of the rectangle containing the list. Must have a value from 1 to 100.

Screen

Selection Box Offset X : Percent of screen between the left margin and the rectangle containing the list. Must have a value from 1 to 100.

Screen

Selection Box Offset Y : Percent of screen before the top of the rectangle containing the list. Must have a value from 1 to 100.

Screen

Selection Box X Size : Percent of screen to allocate to the width of this list box. Must have a value from 1 to 100.

Screen

Selection Box Y Size : Percent of screen to allocate to the width of this list box. Must have a value from 1 to 100.

Security Options

Disable Browser Modify : If set, the user cannot use the browser to retrieve instruction templates or execute sql commands from our web site.

Security Options

Disable Browser Sql : User cannot use the browser to execute sql commands from our web site.

Security Options

Disable Online Access : If set the user cannot use the browser.

Security Options

Enable User Modify Rights : This is the "top level" security switch. Disabling will prevent the user from making modifications to system data (except adding medicines and prescriptions through the Prescription Dialog) and workstation parameters.

Site Token Values

CONFIGURATION_KEY : System use only.

Site Token Values

Organization Address1 : Sets this XML Token value

Site Token Values

Organization Address2 : Sets this XML Token value

Site Token Values

Organization City : Sets this XML Token value

Site Token Values

Organization Name : Sets this XML Token value

Site Token Values

Organization Phone : Sets this XML Token value

Site Token Values

Organization State : Sets this XML Token value

Site Token Values

Organization Zipcode : Sets this XML Token value

Site Token Values

Prescription Formulary No : Text displayed for yes formulary selection.

Site Token Values

Prescription Formulary Yes : Text displayed for no formulary selection.

SYSTEM

HI7 Port : The port number used by the HL7 interface

System File and Template Names

Additional Care Provider Filename : filename of the text printed for each additional care providers if the Enable Additional Care Provider option is select

System File and Template Names

Additional Care Provider Sub Heading Filename : filename of the sub header text printed before additional care providers if the Enable Additional Care Provider option is selected

System File and Template Names

Browser URL : system use only

System File and Template Names

Button Structure XML : Filename for the xml file containing the tokens describing what buttons, their order, titles, and function key mappings. In addition defaults can be given for the prescription dialog. See Button Structure File for an explanation on how to modify this file.

System File and Template Names

Care Provider Display Template File :

System File and Template Names

Diagnosis Sub Header Filename : filename of the sub header text printed before diagnoses in the discharge document

System File and Template Names

Diagnosis Text Filename : filename of the diagnosis text printed in the discharge document

System File and Template Names

DocNote Sub Header Filename : filename of the sub header text printed before doctor note text in the discharge document

System File and Template Names

Doctor Note Header File : filename of the header text inserted in the front of each doctor note. File is located in the Instruction Template Path

System File and Template Names

Edocwriter Chat Xml Path : Specifies the xml file containing the specification of the chat program parameters. If this item is blank, then the chat program is not invoked.

System File and Template Names

Estudy Configuration Xml File : System use only.

System File and Template Names

Follow Up Sub Header Filename : filename of the sub header text printed before follow up notes in the discharge document

System File and Template Names

Header Filename : Filename of the discharge instruction header text. The filename must be located here.

System File and Template Names

Instruction Template Path : path where instruction templates are found. The instruction

templates must be located here.

System File and Template Names

Med Sub Header Filename : filename of the sub header text printed before medicine instructions in the discharge document

System File and Template Names

Physician Note Filename : filename of the physician note. File is located in the Instruction Template Path

System File and Template Names

PI Structure XML : Filename for the xml file containing the tokens describing how the output document is to be structured..

System File and Template Names

PI Sub Header Filename : filename of the sub header text printed before the prescriptions in the discharge document

System File and Template Names

Prescription Filename : Filename the prescription form text. The filename must be located here.

System File and Template Names

Rx Sub Header Filename : filename of the sub header text printed before prescriptions in the discharge document.

System File and Template Names

Rx Text Filename Filename : filename of the prescription text printed in the discharge document

System File and Template Names

Trailer Filename : Filename of the discharge instruction trailer text. The filename must be located here.

System File and Template Names

Word Processor Path : Complete path and filename of the program used to edit the XML documents

System File and Template Names

XML Command filename : The path and filename of the XML Command File.

Modifying Internet Table Elements

The **Internet Table** is used for parts of the program that utilize *intra/internet* tools and functions. There can be more than one set of *parameters*. The **Configuration Table** indicates the *key* value to be used. To modify Internet Table settings

- Invoke the EdocWriter Modify Program.
- Click on **Systems Settings** button. The **Modify System Configuration and Internet Settings dialog box** will be shown.
- Click on the **Internet Settings** button. A *tree list box* containing all parameters settings will be displayed. The settings will be organized in sets identified by a *key*.
- *Double-click* on the item to be modified.

List of Internet Table Parameters

Database Host Address : reserved for future use.

Database Host Password : reserved for future use.

Database Host Port Number : reserved for future use.

Database Host User Name : reserved for future use.

Dial Up Flag : not used.

Ftp Host Address : the TCP/IP address of the FTP server.

Ftp Password : the password used to log onto the FTP server.

Ftp User Name : the name that is used to log onto the FTP server.

INTERNET_KEY : System use only.

Mail Host Address : the TCP/IP address of the host.

Mail Log flag : Flag to enable logging of mail information

Mail Log flag : name of log of mail activity

Mail Password : the password used to log onto the mail server.

Mail Port Number : the port number of the mail server.

Mail Reply To : depreciated

Mail Reply To Name : the reply to name that is used with generated mail.

Mail Server Address : the TCP/IP address of the mail server.

