

4. Enter: Entering and Editing Data in Epi Info™

Introduction

The Enter module allows users to enter data into forms constructed in Form Designer. Enter conducts the data entry process according to the settings and Check Code specified in Form Designer. Information entered into the form is stored in Microsoft Access or Microsoft SQL server data tables.

Enter can be used to enter new data, modify existing data, or search for records. When data are entered into a form, the data table inside the project is populated. The Find function allows records to be located based on a series of matched variables. As data are entered, the cursor moves according to the tab order from field-to-field, page-to-page, and saves data when navigating to a new page. If you try to exit a page before data is saved, you will be prompted to save the data (Yes or No).

Open a Project and Form

To access the Enter program, click the **Enter Data** button on the Epi Info™ main menu or select **Tools > Enter Data** from the toolbar. In Form Designer, access the Enter module by clicking the **Enter Data** button in the toolbar. This button is a convenient method to switch between designing a form and entering data to test the form design.

There are three options available to open a project and form. The following example uses the **Food History** form available in the **EColi** project.

1. From the toolbar, select **File > Open Form**.



Figure 4.1: Open Form

2. Alternatively, click **Open Form** from the toolbar,

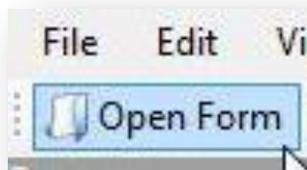


Figure 4.2: Open Form

3. These two options will display the **Open Form** dialog box.

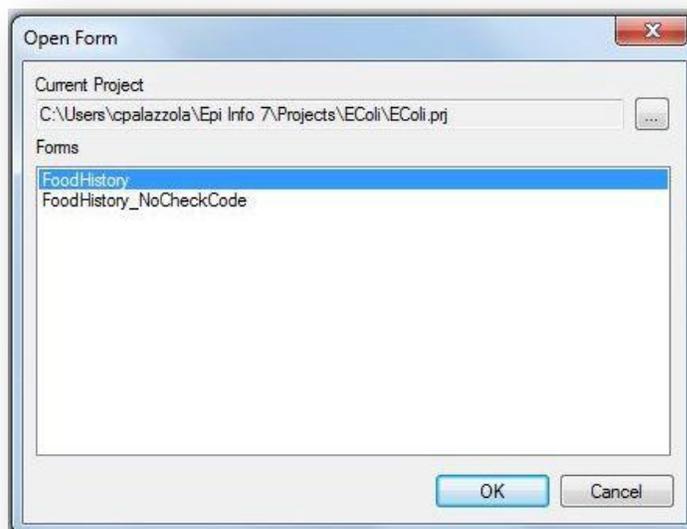


Figure 4.3: Open Form dialog box

4. Click the **ellipses** button next to the Current Project field to browse for a project. Select **EColi** from the folder. The project file path displays in the Current Project field and a list of available forms in that project appear in the Forms field.
5. Select the desired form (**FoodHistory**) from the Forms field.
6. Click **OK**. The project and form display with the first record in the project appearing on the canvas.

For quick access to a project recently opened with the Enter module, use the Recent Forms option.

1. From the toolbar, select **File > Recent Forms**.

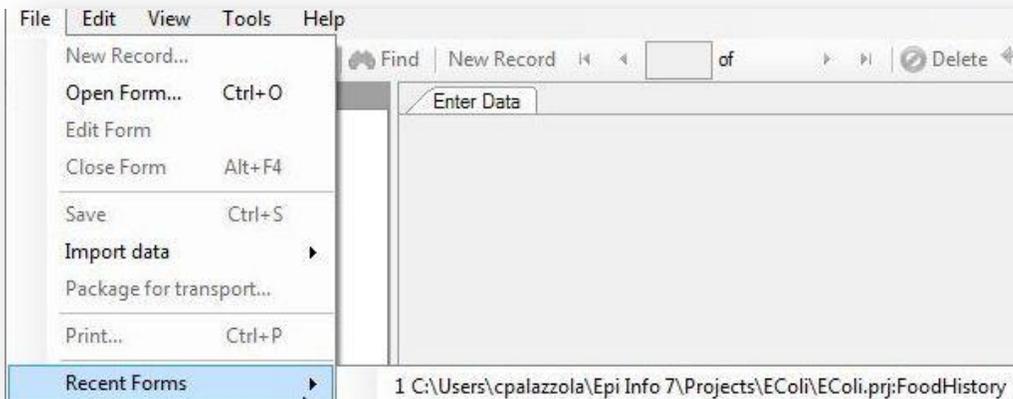


Figure 4.4: Open Recent Form

2. Select the path file containing the desired project and form. The project and form display with the first record in the project appearing on the canvas.

