Raintree Systems, Inc.

RAINTREE

EMR - ELECTRONIC MEDICAL RECORDS

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ELECTRONIC MEDICAL RECORDS

OVERVIEW

EMR records provide a HIPAA-compliant means of tracking clinical documentation with full rich-text formatting support. In addition to built-in fields defined for each record, it is a simple matter to assign custom fields and screens for any EMR through the use of EMR templates. In addition, EMR records can trigger scripts that display built-in or customized screens, run reports, send email messages, schedule appointments, add charges to the ledger, or perform any other task that can be accomplished via formscript.

Each EMR record contains several components:

- · Control fields
- · An attached rich-text format (RTF) document
- · User-defined attached custom fields

CONTROL FIELDS

Control Fields are used for tracking the "housekeeping" details of an EMR document, such as when the document was created or the client. Not all of the fields are visible in the built-in EMR record.

EMR RTF DOCUMENTS

Each EMR record contains an attached rich-text format (RTF) document. This document may be blank, or might contain merged text variables. This is a printable document which would be considered the final document for some process, such as a Progress Note, or a Treatment Plan. The RTF Documents for each EMR record are stored as BLOB fields within the core EMR table.

Note: you can also use a Raintree Overlay document (RTO) as the EMR's document instead of the standard RTF document.

USER-DEFINED FIELDS

EMR templates allow users to define and attach custom fields to the built-in EMR table for various documents. Some examples are:

- · Types of medications
- · The Client's ZIP Code on the date of signing
- · A numerical score representing the client's mood on the date of an assessment.
- · A scanned image of an insurance card
- · An attached email received from another agency
- · The client's self-pay balance on the date of service
- · An audio recording containing the dictated content of an assessment.
- · The number of the service ticket attached to a progress note.

Any information that can be stored in Raintree can also be attached to an EMR.

VERSION CONTROL

EMR documents contain support for document versions, also known as **amendments**. The entire amendment history for a document is available within the system, and there is no practical limit for the number of times a document can be amended, nor the type of changes which can be made to an EMR document.

SIGN-OFFS / ELECTRONIC SIGNATURES

Raintree supports adding electronic signatures to EMR records. When a user signs off a document, she is prompted for her Raintree password. Once the password is successfully given, the EMR record and its attached RTF document becomes read-only; a signed-off progress note, for example, can never be altered. Note that you can still amend the record, while keeping the original intact.

EMR EDITOR

OVERVIEW

The EMR Editor is an enhanced version of the **RTF Editor**. It allows you to access and modify the EMR narratives.
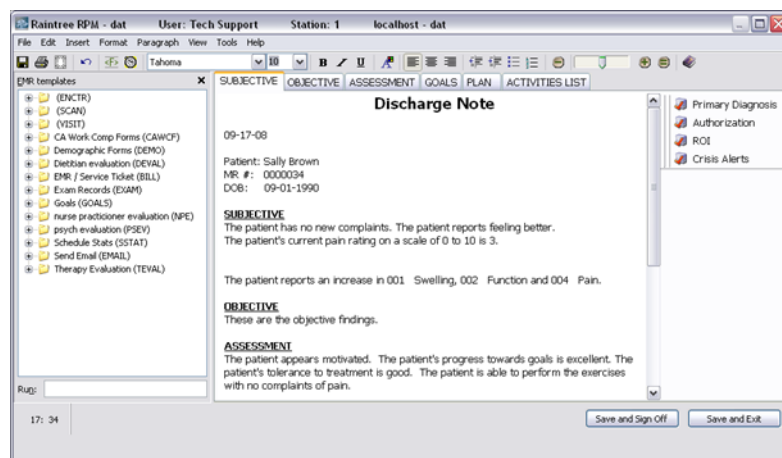
There are four areas of interest:

- · the EMR templates pane (on the left)
- · the Editor pane (large area in the middle)
- · the Shortcuts section (on the right)
- · the Save buttons (in the bottom right corner of the window)

TEMPLATES PANE

The Templates pane contains a list of nested folders containing EMR templates. The folder tree is defined by the **EMR Categories**. Each folder can contain other folders and EMR templates. To view the items stored in each folder, click the plus sign (+) to the left or double-click on the folder name or icon to expand the folder. Double-clicking on any template within these folders will "run" the template. Depending on how the selected template was designed, this could insert text into the Editor Frame, run a formscript, prompt the user to select items from a list, display a popup window, or do pretty much anything Raintree can do. Templates appear in the list with a red checkmark to the left, followed by the template description and the code in parentheses.
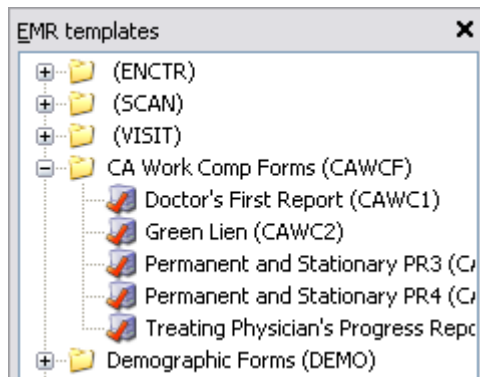
You can also select a template to run by typing the code for that template into the "Run" field at the bottom of the templates frame and pressing **Enter**. For a deeply-nested template, this can be much faster than expanding out each folder to find the desired template.

For example, to run the Green Lien template above, type CAWC2 in the "Run" field and press **Enter**.

To show Templates pane, press **Alt**+**L** or open the **Tools** menu and select **EMR Templates**. To hide it, click the "X" in the top right corner of the Templates pane.

EDITOR PANE

The Editor pane is the main editing area of the EMR template. This is where the RTF document can be directly accessed and updated. All formatting commands that are available in the RTF Editor can be used here.
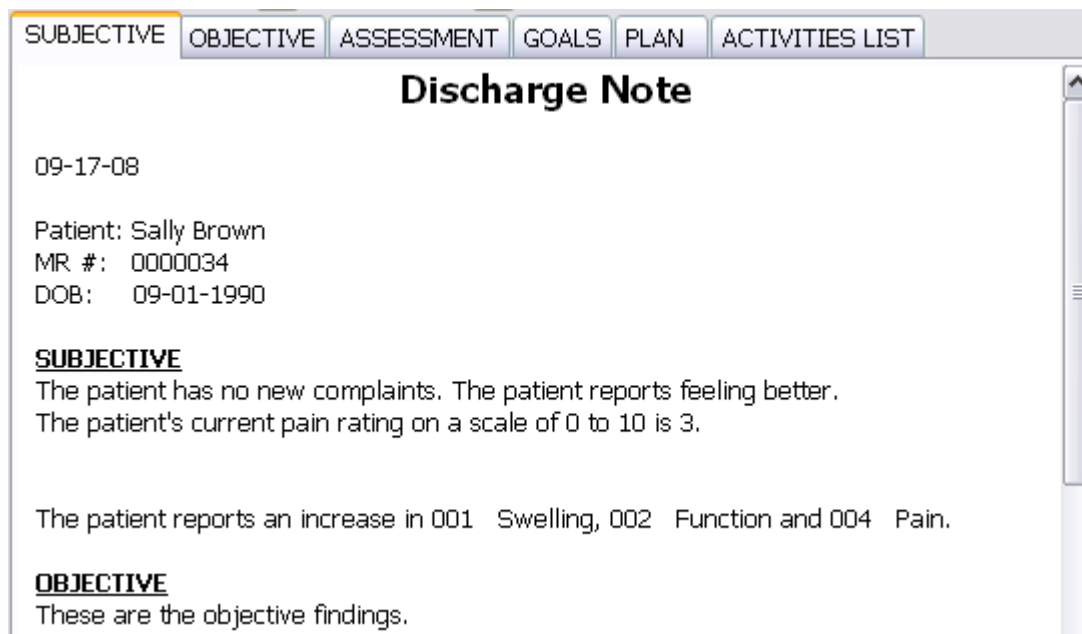
Sections

EMR documents can contain "sections," defined by the templates used for creating the EMR documents. In the example shown above, the Discharge Note being edited contains six sections, only the first two of which are visible in the screenshot: "Subjective", "Objective", "Assessment", "Goals", "Plan", and "Activities List". These sections were defined in the EMR template used to create the sample Discharge Note document. Note that section headers do not need to be formatted exactly as the sample ones appear.