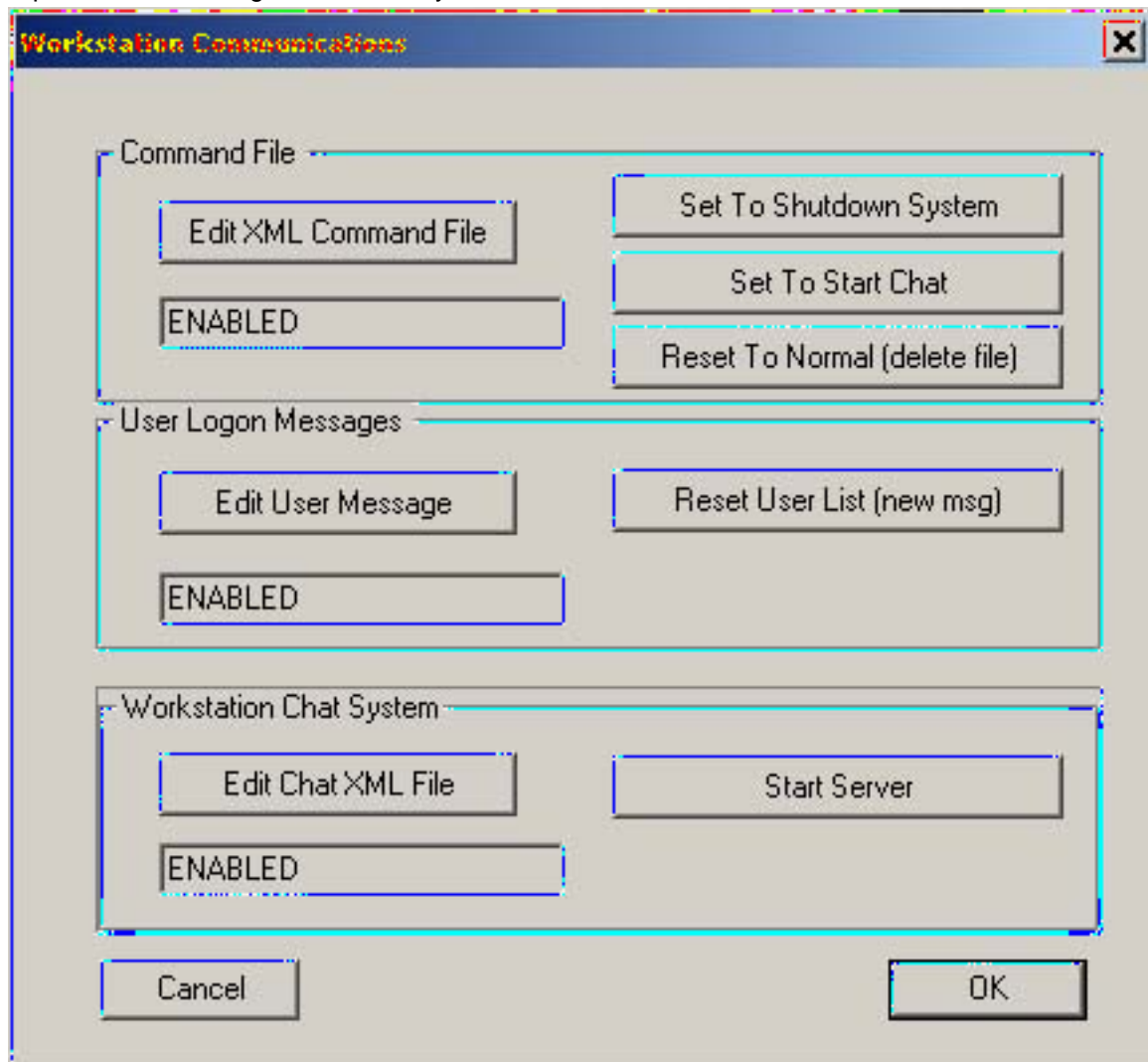
Mail Server Address : the TCP/IP address of host mail server

Mail User Name : Mail user name sent to mail server

Workstation Communication

Workstation Communication Dialog

A picture of the dialog box invoked by the *Workstation Communication* button is shown below:



There are three groups of *controls*. Each group has an *edit* box indicating whether the function is enabled. Here is a brief description of each group:

- The **Command File** group controls the contents of the file that the workstations will read periodically if enabled. The **Edit Xml** button allows the user to manually edit the file. Typically this button will not be used. Instead the user will either use the **Shutdown** or **Start Chat** buttons. These buttons insert the appropriate commands into the file. Not that once the command is written to the file (assuming this function is *enabled*) the specified action will remain active until the **Reset to Normal** button is used to erase the file. Thus if the **Shutdown** button is used, the users will not be able to access the system until the **Reset to**

Normal button is used.

Also, note that the server documented below must be started before the workstation's *client chat* using the **Command File** function documented here. The *client chat* requires the server to be running. Terminating the server stops the clients.

The function is enabled by the Read XML Command File parameter in the System Configuration Dialog.

- The **User Logon Messages** group controls the contents of the html file that will be shown to users of the system the first time their name is selected from the list of users. The user will not be shown the contents of the file again until the *Reset* button is used. The system tracks usage information in the **Care Provider Table**.

The function is enabled by the existence of a User Message File parameter in the System Configuration Dialog. This function is disabled if the parameter is empty.

- The **Workstation Chat** group controls the *Chat System* server. Note that once the server is started here, the workstations must be instructed to start their *client chat* using the **Command File** function documented in the item above.

The function is enabled by the Chat Xml File parameter in the System Configuration Dialog.

EdocWriter Chat Program

How the Chat Program Works

This facility creates a instant message facility for users. It consists of a **chat server** running on a file server, and a **chat client** for each **EdocWriter** user. The **chat server** (filename: edoc_chat_server.exe) runs continuously directing messages. A **chat client** (filename: edoc_chat_client.exe) is started by **EdocWriter** on each workstation when it is started by the user. The **chat client** will be minimized in the *system tray* until the icon is *double-clicked* or a message to the workstation is recieved from the **chat server**.

Configuration File

A chat xml file contains the parameters necessary to configure the chat function. At a minimum the file needs to specify:

- the **port** and the network **computer name** of the server
- the user assigned **name** and network **computer name** of each workstation

The administrator of the system should be assigned the **name** of **SYSTEM**.