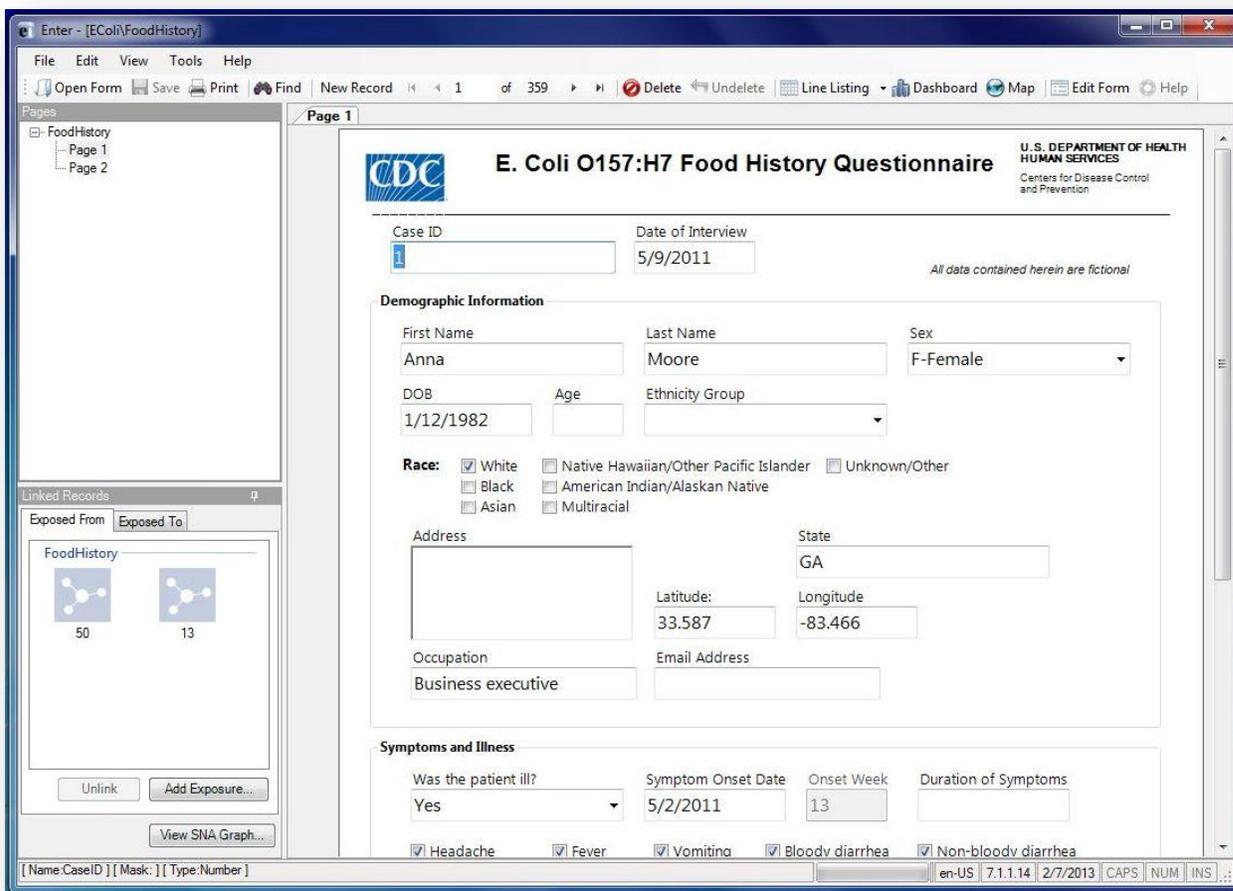


Figure 4.5: Enter Workspace

Navigating the Enter Workspace

There are five main areas in the Enter workspace: Pages, Linked Records, Canvas, Toolbar, and Status Bar. The figure below displays all five areas with information contained in the **FoodHistory** form of the **EColi** project.

The screenshot shows the 'Enter - [EColi\FoodHistory]' application window. The main form is titled 'E. Coli O157:H7 Food History Questionnaire' and is associated with the 'U.S. DEPARTMENT OF HEALTH HUMAN SERVICES Centers for Disease Control and Prevention'. The form contains the following fields and sections:

- Case ID:** [Text input field]
- Date of Interview:** 5/9/2011
- Demographic Information:**
 - First Name: Anna
 - Last Name: Moore
 - Sex: F-Female
 - DOB: 1/12/1982
 - Age: [Text input field]
 - Ethnicity Group: [Dropdown menu]
 - Race: White, Black, Asian, Native Hawaiian/Other Pacific Islander, American Indian/Alaskan Native, Multiracial, Unknown/Other
- Address:** [Text input field]
- State:** GA
- Latitude:** 33.587
- Longitude:** -83.466
- Occupation:** Business executive
- Email Address:** [Text input field]
- Symptoms and Illness:**
 - Was the patient ill?: Yes
 - Symptom Onset Date: 5/2/2011
 - Onset Week: 13
 - Duration of Symptoms: [Text input field]
 - Headache:
 - Fever:
 - Vomiting:
 - Bloody diarrhea:
 - Non-bloody diarrhea:

The interface also features a 'Pages' panel on the left showing 'FoodHistory' with 'Page 1' and 'Page 2'. A 'Linked Records' panel at the bottom left shows 'Exposed From' and 'Exposed To' with 'FoodHistory' records having counts of 50 and 13. The status bar at the bottom displays '[Name:CaseID] [Mask:] [Type:Number]' and system information like 'en-US | 7.1.1.14 | 2/7/2013 | CAPS | NUM | INS |'.

Figure 4.6: Enter Workspace

Pages

The **Pages** panel in the top left corner lists all pages associated with the current form. Users may navigate to different pages in the form by selecting the desired page in the **Pages** panel.

Linked Records

The **Linked Records** panel in the bottom left is used to conduct contact tracing. It contains information about which records have been exposed to or from the current record.

1. **Exposed From** – Displays additional records that the current record has been exposed or affected from. The **Exposed From** icons appear with the Case ID number of the record. Place the mouse over the record to preview the record information.



Figure 4.7: Exposed From - Record Preview

- Double-click on the record to jump to that record and view additional information
2. **Exposed To** - Displays other records that the current record has been in contact with or possibly affected since acquiring the illness. The **Exposed To** icons appear with the Case ID number of the record.

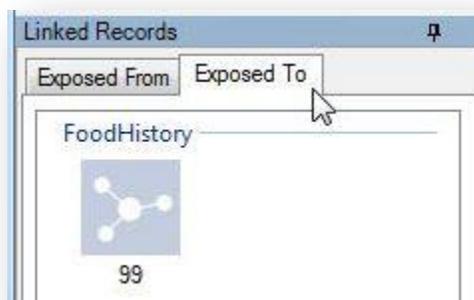


Figure 4.8: Exposed To

- Similar to the **Exposed From** tab, users can preview information or jump to the record by double-clicking the icon.
3. **Add Exposure** – Identifies additional exposures (To and From) for the current record. To add an **Exposure To**, click **Add Exposure** in the **Exposure To** tab. To add an **Exposure From**, click **Add Exposure** in the **Exposure From** tab.
 - Select the form that the exposure record is contained. Click **OK**.