One important use of sections within an EMR document is that they can be related to other EMR Templates. You can set the sections up so that any text attached to templates located under a specific folder would be inserted into a specific section of the EMR document.

Tabs

In the above image there are six tabs at the top of the Editor pane. These tabs correspond to the section headings in the document. When you click a tab, the cursor is moved to the beginning of that section and the document is scrolled to display that section. This can be helpful for jumping to a specific point within a very long document with many sections and sub-sections, such as an assessment. These tabs are defined in the narrative for the EMR template.

Tabs can also be designed which run EMR templates, just as if a user had selected a template from the Templates pane. For more information see **EMR Template Commands**.

SHORTCUTS PANE

This pane is visible only if shortcuts have been defined in the EMR docuemnt's narrative. Each shortcut will be displayed as a button with a red checkmark. Clicking a shortcut button runs a template attached to that button.

Note that this pane is not visible when viewing a signed-off EMR record.

SAVE BUTTONS

If the EMR has not been signed off, two buttons appear in the bottom rigt corner of the EMR Editor.

The **Save and Sign Off** button is used to close the EMR editor and begin the sign-off process. When you click this button, you are prompted for your password; if the password is entered correctly, the document is signed off and becomes read-only. A signed-off document cannot be edited - if any changes are required, they must be made in amendments of the document.

The **Save and Exit** button is used to save changes to the EMR document when work is still in progress. If this button is used to save and close the editor, the EMR document will not be made read-only.
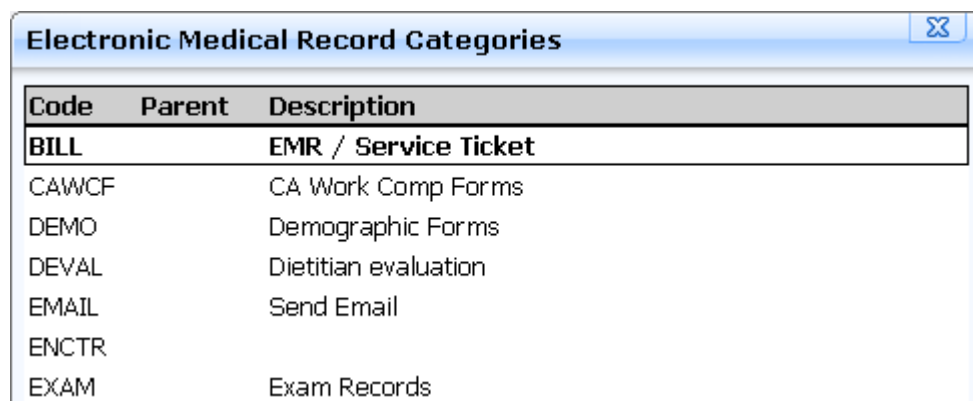
EMR TABLES

EMR CATEGORIES

All EMR templates must belong to a category. Categories are tree-structured, meaning that you can define child categories that are linked to a parent category.

To open the EMR categories table:

1. From the main menu - press **T** for Tables.
2. Press **M** for More.
3. Press **E** for EMR.
4. Press **C** for EMR Categories.

The existing EMR categories are displayed. For child categories, the name of their parent category is also displayed in the **Parent** column.

You can nest categories within categories many times for multiple levels of nesting. Keep in mind, however, that this can become less useful when a user has to click through many levels of folders to find a template.

ADD AN EMR CATEGORY

To add a new category:

1. Press **A**.
2. Type a code for the category.
3. Specify parent category to create a linked child category or leave blank to create a parent category.
4. Type a description.
5. Press **F10** to save.

EMR TEMPLATES

EMR templates are a mechanism to organize and capture database information. The templates are located in the **% docpath%** and are in the format `<code>.nar` Templates can be assigned to different categories. You can link to a script, custom screen, or menu; also, you can specify a script for sign off of complex procedures.

To open the EMR templates table:

1. From the main menu - press **T** for Tables.
2. Press **M** for More.
3. Press **E** for EMR.
4. Press **T** for EMR Templates.

Code	Category	Description	Link
TDALY	TEVAL	Therapy Daily Note	SCRIPTS\TDALY.FRM
TEST	TEVAL	test	
TEST1	EXAM	Sample EMR	TEST
TEV01	TEVSB	Medical History	TEV01
TEV02	TEVSB	Medications	TEV02
TEV03	TEVSB	Contraindications	TEV03
TEVAL	TEVAL	Therapy Evaluation	SCRIPTS\TEVAL.FRM
TGOAL	GOALS	Therapy Goals	TGOAL
TICKL	DEMO	Ticklers	TICKL
TPROG	TEVAL	Therapy Progress / DC Note	SCRIPTS\TPROG.FRM
VITAL	**EXAM**	**Vital Signs**	**SCRIPTS\VITAL.FRM**

The existing EMR templates are displayed. The **Category** column shows the category for the selected template. in the **Link** column is displayed the linked item - for custom screens, the respective code; for scripts or menus, the specified file.

You can **add** and **edit** templates here.

ADD AN EMR TEMPLATE

To create an EMR template:

1. Open the **EMR Templates Table**.
2. Press **A** to Add.
3. Type a code for the template.
4. Select the EMR category.
5. Type the template description.
6. (Optional) Link the template to a script, custom screen or menu.
   · To link a script, type the filename with the path, for example `scripts\cust.frm`.
   · To link a menu, type the menu name with the extension.
   · To link a custom screen, type the screen's code.

   The button next to the field lets you define a parent EMR template (controlled by PHP). The current template will then extend that one, meaning that all fields on this screen will populate with the values from the parent EMR, unless you have already edited them manually. The RTM and narrative of the parent will also be copied with the new code.
7. If you want to define a special script or template to handle the sign off procedure, type its filename with the path or press **Tab** to select an EMR template. The template will be merged into the main document after sign off.
8. Specify how additional items are appended (this is used when **combining multiple EMRs**):

- · **A - Append** - the text is inserted as normal.
- · **N - Next line** - after the inserted text, a line break is added. This is the default option.
- · **S - Skip line** - after the inserted text, an empty line is added.

9. If the data for your EMR template will be stored in its own custom data file/table, enter the name of that custom file in the **Custom data file** field. As an example, a screen that tracks allergies might be put in the custom file ALLER. A treatment plan template might store some data (such as severity of physical symptoms) in the TXPLAN data file. Not all templates will need a Custom Data File, just templates that will store extra data.

10. If the template will be added frequently for a particular patient, you may want to change the **Note roll forward action**.
    - · **Do not roll forward** - when a new record of this type is added for a patient, all custom data fields (if any) will be blank. This is the default selection for a new EMR template.
    - · **Always roll forward** - when a new record using this template is added for a patient, the custom data values in the new record are pre-filled with the data from the most recent EMR record with the same template.
    - · **Ask for action to take** - when a new record using this template is added for a patient, you will be prompted whether the template should be pre-filled with the previous record's data.

11. To determine whether the EMR editor should be displayed after the setup screen is completed (or the linked formscript or input form is run), select the **Editor action**:
    - · **Always show editor** - after saving the setup screen (or after the linked formscript has run), the EMR template is merged into an RTF document and the EMR editor is displayed. This is the default selection.
    - · **Show editor in read only mode** - the EMR template is merged, but the document is displayed as read-only. If the **Include Save and Sign Off button** is selected, you can sign off the EMR from the editor.
    - · **Do not show editor** - the editor will not be displayed. This can be used for EMRs that will be included in lists or other EMR templates, but never merged by themselves.

12. If you edit an EMR that has not been signed off, the narrative will be re-merged into the RTF document. This will overwrite any changes that were made to the RTF. To prompt you before overwriting changes, select the **Ask before overwriting an existing record** option. This is selected by default.

13. If the template does not have a narrative associated with it, select the **Without narrative** checkbox.

14. If the template does not need to be signed off, select the **Does Not Require Signoff** checkbox.

15. You can also edit the template text here. To do that, click the **Edit template** button.

16. Press **F10** to save.

EMR LISTS TABLE

This table contains all **EMR Lists** you have defined. For each list, its name and description are displayed.

To open this table:

1.   From the main menu - press **T** for Tables.
2.   Press **M** for More.
3.   Press **E** for EMR.
4.   Press **L** for EMR Lists.