Here is an example of a configuration file:

```
<EDOC_CHAT>
```

```
<SHUTDOWN/> - remove to start chat
```

```
<PORT>7000 </PORT>
```

```
<SERVER_HOSTNAME>WIN2000</SERVER_HOSTNAME>
```

```
<CLIENT>
```

```
<NAME>ROOM 300</NAME>
```

```
<CLIENT_HOSTNAME>WORKSTATION_300 </CLIENT_HOSTNAME>
```

```
</CLIENT>
```

```
<CLIENT>
```

```
<NAME>SYSTEM </NAME>
```

```
<CLIENT_HOSTNAME>WIN2000</CLIENT_HOSTNAME>
```

```
</CLIENT>
```

```
</EDOC_CHAT>
```

Appendix

Template Tokens

Template Tokens are placed in EdocWriter templates to signal that information is to be inserted when the instruction is printed. For example, if the token `<?TOKEN PATIENT-NAME ?>` is found in an instruction, it is replaced with the name of the patient when the instruction is printed.

If a token is found in an instruction of a *template type* where there is no information available, it will be ignored. For example, if the token `<?TOKEN RX-MED-NAME ?>` is found in a *Follow-Up Note* instruction, it will be ignored because it is not clear what medicine, if any, is being asked for.

Listed below are the tokens available, and where they can be used.

Tokens that can be placed in any template

User Interaction Tokens

- `<?TOKEN ASK-FOR-DAYS ?>` Will ask for the number of days and insert a numeric response
- `<?TOKEN ASK-DATE ?>` Will ask for the number of days and convert into a calendar date
- `<?TOKEN TEXT-BOX ?>` Will cause a multi-line edit box to display and will insert the result
- `<?PROMPT QUESTION="This is the question text" ?>` Will cause a display a dialog with the question text and a text box to input the answer. The answer will be inserted into the template

User Interaction XML Markup

Unlike a token which is called a *processing instruction*, the Template List Box is composed of several parts:

- `<LISTBOX >` causes a dialog to be displayed with a *list box*
- `<LISTBOX-ITEM TITLE="selection description" VALUE="value returned" ?>` defines the alternatives to choose from. The user sees a choice with the title `"selection description"`, and if chosen the `"value returned"` is inserted into the template.

Because this feature conforms to *XML* and not *HTML*, it will not be seen in the *html editor* that comes with **EdocWriter**. It might be easier to use a standard text editor to add it to a template. An example is:

```
<LISTBOX >
<LISTBOX-ITEM TITLE="I want to go up" VALUE="up" />
<LISTBOX-ITEM TITLE="I want to go down" VALUE="down" />
<LISTBOX-ITEM TITLE="I want to go out" VALUE="out" />
<LISTBOX-ITEM TITLE="I want to go in" VALUE="in" />
</LISTBOX >
```

Date and Time Tokens

- `<?TOKEN DATE ?>` example: March 6, 2004
- `<?TOKEN DATE-MMDDYY ?>` example: 03/06/2004
- `<?TOKEN DATE-DAY ?>` example: Saturday, March 6, 2004

- <?TOKEN TIME ?> example: 10:30 AM
- <?TOKEN TIME-24 ?> example: 14:30:18
- <?CALC-DATE n ?> where "n" is a number. Inserts date n days from today

Site Specific Tokens

- <?TOKEN ORG-NAME ?>
- <?TOKEN ORG-ADDRESS-LINE1 ?>
- <?TOKEN ORG-ADDRESS-LINE2 ?>
- <?TOKEN ORG-PHONE ?>
- <?TOKEN ORG-CITY ?>
- <?TOKEN ORG-STATE ?>
- <?TOKEN ORG-ZIPCODE ?>

Additional *Care Provider* Tokens

- <?TOKEN ASSISTANT-NAME ?>
- <?TOKEN ASSISTANT-FIRSTNAME ?>
- <?TOKEN ASSISTANT-LASTNAME ?>
- <?TOKEN ASSISTANT-TITLE ?>
- <?TOKEN ASSISTANT-NUMBER-OTHER ?>
- <?TOKEN ASSISTANT-NUMBER-DEA ?>
- <?TOKEN ASSISTANT-ADDRESS-LINE1 ?>
- <?TOKEN ASSISTANT-ADDRESS-LINE2 ?>
- <?TOKEN ASSISTANT-CITY ?>
- <?TOKEN ASSISTANT-STATE ?>
- <?TOKEN ASSISTANT-ZIPCODE ?>
- <?TOKEN ASSISTANT-ORGANIZATION ?>
- <?TOKEN ASSISTANT-PHONE ?>
- <?TOKEN ASSISTANT-FAXPHONE ?>
- <?TOKEN ASSISTANT-EMAIL ?>
- <?TOKEN ASSISTANT-TYPE ?>

User Physician Tokens

- <?TOKEN DOCTOR-NAME ?>
- <?TOKEN DOCTOR-FIRSTNAME ?>
- <?TOKEN DOCTOR-LASTNAME ?>
- <?TOKEN DOCTOR-TITLE ?>
- <?TOKEN DOCTOR-NUMBER-DEA ?>
- <?TOKEN DOCTOR-NUMBER-OTHER ?>
- <?TOKEN DOCTOR-ADDRESS-LINE1 ?>
- <?TOKEN DOCTOR-ADDRESS-LINE2 ?>
- <?TOKEN DOCTOR-CITY ?>
- <?TOKEN DOCTOR-STATE ?>
- <?TOKEN DOCTOR-ZIPCODE ?>
- <?TOKEN DOCTOR-ORGANIZATION ?>
- <?TOKEN DOCTOR-PHONE ?>
- <?TOKEN DOCTOR-FAXPHONE ?>
- <?TOKEN DOCTOR-EMAIL ?>
- <?TOKEN DOCTOR-TYPE ?>

Patient Tokens

- <?TOKEN PATIENT-NAME ?>
- <?TOKEN PATIENT-FIRSTNAME ?>
- <?TOKEN PATIENT-LASTNAME ?>
- <?TOKEN PATIENT-MIDDLENAME ?>
- <?TOKEN PATIENT-DOB ?>
- <?TOKEN PATIENT-ACCOUNT ?>
- <?TOKEN PATIENT-ADDRESS ?>

- <?TOKEN PATIENT-CITY ?>
- <?TOKEN PATIENT-STATE ?>
- <?TOKEN PATIENT-ZIPCODE ?>
- <?TOKEN PATIENT-PHONE ?>
- <?TOKEN PATIENT-TIME-IN ?>

Follow-Up Note and Email and Fax Tokens

These tokens that can be placed only in *Follow-Up Note* and *Email and Fax* templates. If a *Follow-Up Note* template *type* is selected that contains the <?TOKEN REFERRAL-NAME ?> token, then a *list box* will be displayed to select the referral from.

