

# MEDocs User Manual

<https://medocs.herokuapp.com>

## 1. Overview

MEDocs is a web-based health visualization tool that is able to parse and display Continuity of Care Documents (CCDs). The web application's dashboard design easily allows you to view data from a patient's CCD without having to experience page reloading every time new information is requested. Available data includes patient and author details, as well as a patient's health data, such as encounters, lab results, and medications to name a few. The target users of MEDocs are doctors, nurses, or other support staff that would interact with patients.

## 2. Layout of MEDocs

MEDocs' dashboard user interface contains three primary components:

- **Navigation Bar** - This is located on the left side of the dashboard. It contains the patient's name, "Download CCD" button, drop-down list of patient names, and a list of options to view - Profile, Timeline, Table, and Help Documentation. You can also collapse the Navigation Bar by selecting the arrow located to the right of the patient's name at the top. Figure 1 illustrates the location of the Navigation Bar on the dashboard.
- **Content Manager** - This is located to the right of the Navigation Bar and is the top white area of the dashboard. This content window will show data related to either the Profile, Timeline, or Table option, depending what you select in the Navigation Bar, or it will display the complete MEDocs User Manual in the browser window, if you select the Help Documentation option. Figure 1 illustrates the location of the Content Manager on the dashboard.
- **Clipboard** - This is located to the right of the Navigation Bar and is the bottom gray area of the dashboard. This area will show the widgets for the data items you select in the Content Manager. You are able to organize the widgets around the clipboard to your liking. The Clipboard also includes a toolbar, which allows you to delete widgets and to collapse/expand the Clipboard. The Clipboard is collapsed by default when the application is initially opened. Figure 1 illustrates the location of the Clipboard on the dashboard.

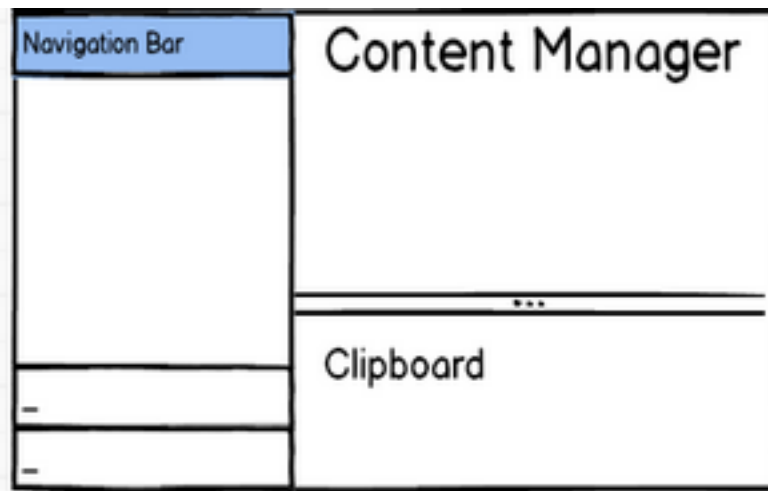


Figure 1: Overall design of MEDocs

### 3. How to Run MEDocs

The following sections instruct you on how to use MEDocs.

#### 3.1 Confirm Web Browser

You must have access to a computer that has updated versions of either Google Chrome, Mozilla Firefox, Internet Explorer, or Safari (Mac users) in order to view and use MEDocs.