EMR LISTS

EMR LISTS

EMR Lists are a way to define filtered interactive lists of EMR records without requiring any custom programming. These lists can be used as stand-alone table views ("live lists") linked from a menu option or drop-down field in a custom screen, as embedded lists or graphs within a screen (such as a dashboard), or as an insertable RTF table that can be inserted into any EMR document. EMR lists can be very simple or very complex. You can add and edit EMR lists in the **EMR Lists Table**.

EMR Lists are stored in the **scriptpath** as `<code>.lst`; for example, the VITAL list is stored in `VITAL.lst`.

The list definition screen consists of several parts:

· The name and definition fields
· The Preview button to test the list
· Tabs for different aspects of the list

The **Name** field contains the name of the list. This name is used to identify the list. Similar to a typical Raintree code, it can contain numbers and letters, but unlike a code, you can also use spaces. Also, the name length is not limited.

The **Title** field contains the list description. It is only used in the EMR Lists table.

The **Preview** button is located in the top right corner of the screen. Clicking this will open a preview of the defined list, where you can verify that all column widths and filters behave as expected. Note that this preview will always show records for all patients, even if the list is indexed by patient.

Below the Name and Title fields are several **tabs**. By default, the Interactive List tab is selected. Each tab (except the **List Setup**, which is used to customize how the list behaves on adding and editing) contains the settings for list **index**, the **columns** to display and **filters** to determine which EMR records are displayed.

ADD EMR LIST

This is a basic overview of how to add an EMR list:

1. Press **A** to Add.
2. Enter a name for the list. The name may contain only letters, numbers and spaces.
3. Enter the list's description.
4. Select an **index** for the list.
5. Define the list **columns**.
6. Define the list **filters**.
7. Repeat for other **tabs** if needed.
8. Edit the **List setup**.
9. Press **F10** to save.

EMR LIST INDEX

OVERVIEW

The Index refers to how the system will select matching EMR records, and knowing which index to use requires knowing what you want your list to do. Using the wrong type of index can make displaying the list very slow.

Following are examples of some common lists. Each of these would probably use a different index.

- · All documents in the EXAM category for a single patient
- · Open records for a particular provider
- · Records assigned to the current user for signoff
- · Prescription records on a certain date
- · "Detail" records linked to a "header" record through a custom index

INDEX TYPES

The following index types are available:

- · **Patient** is the default option. This should be used if the list will show only one person's data at a time (for example all VITAL records for a specific patient).
- · **Encounter Date** is used when you need to show records based on a date (for example all prescription records for today) and not limit them for a specific provider or patient.
- · **Owner** is useful for viewing entries owned by a single user, but for all patients and dates (for example report on a specific user's activity). Note that the fewer different users who are the owners of EMR records in your database, the less helpful this type of index will be.
- · **Provider / Doctor** index is used for finding entries linked to a single doctor code, across all patients and dates, for example for provider-centric dashboard screens. If the list is also going to be filtered by date and there are only a few providers in the database, using the Encounter Date index may be just as fast, or faster.
- · **Location** is used for finding entries linked to a single location code, across all patients and dates, for example for location-centric dashboard screens. If the list is also going to be filtered by date and there are only a few locations in your database, the Encounter Date index may be just as fast, or faster.
- · **Program** is used for finding entries linked to a single program code, across all patients and dates. If the list is also going to be filtered by date and there are only a few programs in your database, the Encounter Date Index may be just as fast, or faster.
- · **Template** is used for finding entries using one particular template, across all patients and dates. This index is useful for record types that are added once per patient.
- · **Category** is used for finding entries that have templates linked to a single category code, across all patients and dates. In almost every case, it is probably better to use any other index than the Category index.
- · **Signed** is useful for viewing entries that have been signed off.

ORDER AND LIMIT

Below the index type selection are two additional options that control the record ordering and limit.

The **Reverse order** checkbox allows you to reverse the sorting order. For example, if you set the index to Encounter Date, the oldest records are shown at the top of the list and the newest records at the bottom. But if you select this option, the order is reversed - newest items are at the top and oldest at the bottom.

The **Limit** field controls how many items are displayed in the list. By default it is set to "all", meaning that all items are displayed. You can specify a number here to limit the list to that number of items (for example to get the last 10 records, specify the index type as Encounter Date and limit the list to 10 items).
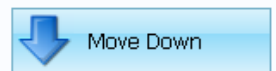
EMR LIST COLUMNS

OVERVIEW

The columns define what data is displayed in your **EMR List**. You can customize the columns for each **list tab**.

To add a column:

1. Press **A** or right-click and select **Add**. The **Select Type** menu opens.
2. Select the **variable** type.
3. Define the variable(s). Each variable type is described in detail below.
4. Press **F10** to save the column.

The column width is set up automatically to fit the column title and the field values.

To rearrange the column order, use the **Move Up** and **Move Down** buttons next to the list box. You can delete a column by selecting a column and pressing **D** or right-clicking and selecting **Delete**.

EDITING COLUMNS

After you have defined a column, you may want to edit it (change the column alignment or width, edit the column title, etc. For example, the default column width for patient numbers is 11, but if you know you will never use patient numbers with more than 8 digits, you may want to decrease the column list to 8.) To do that, select the column in the list and press **E** or right-click and select **Edit** from the menu that opens. The following screen is displayed:

You can edit the following options:

- · **Caption** is the title of the column in the EMR list.
- · **Width** is the number of characters that will show up in the list without needing to re-size the columns.
- · **Starting position** is used for ignoring characters at the start of a field you are including in the listing. This is set to 1 by default, meaning that no characters are ignored. For example, you have a field containing `TYPE1 Type 1 Authorization` (the code and description from a table) and you want to ignore the code. In this case you need to change the starting position to 7, so that it would ignore the "TYPE1 " part.
- · **Alignment** specifies whether the data in the column is aligned left or right.
- · **Sorting** controls how the data in the column is sorted. This allows you to override the sort order specified for the **index**.
- · **Data source** determines the source for the data in this column.

When done, press **F10** to save.

VARIABLES

There are three types of variables available:

- · **EMR Variables** - built-in variables that are available for every EMR record
- · **Form Variables** - fields from a custom screen
- · **Custom Variables** - custom variables that need to be defined manually

The selection/definition workflow is different for each one of them.

EMR VARIABLES

This option allows you to use a built-in variable as the **EMR List** column source. These variables (sometimes also called "control fields') are used for tracking the details of an EMR document, such as the patient or when the document was created. Not all of the fields are visible in the built-in EMR record.

When you select this option, the list of all available EMR variables is displayed.

Select the variables you want to include as columns by highlighting them and pressing **Enter**. The selected variables have a blue background. When done, press **F10** to add all selected variables as list columns with their widths set automatically. Note that the variable names are set as column captions.

The following table lists the variables and their descriptions. Note that here are listed only the fields available when defining **EMR list columns**.

All dates are MM-DD-YY. All times are in the 12 hour am/pm format.

Field	Formscript Variable	Description
Owner	EMROWNER	User ID of the user to whom the EMR document is "assigned"
Owner Name	EMROWNERNAME	Name of the user to whom the EMR is "assigned"
Date	EMRDATE	Date when the EMR record was created
Time	EMRTIME	Time when the EMR record was created (12 hour am/pm format)
Patient	EMRPN	Patient ID of the patient attached to the EMR record. It is not possible to save an EMR without a patient ID.
Patient Name	EMRPATNAME	The first and last name of the patient attached to the EMR record.
Provider	EMRDOC	The provider code for the service or event documented by the EMR record.
Provider Name	EMRDOCNAME	The provider name.
Location	EMRLOC	The location code for the service or event documented by the EMR record.
Location Name	EMRLOCNAME	The location name.