- <?TOKEN REFERRAL-TEXT ?>
- <?TOKEN REFERRAL-NAME ?>
- <?TOKEN REFERRAL-LASTNAME ?>
- <?TOKEN REFERRAL-FIRSTNAME ?>
- <?TOKEN REFERRAL-TITLE ?>
- <?TOKEN REFERRAL-ORGANIZATION ?>
- <?TOKEN REFERRAL-DEA-NUMBER ?>
- <?TOKEN REFERRAL-DEA-OTHER ?>
- <?TOKEN REFERRAL-ADDRESS-LINE1 ?>
- <?TOKEN REFERRAL-ADDRESS-LINE2 ?>
- <?TOKEN REFERRAL-STATE ?>
- <?TOKEN REFERRAL-CITY ?>
- <?TOKEN REFERRAL-ZIPCODE ?>
- <?TOKEN REFERRAL-PHONE ?>
- <?TOKEN REFERRAL-EMAIL ?>
- <?TOKEN REFERRAL-FAXPHONE ?>
- <?TOKEN REFERRAL-TYPE ?>

Email and Fax Only Tokens

These tokens that can be placed only in *Email and Fax* templates. *Email and Fax* templates are currently generated only for *Follow-Up Note* templates.

- <?TOKEN ADD_PI ?> Inserts the patient discharge instruction
- <?TOKEN RECIPIENT-NAME ?>
- <?TOKEN RECIPIENT-LASTNAME ?>
- <?TOKEN RECIPIENT-FIRSTNAME ?>
- <?TOKEN RECIPIENT-TITLE ?>
- <?TOKEN RECIPIENT-ORGANIZATION ?>
- <?TOKEN RECIPIENT-DEA-NUMBER ?>
- <?TOKEN RECIPIENT-DEA-OTHER ?>
- <?TOKEN RECIPIENT-ADDRESS-LINE1 ?>
- <?TOKEN RECIPIENT-ADDRESS-LINE2 ?>
- <?TOKEN RECIPIENT-STATE ?>
- <?TOKEN RECIPIENT-CITY ?>
- <?TOKEN RECIPIENT-ZIPCODE ?>
- <?TOKEN RECIPIENT-PHONE ?>
- <?TOKEN RECIPIENT-EMAIL ?>
- <?TOKEN RECIPIENT-FAXPHONE ?>
- <?TOKEN RECIPIENT-TYPE ?>

Additional Care Provider Template Tokens

Tokens that can be placed only in the template identified as Additional Care Provider Template

parameter.

- <?TOKEN CARE-PROVIDER-NAME ?>
- <?TOKEN CARE-PROVIDER-FIRSTNAME ?>
- <?TOKEN CARE-PROVIDER-LASTNAME ?>
- <?TOKEN CARE-PROVIDER-TITLE ?>
- <?TOKEN CARE-PROVIDER-NUMBER-OTHER ?>
- <?TOKEN CARE-PROVIDER-DEA-NUMBER ?>
- <?TOKEN CARE-PROVIDER-ADDRESS-LINE1 ?>
- <?TOKEN CARE-PROVIDER-ADDRESS-LINE2 ?>
- <?TOKEN CARE-PROVIDER-CITY ?>
- <?TOKEN CARE-PROVIDER-STATE ?>
- <?TOKEN CARE-PROVIDER-ZIPCODE ?>
- <?TOKEN CARE-PROVIDER-ORGANIZATION ?>
- <?TOKEN CARE-PROVIDER-PHONE ?>
- <?TOKEN CARE-PROVIDER-FAXPHONE ?>
- <?TOKEN CARE-PROVIDER-EMAIL ?>
- <?TOKEN CARE-PROVIDER-TYPE ?>

Prescription Form Tokens

Tokens that can be placed only in the template identified as Prescription Filename or Rx Text Filename template parameters.

- <?TOKEN RX-DISP ?>
- <?TOKEN RX-SIG ?>
- <?TOKEN RX-RX ?>
- <?TOKEN RX-MED-NAME ?>
- <?TOKEN REFILL-QTY ?>
- <?TOKEN RX-FORMULARY ?>

Medicine Instruction Tokens

- <?TOKEN MED-NAME ?>

Initial Menu Button Specification

The file specified by the Button Structure XML file contains XML tokens that represent buttons to be shown to the user. If the token for a button is not present in the file, the associated button is not shown. The user can also specify the *function key*, labels, and order of the buttons. The order of the tokens in the file determines the order of the buttons. In general the tokens have the form:

```
<token id=F2 ... F9 label =label text switch-label=flip side switch labels>
```

The *switch-label* attribute is used only for the *SWITCH-BTTN* for the button that toggles the user between diagnoses and patient instructions.

The *url* attribute is used only for the *LINK-BTTN* for the button that invokes the browser to go to the url specified.

The button *Function key F2* is associated with determines which button is invoked initially.