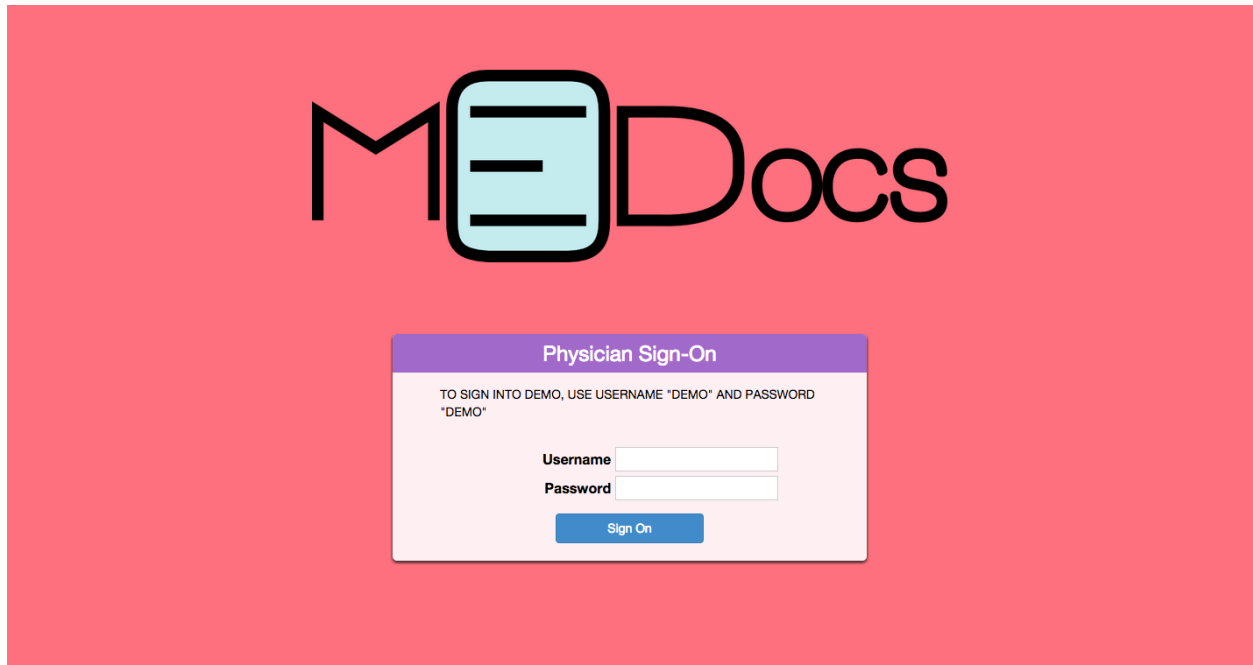
#### 3.2 Login Physician

Immediately after entering the URL for the application into the address bar, MEDocs' login page with a "Physician Sign-On" dialog box will appear, prompting you to enter a username and password. This is illustrated in Figure 2 and Figure 3.

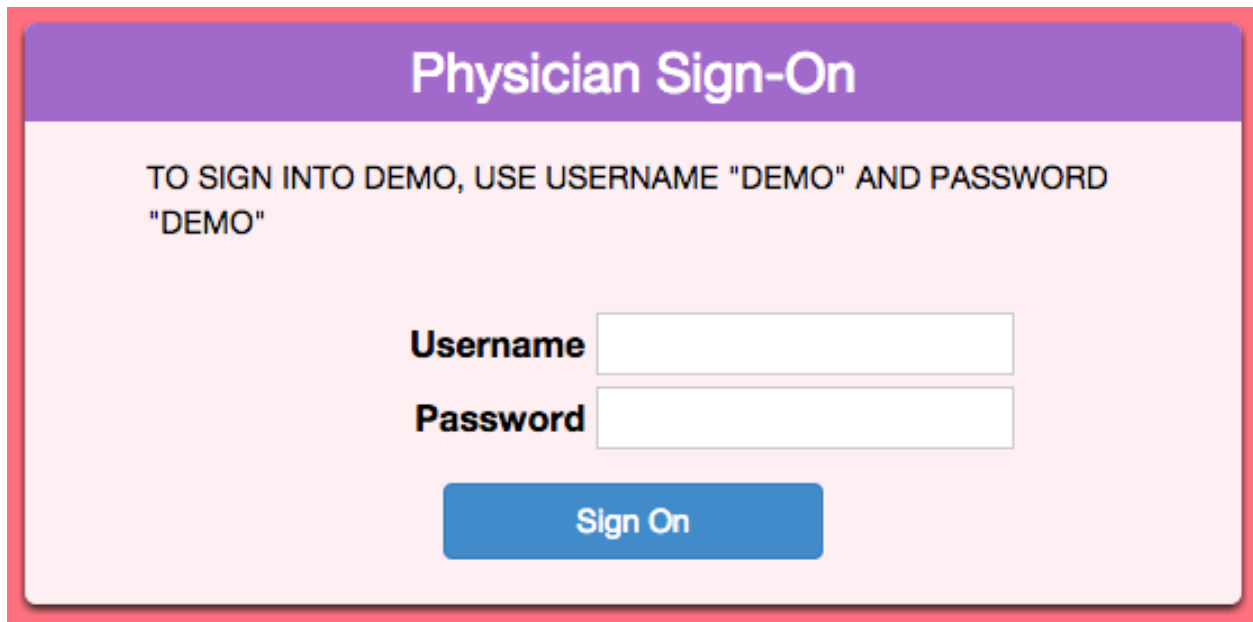
For this project, a sample physician account was created with the following login details:

- **Username:** DEMO
- **Password:** DEMO

Both the username and password are case sensitive.



**Figure 2:** MEDocs' login page with a "Physician Sign-On" dialog box



**Figure 3:** "Physician Sign-On" dialog box. Both the username and password is "DEMO".

### 3.3 Select a Patient

After you login, you will be automatically taken to your dashboard where the profile information for your first patient will be displayed. If you want to change to another patient, you can select the drop-down menu located below the “Download CCD” button in the Navigation Bar and select the patient’s name. This is illustrated in Figure 4.