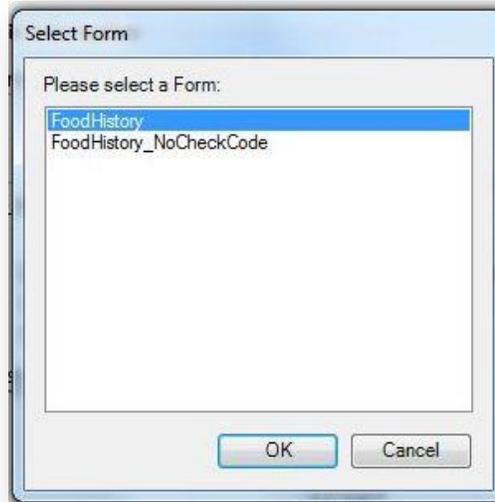


Figure 4.9: Add Exposure from Form

- Find the desired exposure information with Find (information regarding the Find function is located in the Find Records section). Double click on search results to add the exposure to the record.

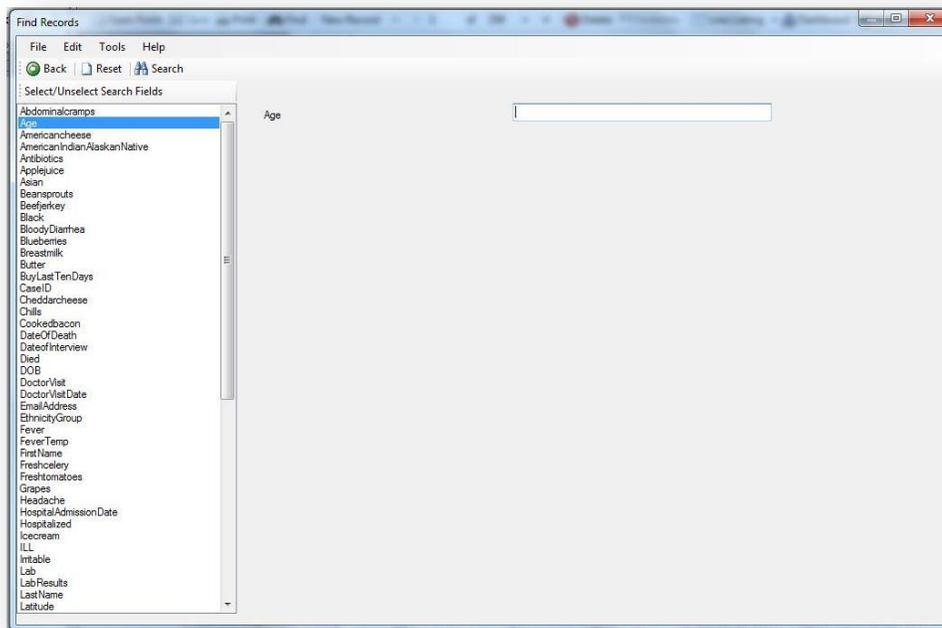


Figure 4.10: Add Exposure from Record

4. **SNA graph** – Social Network Analysis (SNA) displays the exposed to and from records graphically with the current record in red.

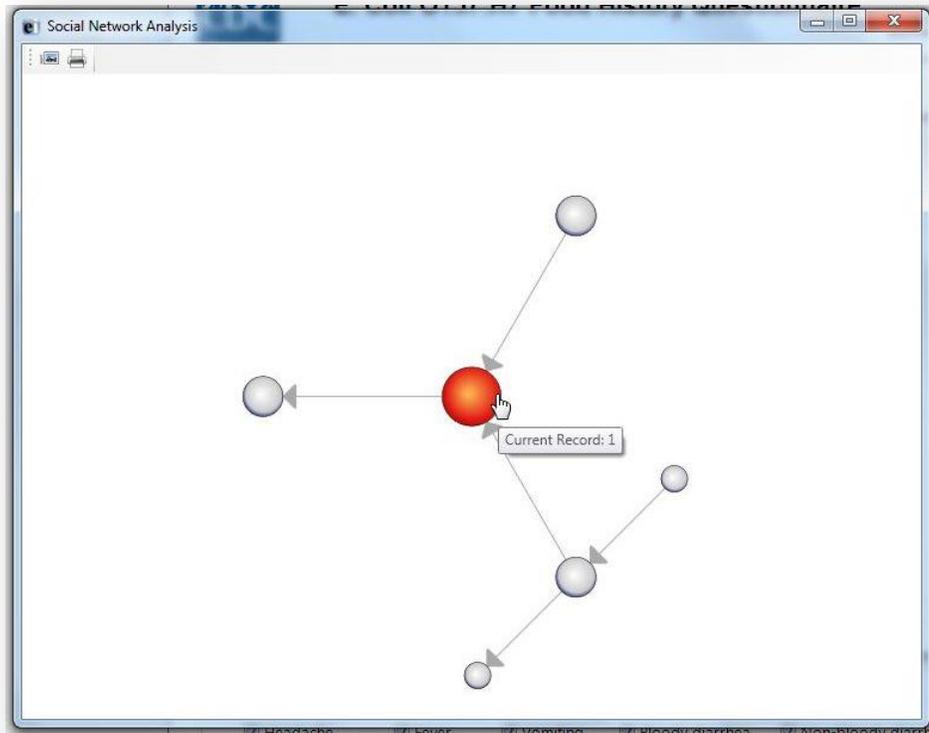


Figure 4.11: SNA Graph

- The SNA graph directionally shows the flow of exposure at multiple levels. For example, the current record has two records that it has been exposed from; however, one of those records has been exposed from two more records.
- The SNA graph also displays that the current record has been exposed to another record. This is consistent with the information contained in the **Exposed From** and **Exposed To** tabs.
- The SNA graph can be saved as an image or printed using the buttons in the top left corner of the screen.

Canvas

The **Canvas** shows the current page in the form with all record information displayed. The canvas is where data entry and editing occurs.