The available buttons and default attributes are:

```
<BUTTONS>
```

```
<NEW-BTTN label="New Patient" id = "F2" />
```

```

<PENDING-BTTN label="Pending" />
<EXISTING-BTTN label="Existing" />
<PRINT-BTTN id = "F4" label="Print" />
<EDIT-BTTN id = "F5" label="Edit" />
<MACRO-BTTN label="Packages" />
<LANGUAGE-BTTN label="Language" />
<FONT-SIZE-BTTN label="Font Size" />
<SWITCH-BTTN id="F3" switch-label="Show Diagnoses" label="Show PI Categories" />
<PICOMBO-BTTN switch-label="Switch PI List" label="Show PI Categories" />
<DN-BTTN id="F6" label="Doctor Notes" />
<LINK-BTTN label="Internet" url = "enter url here" />
<FU-BTTN id="F7" label="Follow Up Notes" />
<PRESCRIPTION-BTTN id="F8" label="Prescriptions" />
<MI-BTTN label="Medication Instructions" />
<PHY-NOTE-BTTN id="F9" label="Physicians Note" />
</BUTTONS>

```

Setting the system to not allow resetting of printers from the menu options

To disable or *grey out* the **Reset Workstation Printers** option from the **File->Modify Workstation menu bar**, insert the following token within the **XML Button** group shown above.

```
<NO-RESET-PRINTERS />
```

Patient Discharge Instruction Specification

The file specified by the Structure XML file contains XML tokens that represent the various types of instructions that can be included in the discharge instruction. The order of the component tokens determines the order of the component parts. If the token for an instruction is not present in the file, the associated instruction is not included. Some actions that are associated with printing of instructions are also supported. In general the tokens have the form:

The header and trailer are always included, and therefore no tokens are necessary for them.

Available tokens are:

```
<AFTERCARE-HTML-INSTRUCTION>
```

```
<DIAGNOSIS/> - diagnoses
```

```
<PATIENT-INSTRUCTION/> - patient instructions
```

```
<FOLLOW-UP> - follow up notes
```

<FAX/> create fax copy for referral physicians

<EMAIL/> create email copy for referral physicians

</FOLLOW-UP> - follow up notes

<RX> - Prescriptions

<MI/> - default to add medicine instructions

<DEFAULT_RX_OFF/> - set default to not create prescription

<AUTO_DATABASE_RX_OFF/> - set default to not automatically add unique prescriptions to the database

<AUTO_DATABASE_RX_ON/> - set default to automatically add unique prescriptions to the database

<FAX/> create fax copy for pharmacy

<EMAIL/> create email copy for pharmacy

</RX>

<MI/> - medicine instructions

<DOCTOR-NOTE/> - doctor notes

<PRINT-DEFAULT-VERSION-COPY/> print default language copy always

<CREATE-COPY>put name of directory for copy here <CREATE-COPY/>

</AFTERCARE-HTML-INSTRUCTION>

Changing the Default Rx, Sig, and Disp Values for Prescriptions

Four database tables are used to define these default values. All except for the **Medicine Type** table can be modified to better reflect the requirements of the organization.

- The **Medicine Type** table maintains the available medicine types. The other three tables define values for each type specified here.
- The **Medicine Rx** table maintains the default potency (i.e. 100mg) available for each medicine type.
- The **Medicine Disp** table maintains the default dispense count values (i.e. #10) for the available medicine types.
- The **Medicine Sig** table maintains the default usage values (i.e. bid) for the available medicine types.

A link is provided here that presents the following information and ties it to the **Prescription Dialog** in a graphic form: [Click here for a prescription default summary in PDF format.](#)

The Medicine Type Table

This table is provided with the system. It would not be modified by the user, but the *key* values of this table are used as *foreign keys* in the other three tables listed above. The following list are the keys and names of the valid medicine types for which default values can be assigned:

- 1 - Oral
- 2 - Topical
- 3 - Inhalation
- 4 - Injection
- 5 - Ophthalmic
- 6 - Nasal
- 7 - Vaginal
- 8 - Rectal
- 9 - Intravenous
- 10 - Transdermal
- 12 - Chewable
- 12 - Intranasal

Modifying the Medicine Rx Default Table

This table is designed to be modified by the user. This table will have an empty string value (i.e. " ") for each of the **medicine types**. This will result in having just the name of the medicine listed as a default value. The system will automatically add the **medicine name** to each of the values specified in this table when the information is displayed in the **Prescription Dialog**.

This table can be modified using **ACCESS** or the **Sqlloader program**. An example of the *SQL* statement to add "100mg" as a default potency value would be:

```
INSERT INTO MedicineRx (FK_MED_TYPE, rx) values (1,'100mg');
```

The value 1 corresponds to the "**Oral**" medicine type *key* as shown in the prior section.

Modifying the Medicine Disp Default Table

This table is designed to be modified by the user. Initially this table will be empty.

This table can be modified using **ACCESS** or the **Sqlloader program**. An example of the *SQL* statement to add "#10" as a default *sig* value would be:

```
INSERT INTO MedicineDisp (FK_MED_TYPE, disp) values (1,'#10');
```

The value 1 corresponds to the "**Oral**" medicine type *key* as shown in the prior section.

Modifying Medicine Sig Default Table

This table is designed to be modified by the user. Initially this table will be empty.

This table can be modified using **ACCESS** or the **Sqlloader program**. An example of the *SQL* statement to add "as needed" as a default *sig* value would be:

```
INSERT INTO MedicineSig (FK_MED_TYPE, sig) values (1,'as needed');
```

The value 1 corresponds to the "**Oral**" medicine type *key* as shown in the prior section.

EdocWriter Interfaces - HL7, XML, HTML, SQL, and ODBC

Industry common standards have been used to facilitate the integration of **EdocWriter** into a heterogeneous software environment.

- *SQL - Structured Query Language* is supported through the use of the **SQL Loader** program that is included with **EdocWriter**.

- ODBC - Open Data Base Connectivity is used for the database interface. We can provide the *Sequel Query Language* instructions to create the tables and data for any compliant database.
- HL7 - a Health Level Seven server is provided to extract patient information from HL7 messages.
- HTML - the Hyper Text Markup Language is used for the input templates and output patient discharge documents to allow access and modification by external programs.
- XML - the Extended Markup Language has been used to define program logic, allowing external programs to access and direct program functions.