**Figure 4:** Drop-down menu of patients

### 3.4 Download a Patient’s Continuity of Care Document (CCD)

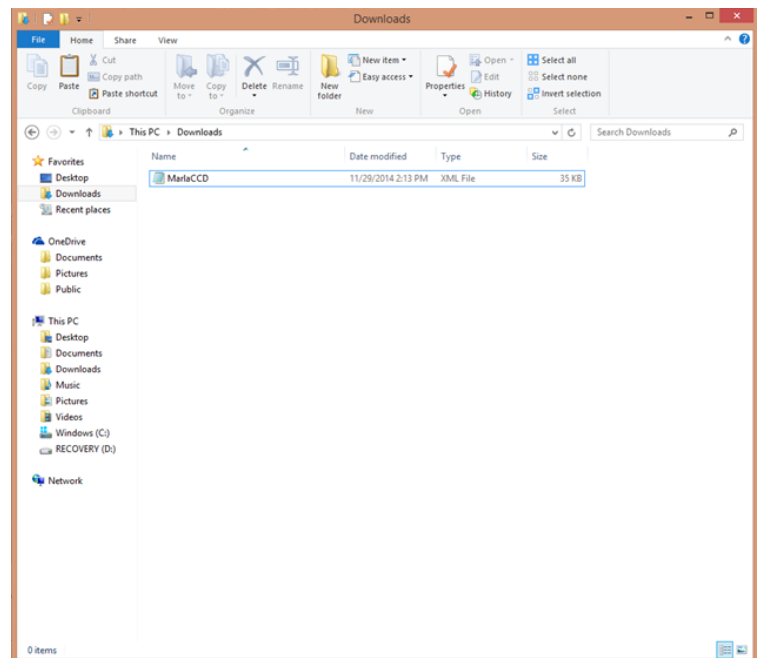
If you want to download the patient’s CCD, you can select the “Download CCD” button located underneath the patient’s name and to the right of the patient drop-down menu at the top of the Navigation Bar as illustrated in Figure 5.



**Figure 5:** Placement of the “Download Patient CCD” button that will download Marla Dixon’s CCD when selected.

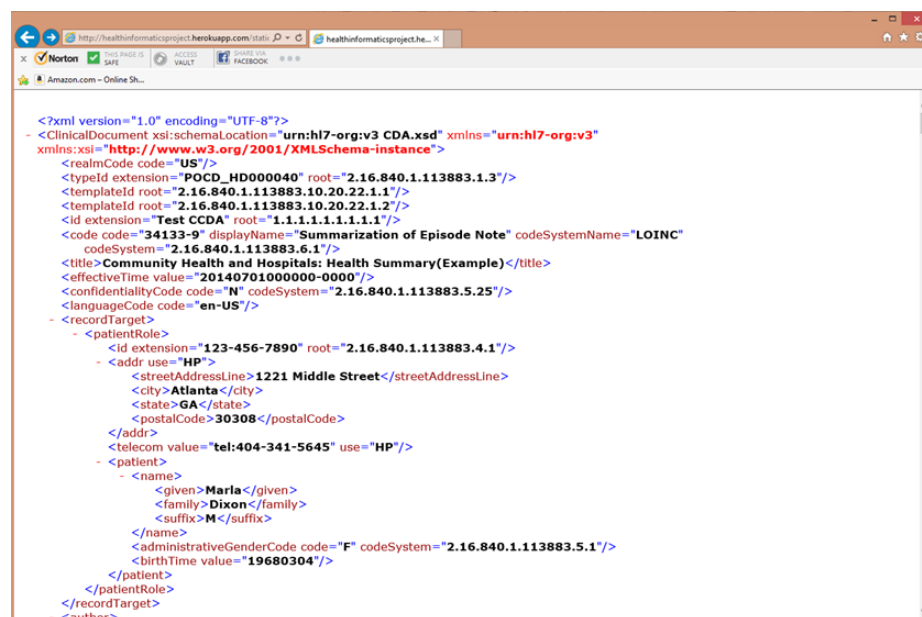
The following are a list of browsers and the save/download options they provide:

**Google Chrome** - The patient's CCD will download and save into the target download folder for your browser as illustrated in Figure 6.