Field	Formscript Variable	Description
Program	EMRPROG	The program code for the service or event documented by the EMR record.
Program Name	EMRPROGNAME	The program name
Template	EMRTEMPL	EMR Template used to create the EMR record. While multiple templates can be incorporated into a single record, only one template is the "base" EMR template for each record.
Description	EMRDESC	Description of the EMR record. This defaults to the description of the base template, but can be changed through formscript.
Category	EMRCAT	The category code of the base template.
Category Name	EMRCATNAME	Name of the category.
Close Date	EMRCLOSEDATE	Date when the EMR record was signed off
Close Time	EMRCLOSETIME	Time when the EMR record was signed off
Closed By	EMRCLOSEDBY	User ID of the user who signed off the EMR record
Closed By Name	EMRCLOSEDBYNAME	Name of the user who signed off the EMR record
Date Created	EMRCREATEDATE	Date when the EMR record was created
Time Created	EMRCREATETIME	Time when the EMR record was created
Created By	EMRCREATEBY	Used ID of the user who created the EMR record
Created By Name	EMRCREATEBYNAME	Name of the user who created the EMR record
Date Modified	EMRMODIFDATE	Date when the EMR was last modified
Time Modified	EMRMODIFTIME	Time when the EMR was last modified
Modified By	EMRMODIFBY	User ID of the user who last modified the EMR record
Modified By Name	EMRMODIFBYNAME	Name of the user who last modified the EMR record
End Date	EMRENDDATE	A special version of EMRDATE. If EMRDATE is 12-31-79, EMRENDDATE is blank; otherwise it is equal to EMRDATE.
Amended	EMRAMENDEDINDICATOR	Indicates whether the EMR has been **amended**.
Signed	EMRSIGNEDOFFINDICATOR	Indicates whether the EMR has been **signed off**.
Duration (Min)	EMRAGEMINUTES	Total time between the EMR creation and the sign off in minutes.
Duration (Hrs)	EMRAGEHOURS	Total time between the EMR creation and the sign off in hours.
Duration (Days)	EMRAGEDAYS	Time between the EMR creation and the sign off in days.
Duration	EMRAGE	Time between the EMR creation and the sign off. If the record has not been signed off yet, EMR shows the time between EMR creation and current time. Note that by default, the age of the last amendment is displayed. To view the ages of individual amendments, view the **Amendment History**.
EMR GUID	EMRGUID	Unique identifier for the EMR record.

Field	Formscript Variable	Description
EMR List GUID	EMRLISTGUID	Unique identifier for the EMR list.

EMR FORM VARIABLES

This option allows you to use fields from a custom screen as the **EMR List** column source.

When you select this option, a list of all custom screens is displayed.

Select the screen and press **Enter**. A list of all fields on the screen is displayed.

Select the fields you want to include as columns by highlighting them and pressing **Enter**. The selected fields have a blue background. When done, press **F10** to return to the list of custom screens.

When you have selected all form variables, press **F10** in the list of screens. All selected fields are added as list columns with their widths set automatically. Note that the field names are set as column captions.

If your custom screen contains any EMR variables, it is recommended to define them directly using the **EMR Variables** option.

EMR CUSTOM VARIABLES

This option allows you to use a custom variable as the **EMR List** column source. Because it is not possible to determine the column type and width automatically, you have to set up the column options yourself.

When you select this option, the **Enter Column Parameters** screen opens. See the **Editing Columns** section for a description of the fields. The key difference between custom variables and built-in EMR or custom form variables lies in the **Data source** field, where you can define your custom variable.

You can also use formscript expressions as the data source, for example `getdata("PATIENTREC.FIRST", emrpn)` returns the first name of the patient specified by the EMR patient number. Remember to adjust the column width according to the data returned by the expression.

EMR LIST FILTERS AND CONDITIONS

OVERVIEW

The Filters and Conditions list has two primary functions:

- · limit which records are displayed in the list;
- · set up color coding for the rows.

Filters apply only to EMR fields (like filtering for the EMR template type or the provider in the EMR), but conditionals can also filter for custom form fields. Also, while filters simply match values, conditionals can perform other operations as well. You can also use conditionals for color-coding results.

In the image below, there are three filters and conditions specified:

- · Only VITAL templates are included in the list.
- · Only records created after 01/01/80 are included in the list. Those records are also colored green.
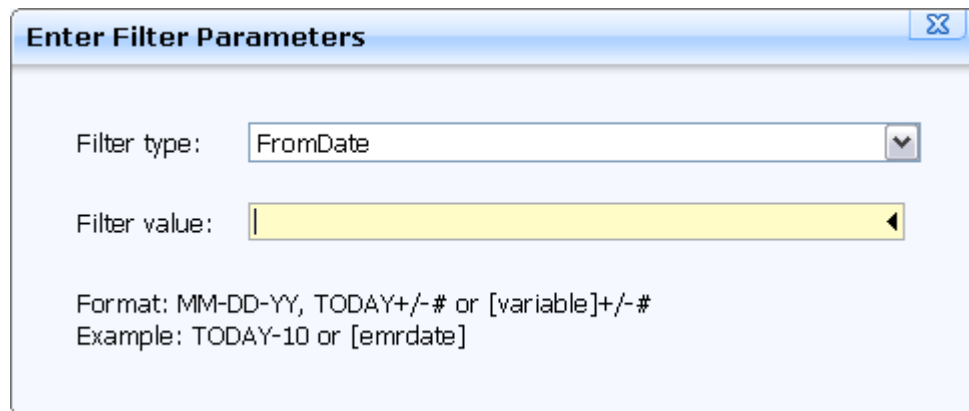- · If the value of the Pulse field is over 110, the row is colored red.
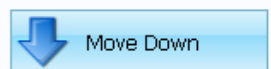
You can change the filter order by using the Move Up and Move Down buttons next to the list. Note that you can not move a conditional above a filter or vice versa - filters, conditionals and row color groups are all ordered independently, i. e. you can change the order of individual filters, but all filters will always be applied before any conditions.

The **index** determines **how** to look for EMR records to include, but the filters determine **which** records are actually included. For example, we may want all of the unsigned progress notes (using the PNOTE template) for a particular patient. Just specifying the Patient index does not limit the results to progress notes, or unsigned ones. We need one filter for the template type (PNOTE) and another filter for the Open/Signed status (open only).

To add a filter, press **A** or right-click and select **Add** in the Filters and Conditionals listbox. The **Enter Filter Parameters** screen opens:

USING CUSTOM VARIABLES

In all conditionals and most filters you can also use custom variables. The variable needs to be enclosed in square brackets.

This is very common in dashboard screens, where you have an EMR list and some fields to filter the displayed list. For example, if the screen is named DASH and it contains three fields: TPL for the template code, FDATE for the range start date and TDATE for the range end date, you can set up three filters:

- · Filter type: Template, value: `[&DASH:TPL]`
- · Filter type: FromDate, value: `[&DASH:FDATE]`
- · Filter type: ToDate, value: `[&DASH:TDATE]`

Now, if values in those fields are changed, the EMR List having those filters will be refreshed to contain only records that match the specified values. Note that you need to set the refresh properties of those fields correctly. For more information, see **Using an EMR List in a Screen**.

FILTER TYPES

The following filter types are available:

- · **FromDate** and **ToDate** are used to specify a date range. This only applies to the `emrdate` variable. There are several ways to specify a value for these filter.

  First, you can use a literal date in the format MM-DD-YY (for example 10-31-07). This is not very common, as the list will always show records from that date.

  You can also set a filter based on the current date by using the keyword TODAY. For example, for records dated today, you would just type TODAY. If you want records for the last 30 days, you can use TODAY-30.

And you can also use a custom variable. This would be very common in lists that are embedded in a screen. For example, if you have a dashboard screen named DASH that has a "starting date" field named STARTDT, you can enter [&DASH:STARTDT] as the filter value to use the value from that field.

- **FromTime** and **ToTime** provide stricter limits for the date range, allowing you to specify a time as well. Using these is similar to the **FromDate**/**ToDate** filters.
- **Patient** is used to show only records for a specific patient. If your list is using the Patient index, you do not need the Patient filter.

  You can specify a patient number as the value, but unless it is a special account (anonymous clients, retail sales, etc.) filtering the list for a specific patient number is not useful. More commonly, the patient number is specified in a field and then used as a variable (similar to FromDate and ToDate). For example, a provider's dashboard may have a patient number field (named PATIENT) to view records related to a specific patient. In that case you can use [&DASH:PATIENT] to set the filter to the value of that field.
- **Owner** restricts the list to records owned by a particular user. The value is often specified as [USERID], limiting the records to ones owned by the user who is currently logged in. Naturally you can also enter a specific user ID as the value here.