XML Command File - Executing commands remotely

The system can be set to periodically poll an Xml Command file. Because the polling will consume processing time, the user can set the number of milliseconds between polling.

Any system token can be included. The most relevant one would be `<SHUTDOWN/>` which would cause the workstation to shutdown down.

SQL - Using the SQL Loader program

The **EdocWriter SQL Loader** (file name sqlloader.exe) is used to update the database during initial installation and program updates. It can be used as an alternative to the **Modify EdocWriter Data Program** to make changes to the database. To use this product:

- create a text file containing sql commands terminated by a ";" and having ".sql" as a filename suffix
- *click* on **start**
- *click* on **programs**
- *click* on **EdocWriter**
- *click* on **Run EdocWriter Sql Commands**
- The program will start and show a dialog box displaying all the files that end in ".sql". *click* on the one you want, or *click* to the directory that contains the file you want.
- *click* **OK** and then *click* **GO**

If a syntax error is encountered, the program will allow you to exit or continue processing.

For batch processing, it is possible to invoke the program and specify the sql file on a *command line*. The syntax would be: sqlloader {filename}

Changing Databases

To change the database **EdocWriter** uses requires an **Windows ODBC** driver for the particular database. This can be provided by the database vendor. **EdocWriter** installs two different drivers by default: **MicroSoft Access** and **MySql (www.mysql.com)**. The **MicroSoft Access** is used for non-internet implementations and the **MySql (www.mysql.com)** for internet based implementations. A brief description of the process of changing to a different database than these two follows:

- *Purchase* database license and install on host computer
- *Install* ODBC driver for the purchased database on each workstation
- *Request* from **EdocWriter** the **SQL Database Table** files
- or *execute* the **ExportSql** form in the **ACCESS** database.
- *Execute* the **SQL Loader** program to load the tables
- if the inter/intranet is being used, *follow* the directions in this user guide for **Installing EdocWriter on the Inter/Intranet**.

Installing EdocWriter on a Inter/Intranet

EdocWriter can be deployed partially or fully on a inter/intranet. The ODBC database driver is

responsible for handling communications between **EdocWriter**. To inform **EdocWriter** to retrieve templates from a inter/intranet (hereafter called a *TCP/IP connection*) it is necessary to do the following:

- *Install* the templates to a server supporting *File Transfer Protocol (FTP)*
- *Change* the **Instruction Directory Path** in the **Configuration Table** parameters to point to the new directory.
- *Change* the **Enable Internet** and **Use Internet** in the **Configuration Table** parameters to "yes"
- *Change* the **Internet Table Parameters** to reflect the FTP server being used.

The program will not be able to successfully start if a firewall is preventing communications with the database. By default, port 3008 is used.

XML Interface - Integrating external computer systems and EdocWriter

Software developers can use the **EdocWriter DTD** to construct XML command files or read **EdocWriter** generated XML files. There are a number of applications where this capability would be used:

- A user application would access the patient data files to determine what type of services were provided
- A remote hand held device could send information that would instruct **EdocWriter** to print a prescription remotely
- An external system could add information to **EdocWriter's** patient data files

EdocWriter XML Interface

When user the users *clicks* on the **Existing Patient Button** or **Pending Patient Button** or the **Instruction Package Button**, **EdocWriter** reads and processes a file containing *XML* instructions. Here is an example of such a file:

```
<AFTERCARE-INSTRUCTION>
```

```
<PATIENT>
```

```
<PATIENT-TIME-IN>
```

```
Sunday, September 10 2000 at 11:35
```

```
</PATIENT-TIME-IN>
```

```
<PATIENT-LASTNAME>
```

```
Guy
```

```
</PATIENT-LASTNAME>
```

```
<PATIENT-NAME>
```

```
Sickly Guy
```

```
</PATIENT-NAME>
```

```
<PATIENT-FIRSTNAME>
```

```
Sickly
```

```
</PATIENT-FIRSTNAME>
```

```
</PATIENT>
<DOCTOR>
<KEY>613</KEY>
</DOCTOR>
<PATIENT-INSTRUCTION>
<TEMPLATE-KEY>712</TEMPLATE-KEY>
<TEMPLATE-FILENAME>pi_240</TEMPLATE-FILENAME>
<LABEL>
atrial fibrillation
</LABEL>
</PATIENT-INSTRUCTION>
<RX>
<RX-FORMULARY>
Voluntary Formulary Permitted
</RX-FORMULARY>
<REFILL-QTY>0</REFILL-QTY>
<RX-SIG>1 PO qd</RX-SIG>
<RX-RX>Accupril 10 mg</RX-RX>
<RX-MED-NAME>Accupril</RX-MED-NAME>
<RX-DISP>#10</RX-DISP>
<TEMPLATE-FILENAME>piRxText</TEMPLATE-FILENAME>
<LABEL>
Accupril </LABEL>
</RX>
<MI>
<TEMPLATE-KEY>
290</TEMPLATE-KEY>
<TEMPLATE-FILENAME>
mi_Quinapril</TEMPLATE-FILENAME>
<LABEL>Accupril</LABEL>
</MI>
</AFTERCARE-INSTRUCTION>
```

The user can initialize, modify, or create *XML* using the *mark up* documented in the **EdocWriter DTD**. The user can also create their own *XML parser* using standard tools to extract information from these files.

Internally **EdocWriter** uses a single *XML parsing* engine to create the patient output, and (at least in theory) anything that the user does by clicking on **EdocWriter** buttons can be done by feed the commands directly to **EdocWriter**. A XML Command File can be enabled to be polled for *XML* commands. If the file exists, the commands will be processed as if they were entered by the user. One obvious application is to be able to integrate hand-held devices into **EdocWriter**.

EdocWriter HTML Patient Data Files

When **EdocWriter** prints a patient *discharge instruction*, it also writes the *HTML* used to create the output to the Instruction Directory. This file is not used by **EdocWriter**, but is available for outside processes. The patient's *XML* and *HTML* have the same filename prefix (i.e. "YYYYMMDD_{LastName}_{FirstName}").