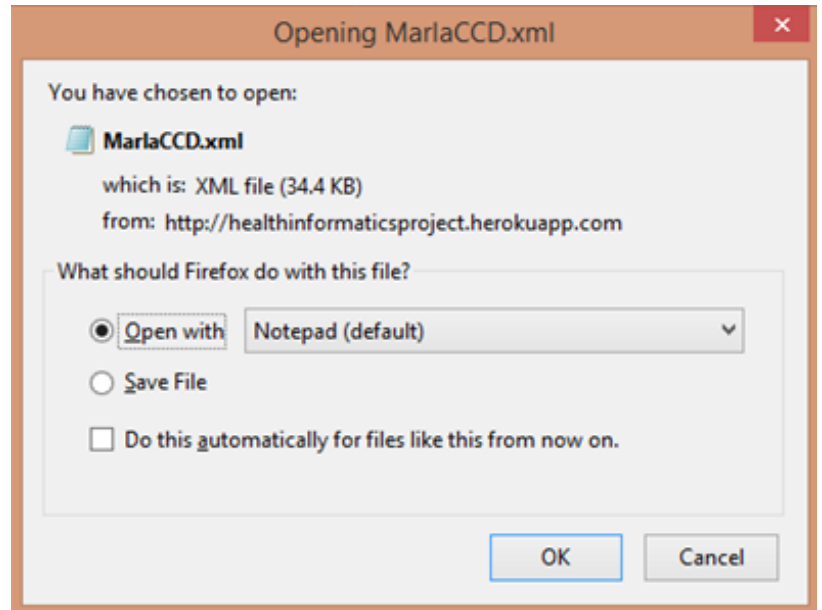
**Figure 6:** Example of Marla Dixon's CCD saved in the target download folder named "Downloads".

**Internet Explorer** - The patient's CCD will open in your browser window as illustrated in Figure 7.



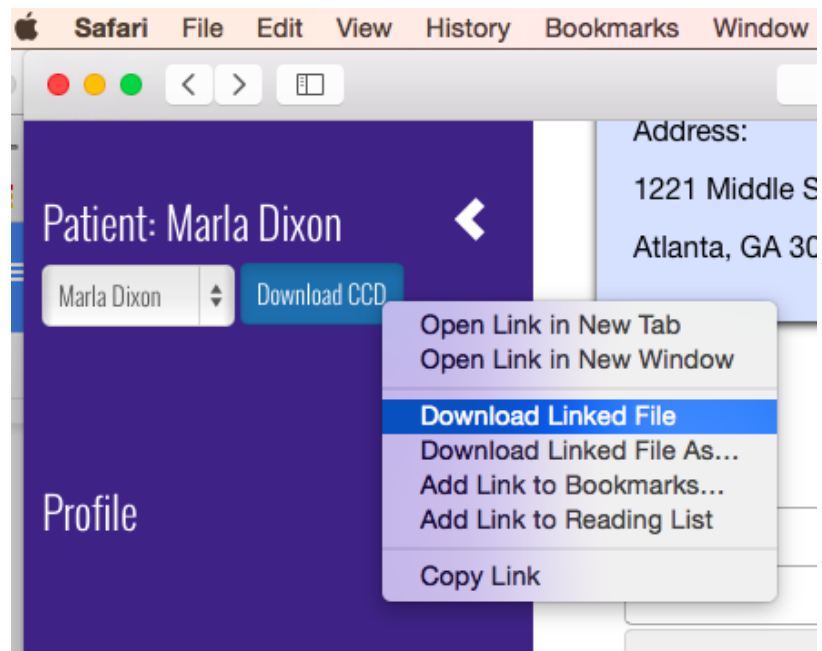
**Figure 7:** Example of viewing Marla's CCD in the web browser.

**Mozilla Firefox** - A dialog box, as illustrated in Figure 8, will possibly appear, with the options to either open the patient's CCD with a program of your choice, or to save the file. It is possible that one of these two options is already executed automatically.



**Figure 8:** Example of the dialog box that could possibly appear when trying to download Marla Dixon's CCD.

**Safari** - Right/CMD-Click the 'Download CCD' button and choose the 'Download Linked File' option. This will download the CCD document into your default downloads folder configured for Safari.



**Figure 9:** Example of the drop-down menu that provides an option to download Marla Dixon's CCD.

### 3.5 View a Patient's Profile

You can view a patient's profile by selecting the "Profile" link located in the navigation bar. The patient's profile information will appear in the Content Manager as illustrated in Figure 10.

The patient's profile will include the following information:

- **Patient Details** - This category contains the patient's available personal information, such as name, date of birth, gender, and address.
- **Author Details** - The author is the creator of the CCD. This category contains the author's available information, such as name and contact information.
- **Patient Overview** - This category contains additional high level data about a patient including age, sex, primary language, race, and contact information if available.

The patient's profile will also present the following health information, if available, in a scrollable drop-down menu:

- Allergies, Adverse Reactions, and Alerts
- Care Plan
- Encounters
- Functional Status
- Immunizations
- Declined Immunizations
- Medications
- Problems
- Procedures
- Lab Results
- Smoking Status
- Vitals

Widgets will be available for all the categories listed above. If you click on any item in the drop-down menu for the desired category, a widget for the selected item will appear in your Clipboard as illustrated in Figure 11. To learn more about widgets, view Section 3.8.