Toolbar

The **Toolbar** at the top of the screen contains buttons to navigate through the records, create new records, open the Dashboard, open the mapping tool, save the current record, view records in a line list, and print.

- **Line List** – allows users to view and search records using the Dashboard interface. Also, users can view the data in MS Excel and HTML formats. For additional information, reference the Visual Dashboard section of the user guide.

Line List

Warning: Some rows were not displayed due to gadget settings. Showing top 50 rows only.

Line	CaseID	DateofInterview	FirstName	LastName	Sex	DOB	Age	EthnicityGroup	White	Native/Leakian/OtherPacif...	Unknown/Other	Black	AmericanIndian/AlaskanNat...	Asian	Multiracial	Patient/Address	State	Latitude	Longitude	Occupation
1	247	5/11/2011	Missing	Jackson	M-Male	1/1/1986	25	Missing	No	No	Yes	No	No	No	No	Missing	GA	33.594	-83.475	Software develo
2	277	5/13/2011	Missing	White	F-Female	10/4/1980	30	Missing	No	No	No	No	No	No	Yes	Missing	GA	33.627	-83.61	Manufacturing
3	61	5/18/2011	Missing	Johnson	F-Female	3/1/1963	48	Missing	No	No	Yes	No	No	No	No	Missing	GA	33.585	-83.175	Unemployed
4	258	5/12/2011	Missing	Williams	F-Female	4/15/1993	20	Missing	No	No	No	No	Yes	No	No	Missing	GA	33.603	-83.63	Police officer
5	127	5/04/2011	Missing	Smith	F-Female	3/20/1987	24	Missing	Yes	No	No	No	No	No	No	Missing	GA	33.575	-83.185	Sales
6	323	5/14/2011	Missing	Brown	F-Female	2/4/1959	52	Missing	No	No	No	Yes	No	No	No	Missing	GA	33.603	-83.472	Lawyer
7	152	5/11/2011	Missing	Davis	M-Male	9/16/1955	59	Missing	No	No	No	No	Yes	No	No	Missing	GA	33.587	-83.45	Scientist
8	66	5/7/2011	Missing	Miller	M-Male	1/1/1990	21	Missing	No	No	No	No	Yes	No	No	Missing	GA	33.627	-83.61	Student
9	70	5/12/2011	Missing	Wilson	M-Male	1/2/1980	31	Missing	Yes	No	No	No	No	No	Missing	GA	33.587	-83.469	Sales	
10	233	5/10/2011	Missing	Moore	M-Male	10/10/1967	43	Missing	No	Yes	No	No	No	No	Missing	GA	33.566	-83.495	Food service wo	
11	275	5/13/2011	Missing	Taylor	F-Female	9/2/1958	52	Missing	No	No	No	No	No	Yes	Missing	GA	33.588	-83.48	Researcher	
12	224	5/3/2011	Missing	Anderson	F-Female	9/3/1992	18	Missing	No	No	No	No	No	No	Yes	Missing	GA	33.59	-83.47	Clerk
13	116	5/18/2011	Missing	Thomas	M-Male	6/6/1950	60	Missing	Yes	No	No	No	No	No	Missing	GA	33.588	-83.474	Civil engineer	
14	312	5/14/2011	Missing	Jackson	M-Male	2/28/1982	29	Missing	No	No	Yes	No	No	No	Missing	GA	33.56	-83.479	Missing	
15	300	5/13/2011	Missing	White	M-Male	1/1/1989	22	Missing	No	Yes	No	No	No	No	Missing	GA	33.514	-83.696	Missing	

Figure 4.12: Line List View

- **Print** – allows the user to print the form and specify customized parameters.

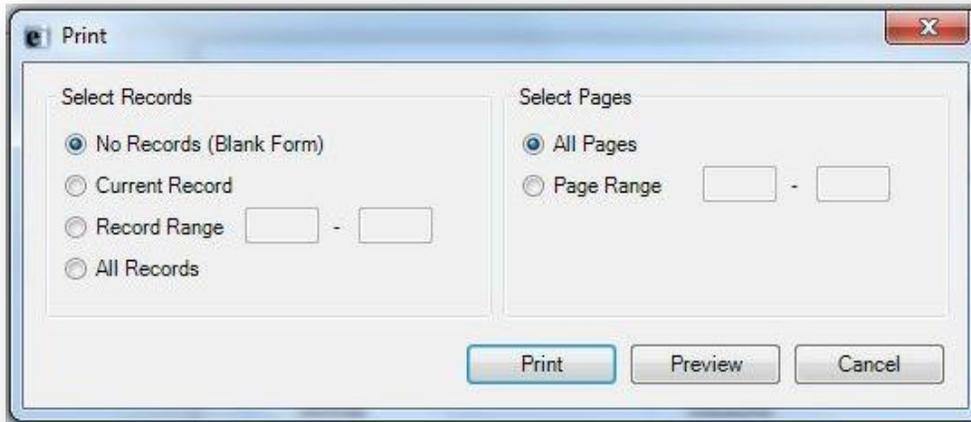


Figure 4.13: Print dialog box

- To create a PDF version of the form using the print function select **Preview**. In the **Print Preview** window select **Print** and chose the appropriate PDF writer as the printer.

Note: The ability to print to a PDF requires PDF writer software.



Figure 4.14: Create PDF

- **Navigation Buttons** - Navigation is provided for using the New Record button and navigation buttons for, next (▶), previous (◀), first (◀◀), and last (▶▶) records. The user may also manually type the record ID number into the record list to jump to that record. When entering data into a child form, use the “Back” button to return to the parent form.
- **Maps** – Entering Maps from the Enter module allows for some additional functionality between Maps and the project data. The additional functionality allows the user to view case data in the Enter module from the Map window. The following example demonstrates how to create a case cluster map using the FoodHistory form data in the Ecoli project. For additional information regarding maps, reference the Maps section of the user guide.
 1. Click **Maps** from the toolbar. The Maps main window appears.