Message of the Day: How to Create and Implement a User Message

An html file can be displayed the first time a user creates a patient *discharge instruction* after **EdocWriter** starts; exiting the program and restarting will cause the message to be displayed again.

To implement this:

- Create an instruction. Although it is arbitrary, Using the **other template type category** would make sense.
- Insert the instruction filename into the User Message File parameter of the **Configuration Table**.
- Turn off the disable Message File flag in the **Care Provider Table** for all or just a select number of users.

Trouble Shooting Errors

Problems Encountered Installing, Starting, or Updating

The installation program asks for a serial number

You need to enter your password. If you do not have your password, Contact support by an email to sales@edocwriter.com or call 310-546-7435.

The installation program asks for the installation directory

If **EdocWriter** is being installed for the first time, then choose a *directory on the file server*. Do not install to the local workstation.

This message should not be seen if **EdocWriter** has already been installed on the file server and a workstation is being set up for the first time. The system may need to be updated: Contact support by an email to sales@edocwriter.com or call 310-546-7435.

If an update program is being run, then choose the *home directory on the file server* that has the system **EdocWriter** files.

Cannot create or modify ODBC error

Check the following:

- Try starting **EdocWriter**. If it starts then ignore the message
- Reload the entries by following the directions dealing with ODBC reinstallation.

Nothing happens when I start the program

If nothing happens at all, run MicroSoft's Visual C++ dll redistribution installation program. A copy of the program (filename is `vc6redist.exe`) has been placed in the **EdocWriter** directory. The workstation will need to be restarted.

The program abends with a run time error

The `odbc` entry for the system is not correct. Reload the entries by following the directions dealing with ODBC reinstallation.

A message is given saying some "dll" is missing.

- The short-cut "start in" or "current directory" may not be pointing to the **EdocWriter** directory. This is the problem if the program can be started from the **MicroSoft Desktop Explorer** correctly.
- A required **MicroSoft** component is missing. If the missing component starts with "MS" this is probably the reason. Run MicroSoft's Visual C++ dll redistribution installation program. A copy of the program (filename is `vc6redist.exe`) has been placed in the **EdocWriter** directory. The workstation will need to be restarted.
- A required **EdocWriter** component is missing. Contact support by an email to

sales@edocwriter.com or call 310-546-7435.

The program takes a long time to start

The problem is the network is slow. The amount of time between *clicking* on the short-cut and the "is loading" splash screen is the time required to load the program itself. The amount of time between the splash screen and the menu display is the amount of time required to read the database and XML configuration files.

Every time the program is run it asks for the printers.

The system will look in the registry under **HKEY_LOCAL_MACHINE/Software/EdocWriter** for the printer name, device name, and port name for each of the document types. If these elements are not found, or a system error is generated when the system tries to create a print connection, then the program will request the user select a valid printer. Check for these issues:

- The problem is the user does not have write privileges to the registry. To solve this, have some user with write privileges set the printers, or
- The user is not correctly selecting a printer for each of the documents requested. If this is true, then the registry entry should be invalid. Check the printer name, device name, and port name in the **Windows Printer Settings**.

A parsing error message is displayed before the main menu is shown

The program reads the following XML files for configuration information:

- Button Structure specification file called **bbtn_structure.xml** by default but can be changed.
- Patient Instruction specification file called **pi_structure.xml** by default but can be changed.
- AutoFax/Email specification file called **edocmailserver.xml**

You will encounter a parsing error if one of these files have been modified and certain XML rules were violated. Review the explanation on parsing errors to correct.

A message states the database is corrupt and needs to be repaired.

Probable cause is the database was not closed correctly due to the abnormal termination of the system.

Repair the database by:

- *click* on the **Windows Control Panel** from the **Start Button**.
- *double-click* on **EdocWriter** under **System Datasource** tab.
- *click* on **Repair Database**.

The workstation installation program is run every time **EdocWriter** is started

The system will look in the registry for the **HKEY_LOCAL_MACHINE/Software/ODBC/ODBC.INI/EdocWriter** key. If the key does not exist, the program assumes this is the initial use, and will configure the workstation by running the **EdocWriter ODBC installation program** (filename: edocinstallodbc.exe).

- The problem is most likely that the user does not have write privileges to the registry. To solve this, have some user with write privileges start the program. If the user does have write privileges try
- Reinstall the odbc components.

Problems Encountered During Use

A parsing error message is displayed when a instruction is selected

If the error occurs:

- After after an item is selected from a list and there is no prompt for user input, then there is an XML parsing error in the template. Edit the template with the **EdocWriter** editor. The editor will correct any parsing errors.
- After after an item is selected from a list and after a prompt for user input, then the user input an invalid character.
- When the discharge instruction is printed or edited, then there is an error in one of the output format templates, most likely the header or trailer. Edit the template with the **EdocWriter** editor. The editor will correct any parsing errors.

See for more information about correcting parsing problems.

Problems with Printers

The first approach for any printer problem is to try a different printer driver if possible.

HP 5000 - Garbage added to end of document

- If 1200 dpi is set within the Windows printer driver, set to 600 dpi.

HP Laser Printers - Wrong Bin Selected

For version 2.2, use the HP4 driver instead of the HP4xxx driver.

For version 2.3 and up, the printer dialog allows the user to select bin and paper size constants. Reset the printers, and specify **DM_PAPER** constant to 1.

Concerning the HP 4300 and printing scripts to the manual tray, one client needed to specify no bin number but a paper size constant of 0. No paper constant exists in the list of contents for the standard size. The program will attempt to set the paper size to the specifications in the table Printer for each printer defined. The paper size constant of 0 is used in the system to indicate "use the existing value." A paper size of 0 does affect bin selection in current HP laser products.