Marla's Profile

Patient Details

Last Name: Dixon  
First Name: Marla  
Gender: female  
Date of Birth:  
March 04, 1968  
Address:  
1221 Middle Street

Author Details

Dr. Henry Seven  
Address:  
1054 Atlantic dr  
Atlanta, GA 30318  
tel: 555-555-1002

Patient Overview

Age: 46  
Sex: female  
Primary Language: null  
Race: null  
**Contact Info:**  
**Home Phone: tel: 404-341-5645**  
**Work Phone: null**

Allergies, Adverse Reactions, and Alerts

Care Plan

Encounters

Functional Status

Immunizations

Declined Immunizations

Medications

Problems

Procedures

Results - Lab

Smoking Status

Vitals

**Figure 10:** Example of the Content Manager with Profile information belonging to Marla Dixon.

Care Plan

Encounters

Functional Status

Immunizations

Declined Immunizations

Medications

Date Range: January 01, 2014 to November 01, 2014 - Lasix 40 mg  
Date Range: May 01, 2005 to December 31, 1969 - Propranolol Extended Release 60 mg

Problems

Procedures

Results - Lab

Smoking Status

Vitals

Toolbar

Lasix 40 mg, 1 tablet at bedtime

Lasix 40 mg, 1 tablet at bedtime

text:  
Lasix 40 mg, 1 tablet at bedtime

product:  
name:  
Lasix 40 mg

**Figure 11:** Example of a medication widget added to the Clipboard after selecting “Lasix 40 mg” from the “Medication” drop-down menu in the Content Manager.

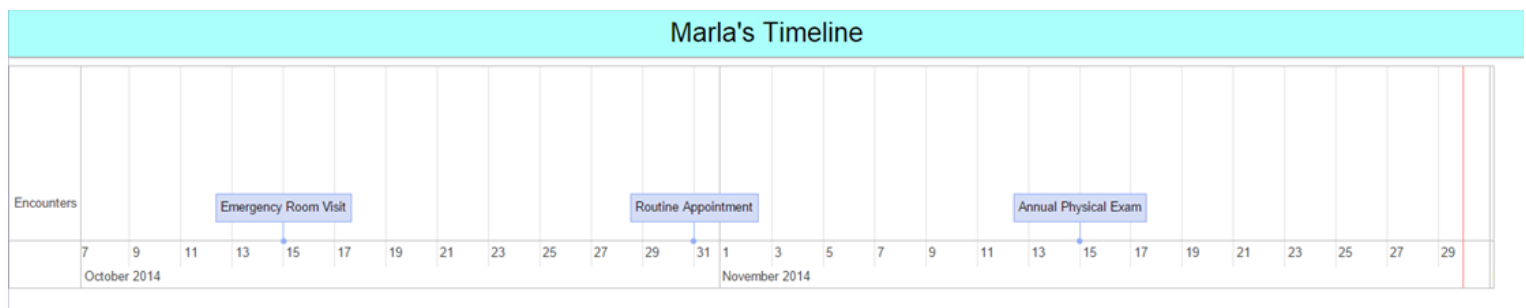


### 3.6 View a Patient's Timeline

You can view a patient's timeline by selecting the "Timeline" link located in the Navigation Bar. If a category record has data associated with it, it will be available for selection. The following categories are available for you to choose from:

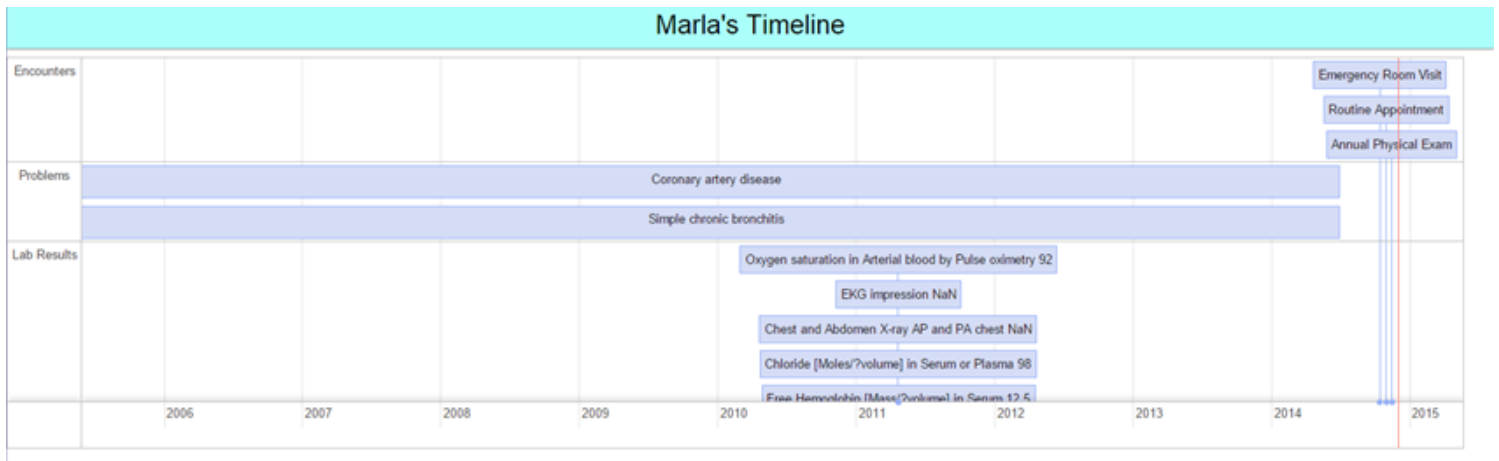
- **Allergies**
- **Encounters**
- **Functional Status**
- **Immunizations**
- **Declined Immunizations**
- **Lab Results**
- **Medications**
- **Problems**
- **Procedures**
- **Vitals**