  It is also possible to use the Owner filter with a custom variable. An example would be filtering the records on a dashboard screen for a user that you supervise.
- **Provider/Doctor** filter limits the list to records linked to a specific provider code. Like other filter, you can also use either a literal value or a custom variable here (for example to see the records for a supervised provider).
- **Location** restricts the list to records with a specific location code. You can enter a location code (for example if you have a specific walk-in facility or crisis center, you can create a list to view records for that specific location) or use a custom variable.
- **Program** restricts the list to records with a matching program code. As with the other filters, you can use either a specific program code (for example to view all records related to HIV services) or a custom variable.
- **Template** is used to show only one type of templates in the list. This is a very common filter. If your list needs to show only one type of records, specify the template code here. Naturally, you can also use a custom variable here.
- **Category** limits the list to templates in the specified category. Note that the category is determined at the time the EMR record is created; if you change a template's category, any existing EMR records for that template will still be under the original category.
- **Open/Signed** filter is used if you want to include only unsigned records, or only signed records, but not both. Note that this filter cannot be set with a custom variable.
- **Amendments** controls whether to show only the first amendment (the original version of the EMR), the last amendment or all amendments. By default, the last amendment is shown.
- **Non-Duplicate** limits the list to unique records. The value you enter here indicates what value must be unique.

CONDITIONALS

Conditionals are more flexible than filters. Instead of simple matching, you can use different operators for comparing the variables and values. Also, conditionals are nto limited to built-in EMR variables - you can define a conditional for a field on the screen.

There are three conditionals available. They differ only in the way they are combined with the previous conditionals:

- **AND Expression** requires that the record matches both this and the previously defined conditional. For example, you might want to see records that have a high pulse rate AND a high blood pressure.
- **OR Expression** requires that the record matches either this or the previously defined conditional. For example, you might want to see only records with an abnormal pulse rate (either too high or too low). In that case, you should define two conditionals - pulse greater than 110 OR pulse below 60.

· **Change Row Color** only affects the row color. Note that you can also change row colors with the other conditionals.

The row colors have to be defined in the correct order, because the first matching condition for row color is applied to the record. This also applies to the colors defined with AND/OR conditionals.

Note that you can also use the conditionals to exclude specific records from the list. For example, you want to see all records except those with the provider code "ANON". In that case you should define an AND conditional - `emrdoc` does not equal ANON.

The AND conditionals are grouped together, so that a record has to match every condition in the group. OR conditionals separate groups, so that you can have (Condition1 AND Condition2) OR (Condition3 AND Condition4). Note that the condition order is very important. For example, if you change the order of the last two conditions, the conditions become (Condition1 AND Condition2 AND Condition4) OR Condition3.

To add a conditional, press **A** in the Filters and Conditionals list and select the appropriate type. Additional fields appear on the screen:

1. Select the **variable**. This will be checked to see if it meets some condition. The dropdown contains all **columns** you have defined and the special **Select...** option that lets you define a field that is not in your column list.

For example, you might want to exclude records for a specific program, but do not want to display the program code in the EMR list. Since the Program filter does not support excluding, you need to define a conditional with the program code as the variable.

Selecting the **Select...** option will display the same menu that is used when defining **columns**, containing options for EMR variables, form variables and custom variables. Select the variable the same way as you would when defining a column. Note that here you can only select one variable.

2. Select the operator. This describes how the variable is compared to the value. The following operators are available:
   - **Equals (=)** - true if the variable is the same as the value
   - **Does not equal (<>)** - true if the variable is not the same as the value
   - **Greater than (>)** - true if the variable is greater than the value
   - **Less than (<)** - true if the variable is less than the value
   - **Greater or equal than (>=)** - true if the variable is greater than or equal to the value
   - **Less or equal than (<=)** - true if the variable is less than or equal to the value
   - **Contains** - true if the variable contains the value
   - **Does not contain** - true if the variable does not contain the value
   - **Contained in** - true if the value contains the variable
   - **Not contained in** - true if the value does not contain the variable
   - **Starts with** - true if the variable starts with the value
   - **Does not start with** - true if the variable does not start with the value

3. Enter the value. This can be a literal value like "MED50", a system variable or a custom variable enclosed in square brackets, just like in a filter.

4. The **Skip if [variable] return nothing** option applies only if the value is defined as a custom variable. If the value returns nothing (for example, if the EMR does not contain that field), the condition is skipped.

5. Select the comparison type. Raintree attempts to determine it automatically based on the variable you selected, but you need to verify the selection. An invalid comparison type may result in false matches, so you need to ensure that the correct type is selected.

The table below describes the results when using different comparison types. **Bold** results are the preferred comparison type. Incorrect results are formatted in *italic*.

Example	String	Numeric	Date
01-01-08 = 01-01-08	True	True	**True**
01-01-08 <> 01-01-08	False	False	**False**
01-01-08 > 12-31-07	*False*	*False*	**True**
01-01-08 <= 12-31-07	*True*	*True*	**False**
1 = 1	True	**True**	True
1 <> 1	False	**False**	False
1 < 5	True	**True**	True
1 > 5	False	**False**	False
10 <= 5	*True*	**False**	*True*
10 >= 5	*False*	**True**	*False*
APPLE < PEAR	**True**	*False*	*False*
APPLE Starts with "A"	**True**	True	True
APPLE Starts with "a"	**True**	True	True

Example	String	Numeric	Date
APPLE Contains PEAR	**False**	False	False
APPLE Contains "P"	**True**	True	True
APPLE Is contained in PEAR	**False**	False	False
APPLE Is not contained in PEAR	**True**	True	True

6. (Optional) Select a row color. To do that, click the **Select Row Color** button. The **Select color** screen opens with the available text and background color combinations. Select the desired color and press **Enter**. The selected color is now displayed below the **Select Row Color** button.
7. Press **F10** to save the conditional.

EMR LIST TABS

When editing **EMR Lists**, in addition to "Interactive list" there are several tabs on the screen that allow you to customize the list behavior. Note that you do not have to edit any of those tabs - by default, the EMR list is printed or included in the EMR document just the way it is set up on the "Interactive list" tab.

There are five tabs available:

· **Interactive list** - the "base" list definition.
· **Printing** - customizes the list appearance when printed.
· **RTF Table** - customizes the list appearance when included in an EMR narrative using the `<rtftable>` tag.
· **Graph** - allows to display the list as a graph.
· **List setup** - controls how the interactive list behaves on adding and editing.

The first four tabs all have the same sections for the list **index**, **columns** and **filters**. In addition to that the Printing, RTF Table and Graph tabs have an additional button called **Copy from list**. Click this button to copy all settings (index, columns and filters) from the Interactive list tab to the currently selected tab.

INTERACTIVE LIST TAB

This tab contains the "base" list definition. The records included in this list can be embedded in a screen, linked to a menu option or listed in a dropdown field.

If nothing has been defined in the Printing and RTF Table tabs, this definition is used instead of them.

PRINTING TAB

This tab defines what will be printed, when the user presses **P** in the interactive list.

Note that you can use the **Copy from list** button to copy the setup from the interactive list. This way you can just edit the list and do not have to redefine all columns and filters again.

RTF TABLE TAB

This tab defines how a table of records is included in an EMR narrative. RTF tables can be inserted into EMR narratives (.NAR files) using the `<rtftable>` tag. For example if you have a list called VITAL, you can include it as a table by entering `<rtftable:VITAL.lst>` in the document. See **Using an EMR List in a Narrative** for details.

Note that you can use the **Copy from list** button to copy the setup from the interactive list. This way you can just edit the list and do not have to redefine all columns and filters again.

At the bottom of the tab is another field: **Display this text if list returns nothing**. This helps to set up a better narrative - if the list is empty, you can use this field to display a line of text instead. For example, if you have set up an EMR list to display the patient's previous visits, you can enter in this field "No previous visits."

GRAPH TAB

You can also set the list up to be displayed as a graph, for example to monitor changes in a patient's blood pressure during successive visits. Note that this tab has an additional section for defining how the graph will look.

You can use three styles for the graphs - Line (the default), Pie and Column. Each style has a different set of options. The graph can then be displayed on the screen or merged into a narrative. **Tip:** if you need to display several graphs based on the same EMR, define new EMR lists for each graph and pull the data from the custom record of the original EMR.