Here are the DM BIN constants provided by MicroSoft:

1 DMBIN_UPPER

1 DMBIN_ONLYONE

2 DMBIN_LOWER

3 DMBIN_MIDDLE

4 DMBIN_MANUAL

5 DMBIN_ENVELOPE

6 DMBIN_ENVMANUAL

7 DMBIN_AUTO

8 DMBIN_TRACTOR

9 DMBIN_SMALLFMT

10 DMBIN_LARGEFORMAT

11 DMBIN_LARGECAPACITY

14 DMBIN_CASSETTE

15 DMBIN_FORMSOURCE

Here are the DM PAPER constants provided by MicroSoft:

1 DMPAPER_LETTER Letter, 8 1/2- by 11-inches

2 DMPAPER_LETTERSMALL Letter Small, 8 1/2- by 11-inches

3 DMPAPER_TABLOID Tabloid, 11- by 17-inches

4 DMPAPER_LEDGER Ledger, 17- by 11-inches

5 DMPAPER_LEGAL Legal, 8 1/2- by 14-inches

6 DMPAPER_STATEMENT Statement, 5 1/2- by 8 1/2-inches

7 DMPAPER_EXECUTIVE Executive, 7 1/4- by 10 1/2-inches

8 DMPAPER_A3 A3 sheet, 297- by 420-millimeters

9 DMPAPER_A4 A4 Sheet, 210- by 297-millimeters

10 DMPAPER_A4SMALL A4 small sheet, 210- by 297-millimeters

11 DMPAPER_A5 A5 sheet, 148- by 210-millimeters

12 DMPAPER_B4 B4 sheet, 250- by 354-millimeters

13 DMPAPER_B5 B5 sheet, 182- by 257-millimeter paper

14 DMPAPER_FOLIO Folio, 8 1/2- by 13-inch paper

15 DMPAPER_QUARTO Quarto, 215- by 275-millimeter paper

16 DMPAPER_10X14 10- by 14-inch sheet

17 DMPAPER_11X17 11- by 17-inch sheet

18 DMPAPER_NOTE Note, 8 1/2- by 11-inches

19 DMPAPER_ENV_9 #9 Envelope, 3 7/8- by 8 7/8-inches

20 DMPAPER_ENV_10 #10 Envelope, 4 1/8- by 9 1/2-inches

21 DMPAPER_ENV_11 #11 Envelope, 4 1/2- by 10 3/8-inches

22 DMPAPER_ENV_12 #12 Envelope, 4 3/4- by 11-inches

23 DMPAPER_ENV_14 #14 Envelope, 5- by 11 1/2-inches

24 DMPAPER_CSHEET C Sheet, 17- by 22-inches

25 DMPAPER_DSHEET D Sheet, 22- by 34-inches

- 26 DMPAPER_ESHEET E Sheet, 34- by 44-inches
- 27 DMPAPER_ENV_DL DL Envelope, 110- by 220-millimeters
- 28 DMPAPER_ENV_C5 C5 Envelope, 162- by 229-millimeters
- 29 DMPAPER_ENV_C3 C3 Envelope, 324- by 458-millimeters
- 30 DMPAPER_ENV_C4 C4 Envelope, 229- by 324-millimeters
- 31 DMPAPER_ENV_C6 C6 Envelope, 114- by 162-millimeters
- 32 DMPAPER_ENV_C65 C65 Envelope, 114- by 229-millimeters
- 33 DMPAPER_ENV_B4 B4 Envelope, 250- by 353-millimeters
- 34 DMPAPER_ENV_B5 B5 Envelope, 176- by 250-millimeters
- 35 DMPAPER_ENV_B6 B6 Envelope, 176- by 125-millimeters
- 36 DMPAPER_ENV_ITALY Italy Envelope, 110- by 230-millimeters
- 37 DMPAPER_ENV_MONARCH Monarch Envelope, 3 7/8- by 7 1/2-inches
- 38 DMPAPER_ENV_PERSONAL 6 3/4 Envelope, 3 5/8- by 6 1/2-inches
- 39 DMPAPER_FANFOLD_US US Std Fanfold, 14 7/8- by 11-inches
- 40 DMPAPER_FANFOLD_STD_GERMAN German Std Fanfold, 8 1/2- by 12-inches
- 41 DMPAPER_FANFOLD_LGL_GERMAN German Legal Fanfold, 8 1/2- by 13-inches

A parsing error message is displayed when an existing or pending patient's data is retrieved

The patient data is maintained in an XML file, and is generated by the system. Contact support by an email to sales@edocwriter.com or call 310-546-7435. If possible please use email and attach the file.

Common Trouble Shooting Approaches

Correcting XML Parsing Errors

EdocWriter uses and creates XML files. XML is the use of tokens (i.e. `<some_token>good</some_token>`). An XML file must be *well formed*, meaning every start token (`<some_token>`) must have a closing token (`</some_token>`). Interleaved tokens will cause an error. Case matters in token comparisons.

If the XML is not *well formed* then a parsing error is created. The user can edit and correct the files.

If the error occurs in a template, then a selected template has a parsing error. See the template error section for more information.

For all other XML files use a text editor like **notepad** or the html editor called **wzhtml (filename: wzhtml1.exe)** located in the **EdocWriter** installation directory.

It is important for us to identify possible sources of error. Contact support by an email to

sales@edocwriter.com or call 310-546-7435. If possible please use email and attach the file.

Reinstallation of ODBC

Listed below are the steps that should be taken in order to reinstall the various database communication components. Usually just the first step will be required.

- Run the **EdocWriter ODBC installation program** (filename: edocinstallodbc.exe) in the **EdocWriter** installation directory on the file server manually. If this does not work,
- Use the **Windows ODBC facility in the Control Panel** to add a **system** user name of **EdocWriter** using the **ACCESS Data Base driver**, and select the **EdocWriter.mdb** file in the **EdocWriter** installation directory on the file server. If you get a system error when you do this the operating system is not correctly configured. Then
- Run MicroSoft's ODBC installation program. A copy of MDAC 2.5 (filename is mdac_typ.exe) has been placed in the **EdocWriter** directory. More recent versions have been created by MicroSoft. If you do choose to download a more recent version from the web, make sure you get both *ODBC* and the *ACCESS* installation programs. 2.6 requires the downloading of two installation executables.
- If none of the above works, your operating system may need to be reloaded.