The patient's timeline will appear in the Content Manager. The timeline is zoomable, so the further you zoom in, the more detailed the time scale becomes as illustrated in Figure 12. You can also move the timeline left/right and up/down by left clicking inside the timeline and dragging the cursor in the desired direction. The current date is indicated by a vertical red line.



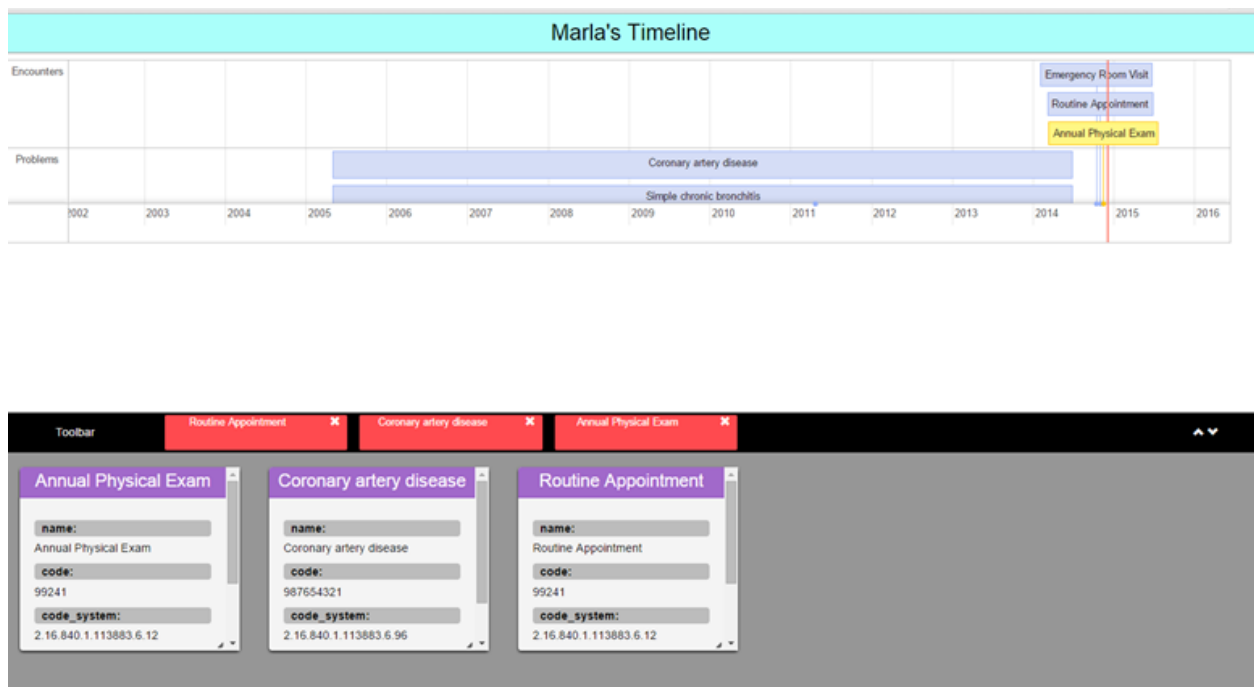
**Figure 12:** Example of viewing a patient's Encounters on the Timeline in the Content Manager. You can see the patient, Marla, had an Emergency Room Visit on October 15, 2014, a Routine Appointment on October 31, 2014, and an Annual Physical Exam on November 15, 2014.

Once you select one of the categories in the Navigation Bar, a corresponding row for the selected category will appear in the timeline with its matching data points. You also have the option to view multiple categories simultaneously on the timeline. This is illustrated in Figure 13.



**Figure 13:** Example of the patient's timeline in the Content Manager after "Encounters", "Problems", and "Lab Results" are selected in the Navigation Bar.