For example, we would like to define a graph based on vital signs that displays the patient's blood pressure changes. This is the graph setup:
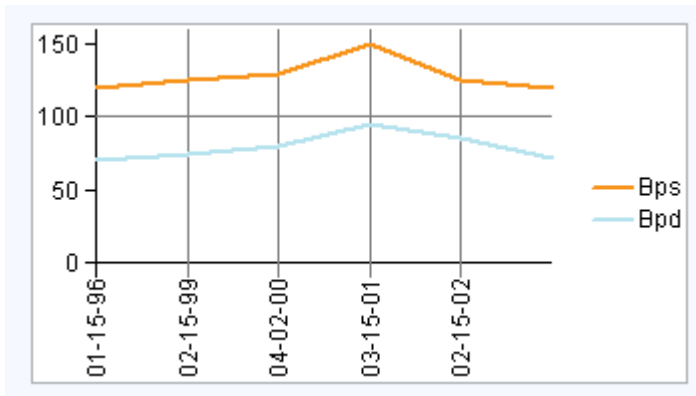

The only filter used is for the VITAL template.

To show the graph on a screen, open the screen, create a **list box** and set the following properties:

· In **EMRList**, enter the name of the list that contains the graph, for example `BP.lst`.
· Select the **Show As Graph** option to display it as a graph; otherwise, it would be displayed as a regular list.

This is how the result will look:

When you right-click the graph, you can either select **Detail** to view the list data for the graph or **To Window** to display the graph in a separate window. In that window you can also copy the graph and paste it in Excel for example.

You can also use the graph in a narrative. The syntax is: `<graph:list.lst;width;height>`, for example `<graph:bp.lst;300;200>`.

LIST SETUP

On this tab, you can edit how the **EMR List** behaves on adding and editing.

Add Section

This section controls what happens when the user selects **Add** when viewing an EMR list.

If there is only one template defined in the **On add, run these templates** list, that template opens automatically. Otherwise, if there are multiple templates available, a menu is displayed where the user can select a template. The **Menu Title** field specifies the title of that menu.

The next listbox displays all templates that can be added when viewing the EMR list. By default, the template list is empty, so adding to the EMR list is disabled (because there are no templated defined).

You can add templates to the list by entering a template code in the **Template** field. The text field to the right of the template code is used as the menu option text. It will populate with the description of the template, but you can override this to something else like "Add Vital Signs" or "New Record". Press **Enter** to add the template to the list.

You can add as many different template options as you want. To reorder them, use the **Move Up** and **Move Down** buttons to the right of the template list. To edit or delete them, click on the template and press **E** or **D** respectively.

Edit Section

This section controls what happens when the user selects **Edit** when viewing an EMR list.

On edit open EMR:	On edit closed EMR:
☑ &Edit Detail	☑ View D&etail
☑ Preview &Document	☐ View &Document
☑ Edit &Setup	☐ View &Setup
☑ Sign &Off / Complete	☐ Amend / C&orrect
☑ Show Amendment &History	☐ View Amendment &History

There are two sections, corresponding to the **EMR Edit** and **EMR View** menu. To disable an option, clear the respective checkbox. You can also customize the descriptions for menu items by editing the text field next to the checkbox.

Note that if only one item is checked (as in the above image), the menu is skipped and that option is executed automatically.

USING EMR LISTS

There are several ways to use the EMR Lists. You can:

- · display the list on a **screen**
- · use the list in a **field**
- · link the list to a **menu** item
- · merge the list into a **narrative**

Each option is described in detail in the respective guide.

USING AN EMR LIST IN A SCREEN

Once you've created your list definition, you may want to add that list into a screen. This screen could be a dashboard or other custom screen, or it can even be a screen used by an EMR template. To do that:

1. Open the screen.
2. From the **Insert** menu, select **List Box**.
3. Adjust the list box position by dragging it with the mouse. You can also resize it by dragging the edges of the list box.
4. While the list box is selected, the Properties pane on the left should display List Box Widget at the top. Find the EMRList property and enter the list name (from the EMR Lists table).

Disable Sorting	
EMRList	VITAL
Full Color Rows	☐

   In this example, the list VITAL is linked to the list box.
5. To allow users to add, edit or delete records, you need to set up the **Supported Ops** property. Select the options that you want to allow by checking the respective boxes.

6. (Optional) To display the list as a graph by default, select the Show As Graph property. Note that uses can still toggle between the graph and normal view by using the right-click menu, if Graph is selected under Supported Ops.

7. Press **F10** to save the screen.

Using a Field to Filter the List

In this example, we want to add a date field to the screen and use this as the From Date filter. The screen is named VTEST and the list we want to show on that screen is named VITAL.

1. Open the VTEST screen.
2. From the **Insert** menu, select **Field**.
3. Drag the field to the desired position on the screen.
4. Edit the Name property and enter `fdate` as the name.

Mask	
Name	fdate
No SQLField	☐

5. Edit the Mask property and enter `nn-nn-nn` as the mask.

Link	☐
Mask	nn-nn-nn
Name	fdate

6. Click on the list box to select it.
7. Select the **Refresh On Change** property.
8. Change the **Refresh Style** property to `rsOnEnter`.
9. Press **F10** to save the screen.
10. Open the VITAL list in the EMR Lists table.
11. Add a new **AND conditional**. Specify `emrdate` as the variable, `Greater than` as the operator and `[&vtest:fdate]` as the value. Then, select the **Skip if [variable] returns nothing** option and change the comparison type to **Date**.

Enter Filter Parameters ✕

Filter type:	AND Expression ▼

Variable:	Date (emrdate) ▼
Operator:	Greater than (>) ▼
Value:	[&vtest:fdate]

☑ Skip if [variable] returns nothing

Value type
○ String
○ Numeric
⦿ Date

Color
🔵 Select row color...
Color sample

This condition means "Only include the record if the EMR was created after the date in that field. Ignore this condition if the field is empty.

12. Press **F10** to save the condition.
13. Press **F10** to save the EMR list.

USING AN EMR LIST IN A FIELD

You can also make the EMR list columns available for selection in a field. To do that:

1. Open the screen.
2. From the **Insert** menu, select **Field**.
3. Adjust the field position by dragging it with the mouse. You can also resize it by dragging the right edge of the field.
4. While the field is selected, the Properties pane on the left should display Field Widget at the top. To link the list to that field, edit the Mask property. The value must be in the format `&LST{LIST NAME}:{COLUMNS FROM THE LIST TO INCLUDE}:{WIDTH OF FIELD}`.

Link	☑
Mask	&LSTVITAL:1,2:14
Name	Field1

  In this example, the first two columns from the VITAL list are displayed and the field width is set to 14.
5. Press **F10** to save the screen.

Now the screen has a field linked to the VITAL list. When the user presses **Tab** in that field, the VITAL list is displayed. When the user selects a record from the list (by pressing **Enter**), the field will display the values of the first two columns.

USING AN EMR LIST FROM A MENU

Linking an EMR List to a menu allows you to create a simple way to access a list of records, such as records for a certain doctor or location. For example, you may have defined a list of active crisis alerts for all patients, and rather than embedding that list in a screen, you want to link it to a menu option directly from the Reports menu.

1. (Optional) Edit the menu to add a new menu item. Note that you need DEBUG U security rights.
2. Navigate to the menu and press **Tab** on the option you want to use for the EMR list.
3. Type the name of your list, followed by `.LST` in the first field.

Define Custom Data

Link to user defined record

CRISIS.LST

Use   .FRM extension to define script
        .WCR extension to define menu
        .TBL extension to define a Custom Table

  In this example, the CRISIS list is linked to the menu.
4. Press **F10** to save.

USING AN EMR LIST IN A NARRATIVE

You can also include an EMR list in a narrative. The list will be displayed as a rich text table.

To do that, edit the narrative and include the `<rtftable>` tag in the format `<rtftable:{listname}.lst>`. For example, to include the VITAL list, enter `<rtftable:vital.lst>`.

The `<rtftable>` can also take four additional parameters in addition to the list name:

- `hideempty` will hide any empty rows.
- `fontsize` determines the default font size for the table.
- `font` determines the font for the table.
- `shading:off` will remove the shading from table headers. By default, the table headers have a gray shade as the background, which may cause the headers to disappear when faxing.

For example, `<rtftable:VITAL.lst,"hideempty","8","Times New Roman","shading:off">` will create a table in 8pt Times New Roman.