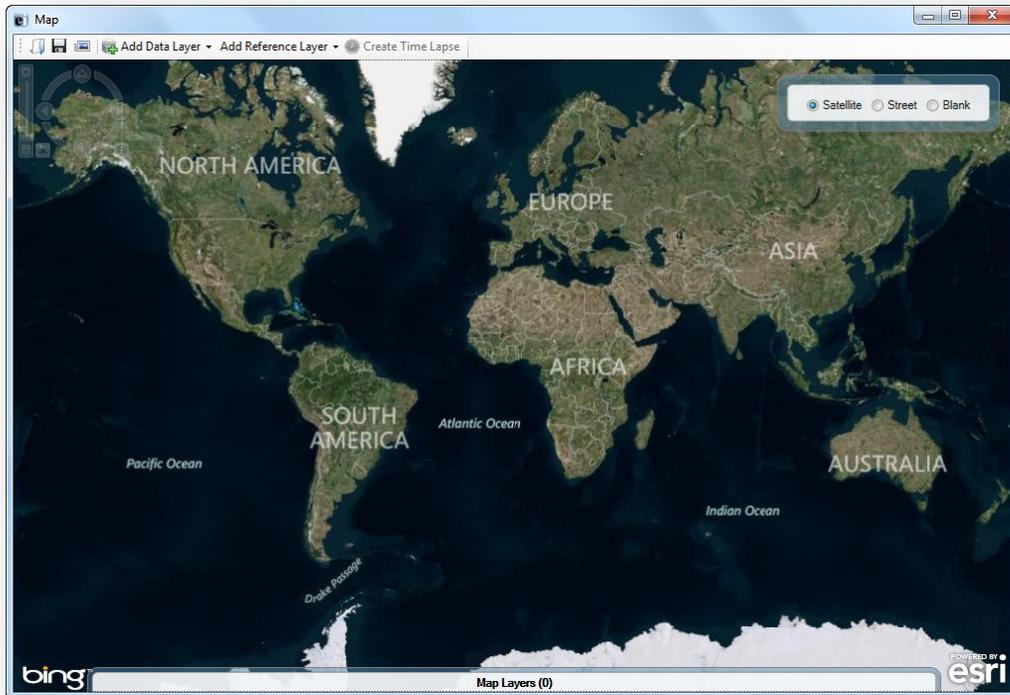


Figure 4.15: Main Map Window

2. Select **Add Data Layer > Case Cluster** from the toolbar.

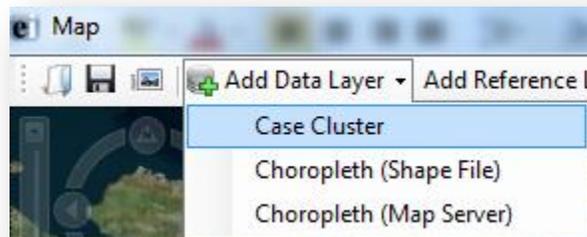


Figure 4.16: Case Cluster

3. In the external data dialog box, select **No**.

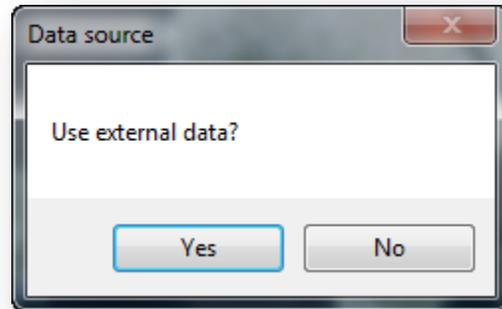


Figure 4.17: Data Source

4. Select the field containing the Latitude coordinates (**Latitude**) from the Latitude drop-down list.
5. Select the field containing the Longitude coordinates (**Longitude**) from the Longitude drop-down list.