Once you select the categories that you want to view on the timeline, you are able to select which data point on the timeline you want to view in detail. This is done by clicking on the data box that is connected to the desired point. Once you click the box, a widget will appear in your Clipboard with a detail record of the data. This is illustrated in Figure 14. To learn more about widgets, view Section 3.8.



**Figure 14:** Example of a patient's Clipboard after the "Routine Appointment", "Coronary artery disease", and "Annual Physical Exam" data boxes are selected in the Timeline. A widget for each selected data box appears in the Clipboard.

### 3.7 View a Patient's Table

You can view the patient's table by selecting the Table link located in the navigation bar.

The table will include:

- **Date/Start Date**
- **Finish Date**
- **Category**
  - Allergies
  - Encounters
  - Functional Status
  - Immunizations
  - Declined Immunizations
  - Lab Results
  - Medications
  - Problems
  - Procedures
  - Vitals
- **Content**

Only available data belonging to the categories listed above will populate the table that appears in the Content Manager. You have the option to sort the table by clicking on any of the four headers - Date/Start Date (oldest to latest, latest to oldest), Finish Date (oldest to latest, latest to oldest) , Category (A to Z or Z to A), or Content (A to Z or Z to A), as illustrated in Figure 15. You only need to click the header once to sort one way, and then click again to sort vice versa. By default, the table is sorted by Category (A to Z)

Marla's Table			
Date / Start Date	Finish Date	Category	Content
2005-05-01	1969-12-31	Medications	Propranolol Extended Release 60 mg
2005-05-01	1969-12-31	Problems	Diabetes Mellitus
2005-05-01	1969-12-31	Problems	Essential Hypertension
2014-11-15		Encounters	Annual Physical Exam
2014-10-31		Encounters	Routine Appointment
2014-10-15		Encounters	Emergency Room Visit
2011-04-23		Lab Results	Free Hemoglobin [Mass/?volume] in Serum 12.5
2011-04-23		Lab Results	Hematocrit [Volume Fraction] of Blood 40
2011-04-23		Lab Results	Erythrocytes [#/?volume] in Blood by Automated count 4.2
2011-04-23		Lab Results	Sodium [Moles/?volume] in Serum or Plasma 137
2011-04-23		Lab Results	Potassium [Moles/?volume] in Serum or Plasma 3.4
2011-04-23		Lab Results	Chloride [Moles/?volume] in Serum or Plasma 98
2011-04-23		Lab Results	Chest and Abdomen X-ray AP and PA chest NaN
2011-04-23		Lab Results	EKG impression NaN
2011-04-23		Lab Results	Oxygen saturation in Arterial blood by Pulse oximetry 92
2005-05-01	2014-07-01	Problems	Simple chronic bronchitis
2005-05-01	2014-07-01	Problems	Coronary artery disease
2014-01-01	2014-11-01	Medications	Lasix 40 mg

**Figure 15:** Example of patient Marla's health table in the Content Manager. The table is sorted by Finish Date (oldest to latest).

You are able to select which content in the table you want to view in detail. This is done by clicking on any related table cell for that specific data content. For example, if you want to view more about “Coronary artery disease”, you can either click on the cell containing the content, or you can click on the Date/Start Date, Finish Date, or Category cells. Once you click the table cell, a widget will appear in your Clipboard with a detail record of the data. This is illustrated in Figure 16. To learn more about widgets, view Section 3.8.

Marla's Table

Date / Start Date	Finish Date	Category	Content
2014-01-01	2014-11-01	Medications	Lasix 40 mg
2005-05-01	2014-07-01	Problems	Simple chronic bronchitis
2005-05-01	2014-07-01	Problems	Coronary artery disease
2014-11-15		Encounters	Annual Physical Exam
2014-10-31		Encounters	Routine Appointment
2014-10-15		Encounters	Emergency Room Visit
2011-04-23		Lab Results	Free Hemoglobin [Mass/?volume] in Serum 12.5
2011-04-23		Lab Results	Hematocrit [Volume Fraction] of Blood 40
2011-04-23		Lab Results	Erythrocytes [#/?volume] in Blood by Automated count 4.2
2011-04-23		Lab Results	Sodium [Moles/?volume] in Serum or Plasma 137
2011-04-23		Lab Results	Potassium [Moles/?volume] in Serum or Plasma 3.4
2011-04-23		Lab Results	Chloride [Moles/?volume] in Serum or Plasma 98
2011-04-23		Lab Results	Chest and Abdomen X-ray AP and PA chest NaN
2011-04-23		Lab Results	EKG impression NaN
2011-04-23		Lab Results	Oxygen saturation in Arterial blood by Pulse oximetry 92

Coronary artery disease

name: Coronary artery disease  
code: 987654321  
code\_system: 2.16.840.1.113883.6.96

Routine Appointment

name: Routine Appointment  
code: 99241  
code\_system: 2.16.840.1.113883.6.12

**Figure 16:** Example of the patient Marla's Clipboard after “Routine Appointment” and “Coronary artery disease” is selected in the table.