TEMPLATE EDITOR

NOTES

The notes property allows you to specify text that can be inserted into EMR templates for a field depending on its value. The advantage of this approach is that your EMR templates do not have to contain many @if/@endif statements for text that should change depending on the value of a field.

To edit the notes for a widget:

1.   Select or add a new widget.
2.   Double-click the **Notes** property. You can also click the button with the ellipsis ().
3.   For checkboxes and radio buttons an additional window appears, allowing you to specify where the labels for the elements are located.
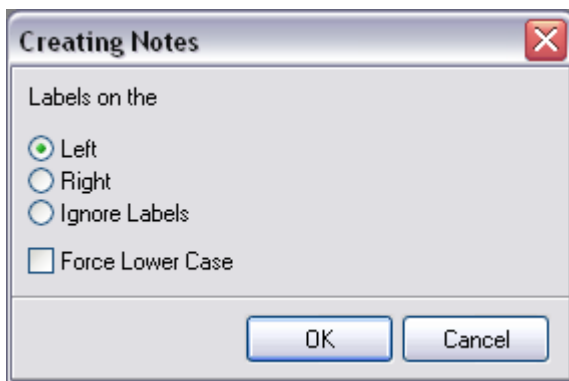
4.   The Notes window opens with the current element selected.
5.   Specify notes to appear corresponding to different values of the element.
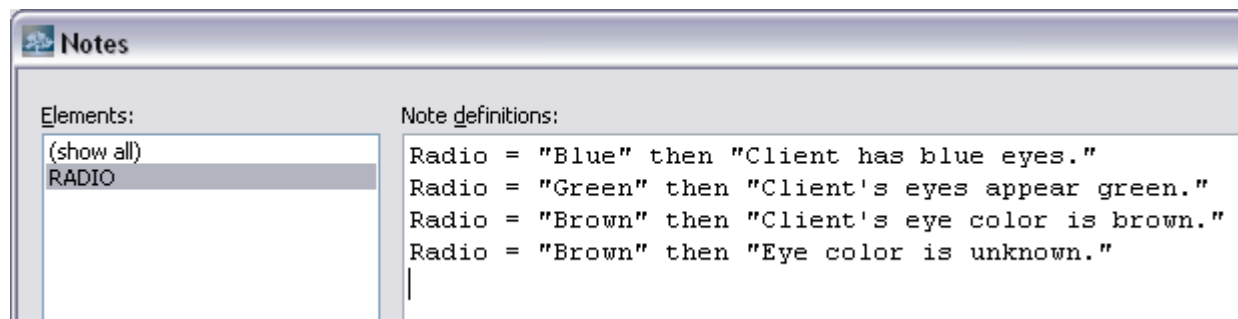
In this example, different notes are specified for the values of a radio button group. Also, a special note is added for the case when no option is selected.

INCLUDING THE VALUE IN THE NOTE

You can use the variable `%val%` in an item's note. Thus, an example similar to that shown above could have been:

```
Radio <> "" then "Client's eyes are %val%."
Radio = "" then "Client's eye color unknown."
```

You can also compare the value of a field in the notes to insert a note that is context-sensitive, such as a field (in this example TEMP) that recorded a client's temperature. The notes for that field might include:

```
temp > 100 then "High body temperature at %val%."
temp < 97 then "Low body temperature at %val%."
temp ((temp > 97) and (temp < 100)) then "Normal body temperature at %val%."
```

NOTE COLLECTIONS

OVERVIEW

Collections allow you to logically group independent fields together, define how the group contents should be displayed, add some text before or after the group, define the order of the group items, etc.

For example, you might want to display a list of symptoms and start the list with "The symptoms include". The symptoms are defined as checkboxes. If you use only regular notes, you have to reference the notes for each checkbox separately and separate the symptoms by commas. But if some of the symptoms do not appear, the list in the EMR will have several commas following eachother. Adding the commas in the notes is also not an option, since each symptom might be the last one in the list and therefore does not need a comma. Also, if none of the symptoms appear, you will be left with a sentence "The symptoms include ." One way to solve this would be using multiple conditionals to control the prefix text and commas. The other, much easier way is to define a note collection, defining the list type as AND and specifying "The symptoms include" as the prefix.

To access collections:

1.   In the Template Editor - select **Templates** from the menu bar, then select **Note Collections**.
2.   The Note Collections window opens.

DEFINING COLLECTIONS

The upper part of the window allows you to define and delete collections. On the left, the collections are displayed. To create a new collection, click the **New** button and type the collection name in the Name field. The collection name is used to identify the collection.

Style: specifies the final written note format. There are seven styles available:

1.   **OR** - `item1, item2 or item3`
2.   **AND** - `item1, item2 and item3`
3.   **Bullets** -

      · `item1`
      · `item2`
      · `item3`
4.   **Number List** -

         1.   `item1`
         2.   `item2`
         3.   `item3`
5.   **Alpha List** -

         a.   `item1`
         b.   `item2`
         c.   `item3`

6. **Names** - this special option prints the **names** of all collection elements in the same order as they are in the "Selected Items" pane. This option is for programming purposes.
7. **Normal List** -

```
item1
item2
item3
```

In case of number or alpha lists, you can optionally specify the first element. For example, if you want to start the numbering with 3, type 3 in the **First Element** field. For alpha lists, this field also controls whether the characters are uppercase or lowercase (the default is lowercase).

Hint: if you define the collection as any type of list, add a line break at the end of the prefix. Otherwise, the first list item will follow the prefix on the same line.

On the right the Prefix and Suffix fields allow you to define text to be added before and after the collection. Click the field to open the RTF editor. This allows you to **insert fields** into the prefix and suffix. **Note that** if the prefix or suffix is in a different font than the rest of your **narrative**, it will override the narrative font.

COLLECTION ITEMS

The lower part of the window allows you to define the items in the selected collection. The **Available Items** pane contains all items on the screen that can be added into a collection. You can check the **Sorted** checkbox to sort the items in alphabetical order; however, this is generally undesired as you might want to keep the collection items in the same order as they appear on the screen.

In the **Selected Items** pane, the items in the currently selected collection are displayed. You can move individual items up and down by using the respective buttons on the right. This allows you to define the order in which the items appear on the screen.

You can add or remove items from the **Selected Items** pane with the buttons in the middle - single arrows ('>' and '<') apply to the currently highlighted items, double arrows ('>>' and '<<') add or remove all items.

NARRATIVES

Narratives are the text documents that accompany EMR records. The narratives usually contain special tags to merge information from the EMR record into the document. However, since narratives can also contain rich text, you also use all formatting tools in the RTF Editor - customize fonts, alignment, etc. This allows you to quickly set up clean-looking professional documents that contain all necessary information from your EMR records.

Narratives are stored as .NAR files in the **docpath**.

There are two ways to edit a narrative:

·   From the **EMR Templates** table by selecting the **Edit template text** option.
·   In the Template Editor when editing the custom screen linked to an EMR template.

Both options have their advantages. When you open the narrative from the EMR Templates table, it opens in the RTF Editor. This allows you to use all formatting tools to work on the layout. In Template Editor the formatting options are very limited, but you can easily insert tags that correspond to fields on the input screen.

In order to edit an EMR template's narrative from within the Template Editor, you must first associate the screen and the narrative. To do this:

1. In Template Editor, open the **EMR** menu.
2. Select **Associated NARs**.
3. Enter the code of the EMR Template. You can enter multiple codes, but each must go on a separate line.

Once a NAR file is associated with your screen, you can display an editor for that screen by selecting **Editor** or **Editor and Insert Mode** from the EMR menu. See the **Using the Narrative Editor** skill guide for an example.

USING THE NARRATIVE EDITOR

In this example, we want to make a new EMR template narrative (VITAL) that includes a linked input screen (the VITAL screen) and prints out some data that is entered on the VITAL screen. First, we add our template definition to the list of EMR templates for the database:

Next, we will use the Template Editor to edit the linked screen. First we need on add a narrative to the EMR. To do that:

1. Open the **EMR** menu and select **Associated NARs**.
2. In the box that opens, enter the name of the template to which you want to add a narrative, in this case
   `VITAL`.
3. Click **OK** to save.

Now that there is a narrative associated with the screen, you can display an editor which will allow you to edit the narrative directly from the Template Editor.

1. Open the **EMR** menu and select **Editor and Insert Mode**.
2. A new pane appears on the right. In that pane you can directly edit any narratives associated with the screen.