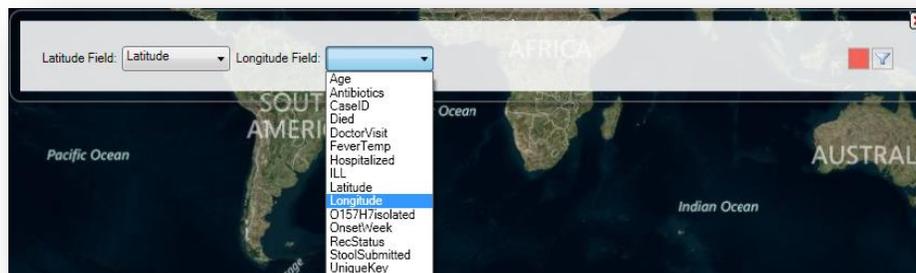


Figure 4.18: Latitude and Longitude Fields

6. The case cluster map appears displaying each record's location on the map.

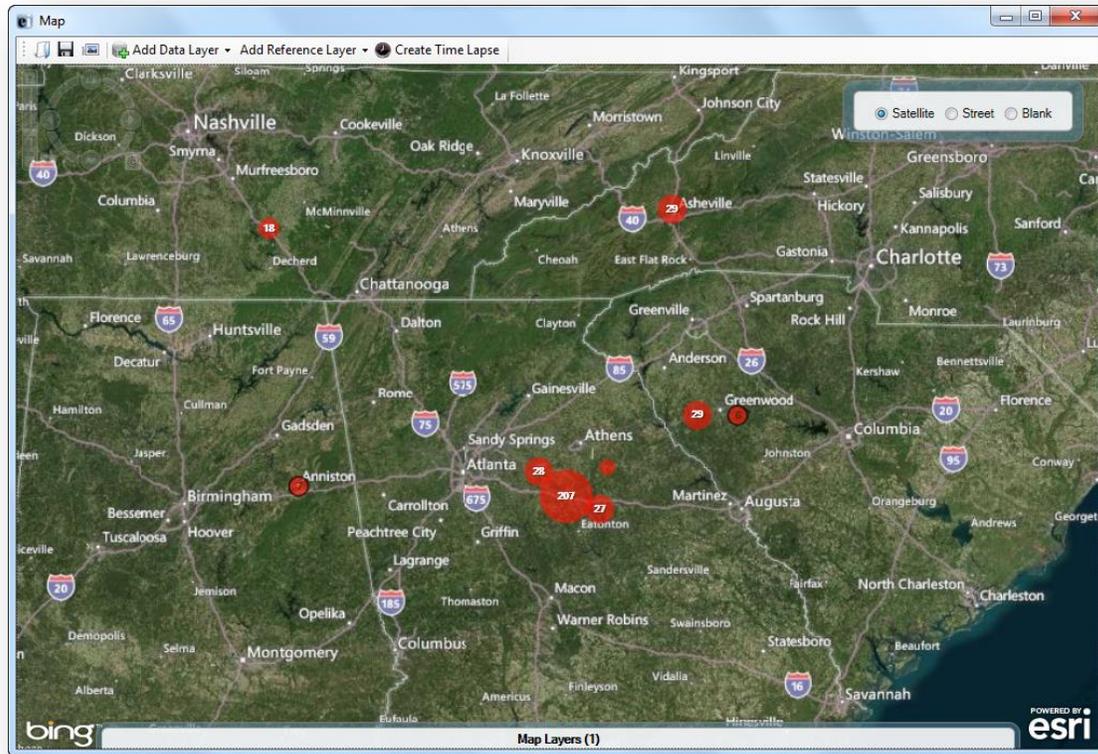


Figure 4.19: Case Cluster Map

7. To view the information associated with each record on the map, double-click on a single red dot. The record appears in the Enter data window.

Note: *Zoom in on the record of interest to separate the case clusters into single dots.*

Case ID: 284 Date of Interview: 5/13/2011

All data contained herein are fictional

Demographic Information

First Name: Last Name: Dixon Sex: M-Male

DOB: 10/10/1978 Age: 32 Ethnicity Group:

Race: White Native Hawaiian/Other Pacific Islander Unknown/Other
 Black American Indian/Alaskan Native
 Asian Multiracial

Address: State: GA

Latitude: 33.784 Longitude: -83.139

Occupation: Consultant Email Address:

Symptoms and Illness

Was the patient ill? Yes Symptom Onset Date: 5/6/2011 Onset Week: 14 Duration of Symptoms:

Headache Fever Vomiting Bloody diarrhea Non-bloody diarrhea
 Poor feeding Chills Irritable Nausea Abdominal cramps

Highest fever temp: 102.0

Figure 4.20: Case Record

Status Bar

The **Status Bar** at the bottom of the screen displays selected information about the field that the cursor is currently located. The status bar can be hidden by deselecting **View > Status Bar** in the toolbar.



Figure 4.21: Status Bar

Check Code Options

The Enter module allows the user to modify the Check Code features when entering data. Both Check Code options are available under Tools in the toolbar and are enabled by default.

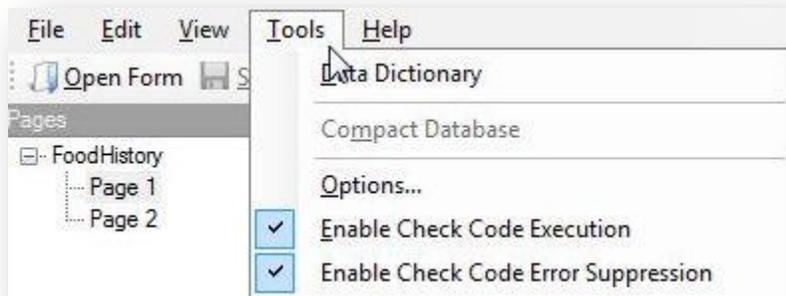


Figure 4.22: Check Code Options

- **Enable Check Code Executions** – Unchecking this option will disable all check code when entering data into the form
- **Enable Check Code Error Suppression** - Unchecking this option will not display error messages in check code

Import Data

There are multiple options available to import data from external sources into the Enter module. These options are available under **File > Import Data** in the toolbar.

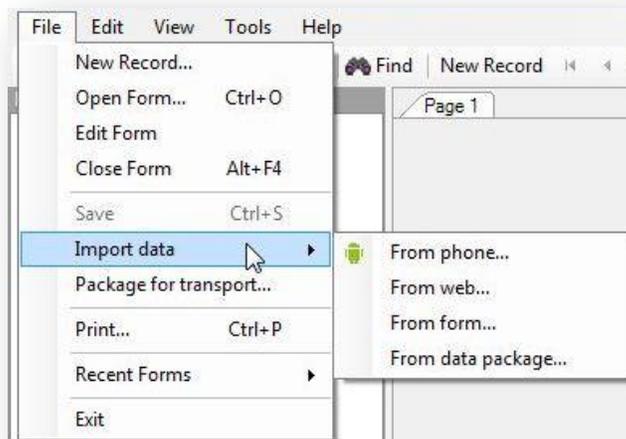


Figure 4.23: Import Data

- **From form** – This feature requires a Epi Info project file (.prj) and data (.mdb if data tables formed in Microsoft Access).

- Browse for the Epi Info project file by clicking the ellipses next to the **Project containing the data to import** field. Select the .prj file
- Select the **Form** from the **Form data to import** drop-down list.