### 3.8 View Widgets

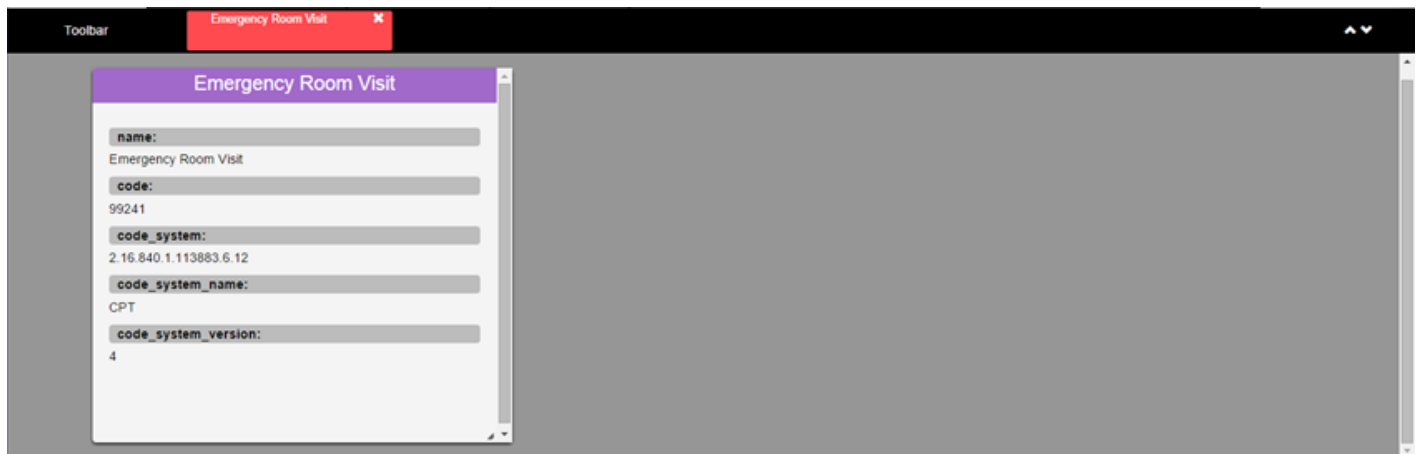
Widgets are available for you if you choose to view a patient's Profile, Timeline, or Table. An example of a widget is shown in Figure 17. Widgets are available for the following categories:

- **Allergies**
- **Encounters**
- **Functional Status**
- **Immunizations**
- **Declined Immunizations**
- **Lab Results**
- **Medications**
- **Problems**
- **Procedures**
- **Vitals**

Each widget contains a table with all related CCD data for the chosen content. You have the option to:

- **Delete the widget** - In the Clipboard Toolbar, each widget in the clipboard has a corresponding red color tab. You can select the "x" in the top right corner of the tab to delete the widget from the Clipboard.
- **Expand the widget** - You can increase the size of the widget by selecting the corner arrow in the bottom right corner of the widget and dragging until you reach the desired size.
- **Move the widget** - You can move the widgets around the Clipboard by left clicking your widget of choice and dragging it to the desired position.
- **Hide/Unhide all widgets** - You can collapse/expand the Clipboard by using the down/up arrows located to the right of the Toolbar. This will hide/unhide all the widgets from view. When you collapse the Clipboard to hide the widgets, the Toolbar showing the widget tabs belonging to your chosen content are still visible.

You are able to add 10 widgets to the Clipboard before a message appears that will say "Please Close Some Widgets Before Adding More!".



**Figure 17:** Example of a patient's Clipboard containing an Encounter widget for an "Emergency Room Visit".

### 3.9 View Help Documentation

You can view the online help documentation for MEDocs by selecting "Help Documentation" located in the Navigation Bar. The complete user manual for MEDocs will appear in the Content Manager.

### 3.10 Log Out and Fully Close Application

- You can log out of the application by selecting the "Logout" link located at the bottom of the Navigation Bar.
- You can fully close the application by exiting out of your browser by clicking on the "x" located at the top right corner of your screen (depending on your browser).

## 4. Additional Technical Support

**I have a question/problem that is not addressed in the user manual or help feature of MEDocs. Who do I contact for assistance?**

You can contact:

- **Kristian Allen:** kristian.j.allen@gmail.com
- **Neal Williams:** nealfwilliams@gmail.com
- **Kimberly Sirichoke:** kimberlysirichoke@gmail.com