3. Generally it is easier to edit the narrative when the editor is aligned to the bottom of the screen instead of to the right. To align the editor to the bottom, open the **EMR** menu and select **Align Editor to Bottom**.

Above the editor is a menu bar with basic formatting options (bold, italic, underline, etc.) In the NAR field, select the narrative you want to edit, in this case VITAL. Once you have selected the NAR file, the editor will display the current contents of the narrative.

SET UP THE NARRATIVE TEXT

For any text that you want to print out exactly the same way for all EMR documents using the template, add the text directly to the narrative just by typing it in.

Note: you can press **Ctrl**+**E** to open the narrative in the RTF editor and add any advanced formatting (change the font type or text alignment, add a bulleted list, etc.)

This is not very helpful yet, since it does not contain any info from the screen. The image below shows all locations where we want to display text from the VITAL screen marked with *******.

In addition to fields from the VITAL screen, we want to display some data from the EMR record. In the image below, the locations where we want to display some data from the EMR record are marked with **XXX**.

`12` ▾ **B** *I* U Screen `&VITAL` ☐ NAR: `VITAL` ▾ 💾 ✕

This is the narrative for the Vital Signs template (VITAL)
The text here will be included in every EMR document that is based on the VITAL template.

Patient Information
Patient: XXX   PN# XXX
DOB: XXX   Age: XXX

Vital Signs for Date: XXX   Time: XXX
Height: ***, ***"   Weight: *** lbs
Temp: *** F   Pulse Rate *** per minute
BP (Systolic) *** mm HG BP (Diastolic) *** mm HG
Respirations ***

INSERT THE FIELD VALUES

To insert any fields from your custom screen, make sure your cursor is positioned in the correct place in the narrative, then click on the field you want to insert with your mouse. In this example we want to insert two fields for height (feet and inches) into the narrative.

1. The narrative currently looks like this: Height: ***, ***"

2. The fields on the screen look like this: Height   n ' nn "

3. Make sure the cursor is in the right position in the narrative (before the """ character) and click on the first Height field. The narrative changes: Height: <&VITAL:feet>' ***"

    The tag `<&VITAL:feet>` was inserted in the cursor location. This tag tells the EMR system to merge in the value in the FEET field of the VITAL screen when the EMR record is saved.

4. Repeat this for the second Height field. The narrative changes like this:
    Height: <&VITAL:feet>' <&VITAL:inches>"

Repeat the process to add the other fields into the narrative. The end result should look like this:

`10` ▾ **B** *I* U Screen `&VITAL` ☐ NAR: `VITAL` ▾ 💾 ✕

This is the narrative for the Vital Signs template (VITAL)
The text here will be included in every EMR document that is based on the VITAL template.

Patient Information
Patient: XXX   PN# XXX
DOB: XXX   Age: XXX

Vital Signs for Date: XXX   Time: XXX
Height: <&VITAL:feet>' <&VITAL:inches>"   Weight: <&VITAL:weight> lbs
Temp: <&VITAL:temp> F   Pulse Rate <&VITAL:pulse> per minute
BP (Systolic) <&VITAL:bpS> mm HG BP (Diastolic) <&VITAL:bpD> mm HG
Respirations <&VITAL:resp>

INSERT THE MERGE VARIABLES

Next, we will manually replace the **XXX**'s with the built-in merge variables that should be there. The patient number for any EMR record can always be inserted with the <EMRPN> tag, and the patient first and last names are stored in the <FIRST> and <LAST> tags. The patient's DOB and age use the <DOB> and <AGE> tags, respectively. The date and time of an EMR record can be inserted into any narrative using the <EMRDATE> and <EMRTIME> tags.

When you have inserted these tags, the narrative should look like this:

ADVANCED

EMR TEMPLATE COMMANDS

OVERVIEW

In addition to all standard **merge tags and commands**, there are special commands and tags that can be useful when creating EMR templates. The tables below contain the special commands, along with some more commonly used standard merge commands.

COMMANDS

Command	Description

@if
@elseif
@endif
	These commands can be used for conditional text inside the template. You can only use simple expressions here. Also, each statement must appear on a separate line. Note that if you want to include some text only if a variable is not empty, you should use @block instead. Example:
	
	`@if <&vital:pulse> > 100`
	`High pulse rate`
	`@elseif <&vital:pulse> < 60`
	`Low pulse rate`
	`@endif`

@block
@elseblock
@endblock
	These commands are used to display data if a data tag (like <DOB>) is not empty. This is useful for conditionally inserting whole paragraphs or sections.
	
	`@block`
	`The patient's birthday is <DOB>`
	`@endblock`
	
	In this example, if the patient's birthday is empty, the text between the @block/@endblock tags will not be displayed.

@tableblock
@endtableblock
	These commands are used with RTF tables. If a table is placed between these commands, the result will be the same as placing each row between @block/@endblock commands, meaning that empty rows are not included in the table.
	
	`@tableblock`
	`<rtftable:VITAL.lst>`
	`@endtableblock`
	
	If a row in the VITAL list is empty (meaning there are blank values in all **displayed** columns), that row will not be displayed in the table.

forceblock	If this tag is inside a @block, the contents of the block will always be merged.
view	Indicates that merged text should be sent to a popup window rather than the main EMR document.
emrpopup	This allows you to customize the subsequent EMR popup window (displayed with <view>) to open. `<emrpopup:title:caption>` sets the title for the popup. `<emrpopup:scroll:bottom>` scrolls the content of the popup window to the bottom.

Command	Description
EMRPrintImage	This puts an image marker inside the EMR narrative. When the EMR is printed, the images referenced by this marker are printed as the last pages of the document. The syntax is `<EMRPrintImage:"&screenname:imagefield">` This way, the images do not interrupt the rest of the document.
etab	This command is similar to `<shortcut>`. It creates a tab that will run the template indicated by the template code when the tab is clicked. The syntax is `<etab:templatecode:caption>` For example, `<etab:VITAL:Vital Signs>` creates a tab "Vital Signs". When you click this tab, the VITAL template is run.
filtercategory	Limits the folders visible in the Templates pane in the EMR editor. You can use `<filtercategory:*>` to display all categories or `<filtercategory:folderlist>` to display only templates from the specified categories. For example `<filtercategory:BH,ASMT>` will display only templates in the BH or ASMT categories.
include	Inserts the text in the specified file. Syntax: `<include:filename>`
notext	Indicates that the EMR Template does not have a narrative.
section	This command is used to create sections within the EMR tempalte. Each section must be closed with an `<endsection>` tag. Sections cannot be nested within a document. The syntax is `<section:[*]categorycode:description[:folderfilter]>`, for example `<section:*MY:My Caseload>` · The **categorycode** specifies the code for the section. If you enter an asterisk before the category code, a tab is created at the top of the document. You can click the tab to move te cursor to the start of that section. · The **description** is used as the section title (and if you created a tab, as the tab title). · The **folderfilter** part is optional. This allows you to associate specific EMR template categories with the section. it acts like `<filtercategory>` within the section.
shortcut	This command creates a clickable shortcut button on the right side of the EMR editor. When clicked, it runs the specified template. The syntax is `<shortcut:[*]template:caption>`, for example `<shortcut:VITAL:Vital Signs>`. If you add an asterisk before the template code, the shortcut is run automatically when the template is run.

INSERTING CUSTOM SCREEN FIELDS

These commands describe how to insert data from the custom screen attached to your template. Note that you can also use the **narrative editor** in the Template Editor - that way you can insert the tags automatically, without having to worry about the correct syntax or field names.

In all commands below, `screenname` refers to the screen containing the field.

<&screenname:fieldname>

Inserts the value of the field with the given name into the document. Example: `<&SAMPL:PRES>` inserts the PRES field from the SAMPL screen.

<&screenname:fieldname:note>

Inserts the note for the field with the given name into the document. This requires defining the Notes property in the Template Editor. Example: `<&SAMPL:PRES:NOTE>`

<&screenname:rtfwidget:content>

Inserts the contents of an RTF Memo field with the name specified by RTFWIDGET into the document. Example: `<&CHNOT:TXGOAL:CONTENT>`

<&screenname:fieldname:image:width:heigth>

Inserts an image from the specified field into the document.

<&screenname:buttonname:drawing:width:heigth>

Inserts a drawable button into the template.

NOTES