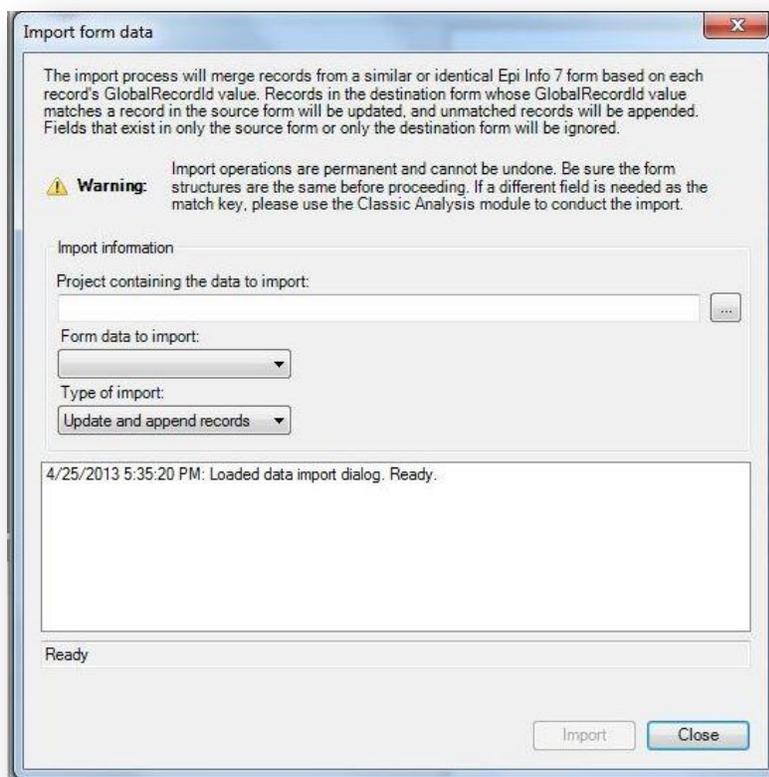


Figure 4.24: Import Data from Form

- Select the **Import Type** from the **Type of import** drop-down list.
 - **Update and append records** – Records in the destination form containing the same GlobalRecordId values as the source form will be updated (overwritten) if there is new information. However, values in the destination table will never be overwritten with a null or missing value. All other records will be appended (added) to the end of the table.
 - **Update records only** – Records in the destination form containing the same GlobalRecordId values as the source form will be updated (overwritten) if there is new information. However, values in the destination table will never be overwritten with a null or missing value. All other records will be ignored.
 - **Append records only** – All records in the source form will be appended (added) to the end of the table. No records will be updated (overwritten).
- Click **Import**. *Import Complete* will appear at the bottom of the dialog box upon successful completion of the import.

- Click **Close**. The data is imported into the Enter module.
- **From mobile device** – for information regarding this feature, reference the Companion for Android section of this user guide.
- **From web** – for information regarding this feature, reference the Web Survey section of this user guide.
- **From data package** – for information regarding this feature, reference the Data Packager section of this user guide.

Enter Data in a Form

New Record

1. With a form and project open, select **New Record** from the toolbar or **File > New Record**. A blank record is added to the end of the record list and displays in the canvas. Place the **cursor** in the data entry field.
2. Enter **data** into each field. Use the **Tab** or **Enter** key to move to the next field. Moving from one field to another will execute Check Code.
 - As records are navigated, data are saved automatically. After completing the last field on a page, the cursor automatically jumps to the next page in the sequence.
 - Field properties that were defined in Form Designer, (e.g., Read Only, Required Range) are enforced during data entry.
 - Drop-down lists and code tables created in Form Designer are enforced.
 - Multiline Fields automatically scroll when filled with text to hold up to 1 gigabyte of information.
 - Plain text fields automatically scroll when filled with text to hold up to 255 characters per field.

Edit Record

1. Navigate to the desired record using the navigation tools in the toolbar.
2. Place the **cursor** in the desired data entry field.
3. Enter **data** into each field that needs to be updated. Use the **Tab** or **Enter** key to move to the next field. Moving from one field to another will execute Check Code.

Delete Record

1. Navigate to the desired record using the navigation tools in the toolbar.
2. Select the **Delete** button in the toolbar, or select **Edit > Mark as Deleted**.

3. The record is grayed out and removed from any analysis performed in Visual Dashboard and Classical Analysis.

Undelete Record

1. Navigate to the desired deleted record using the navigation tools in the toolbar.
2. Select the **Undelete** button in the toolbar, or select **Edit > Undelete**.
3. The record is enabled and will be available for analysis in Visual Dashboard and Classical Analysis.

Insert an Image in a Record

1. Click the **Image Field**. The **Select the Picture File** dialog box opens.
2. Select an **image file**.
3. Click **Open**. The selected image appears in the field.

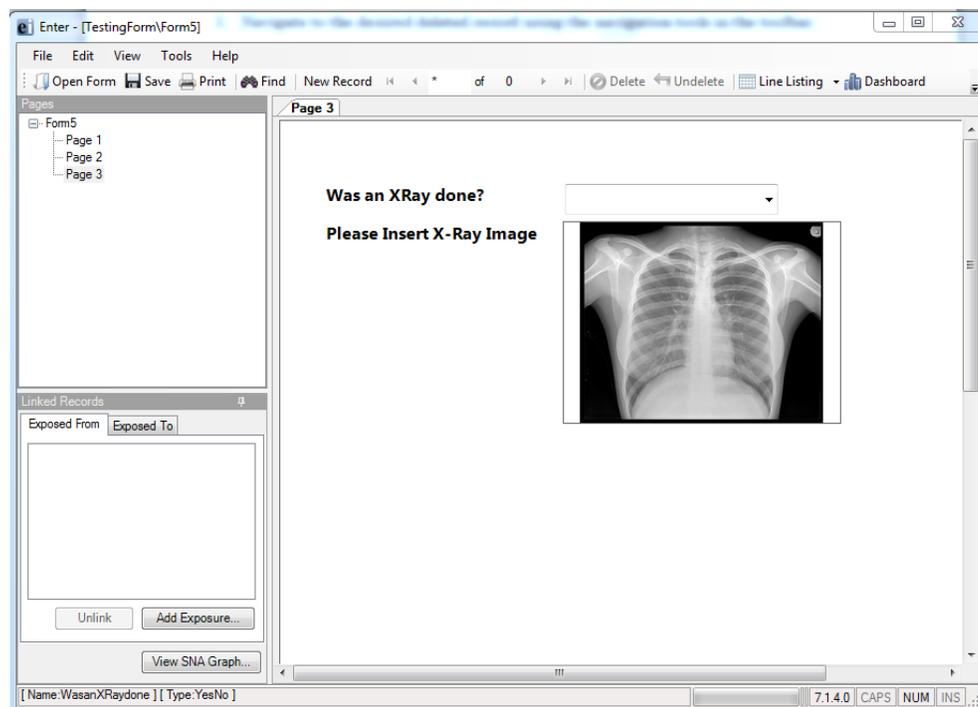


Figure 4.25: Insert Image

Save a Page or Record

The Enter module saves data automatically as the user moves from page-to-page. Data are also saved when navigating to another record. You can move out of a record by tabbing out of the last field of the last page or clicking **New Record** from the toolbar to open a new record. Records can also be saved manually.

There are three ways to save the current record manually:

1. Click **Save** from the toolbar.
2. Select **File > Save**.
3. Press **Ctrl+S** from the keyboard.

Find Records

Find can search for a record matching any field value or combination of field values. If a form has more than 255 fields and more than one associated data table, only the first data table will be searched with the find feature. As a result, only the fields in the first data table will populate in the search results.

Find Records Matching a Specified Criteria

The example below demonstrates how to find records in the **FoodHistory** from in the **EColi** project.

1. From the toolbar, select the **Find** icon or **Edit > Find**. The Find Records window opens.



Figure 4.26: Find Record

2. The **Select/Unselect Search Fields** list displays on the left side of the Finds Records window with all fields contained in the form. Click on a field name to select one or more fields. The selected search fields will turn blue and populate the gray area to the right of the list.
3. To unselect a field, click on the selected field highlighted in blue. The field will no longer be highlighted and is removed from the search criteria.

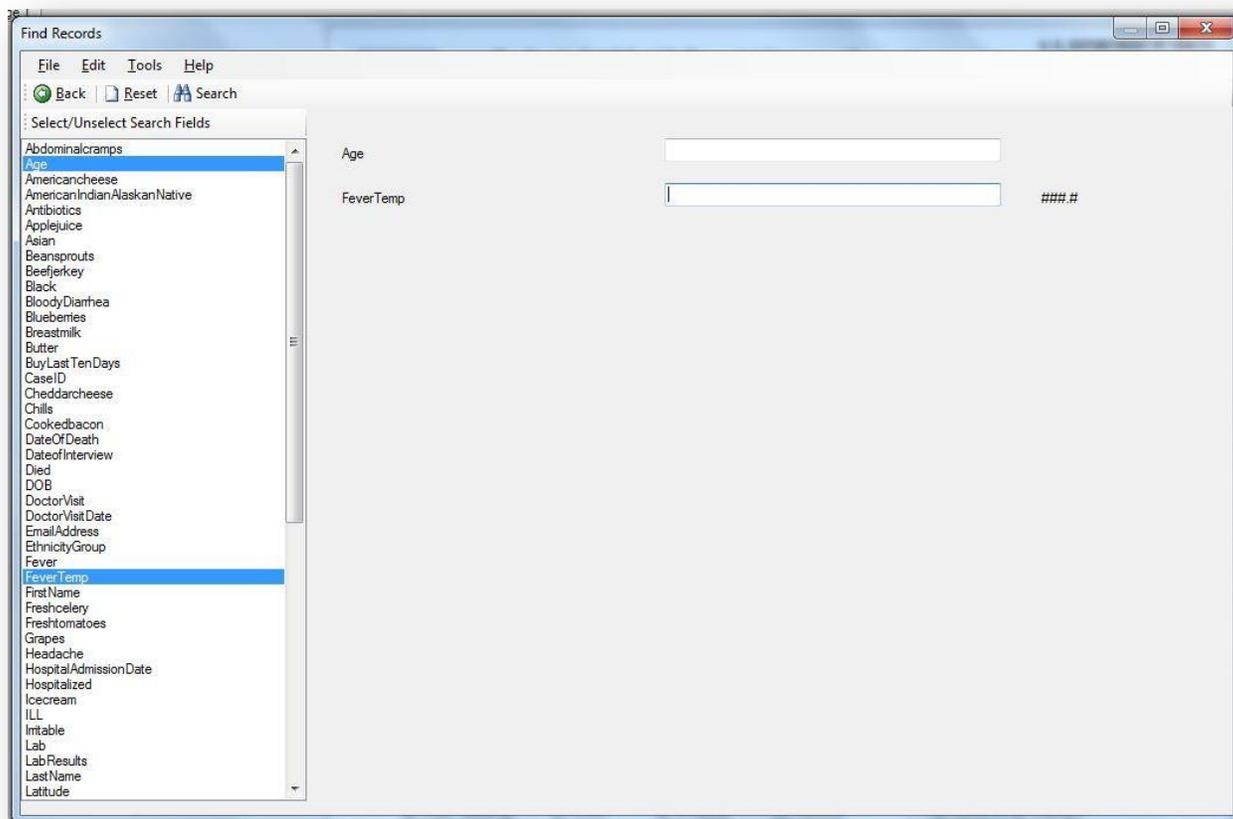


Figure 4.27: Find Records Window

4. Enter the search criteria for each field and click **Search**. Note that certain fields require specific formatting for the search criteria. If more than one field is selected, the search will display records that match all search criteria. This is considered an “AND” search.
 - Yes/No fields can only be searched with the parameters (+), (-) or (.). The parentheses are required.
 - Checkbox can only be searched with the parameters (+) or (-). The parentheses are required.
 - Date fields can only be searched with the date format MM/DD/YYYY.
 - Comment Legal can only be searched with the code (i.e. F- Female, search for F)
 - Option boxes do not store the option labels and therefore must be searched according to the integer that corresponds to each option. In an option box, the first option available corresponds to 0, the second option corresponds to 1, etc. Enter the corresponding value into the search criteria.

- Number fields will only accept values but do not require a decimal point if the field format specifies a decimal value.
 - Click **Reset** to begin a new search. Note that more than one field can be searched at a time.
 - Click **Back** or the close (X) button to return to the Enter workspace.
5. Open a record by double-clicking the **arrow** on the chosen row. The record displays in the Enter Data workspace.

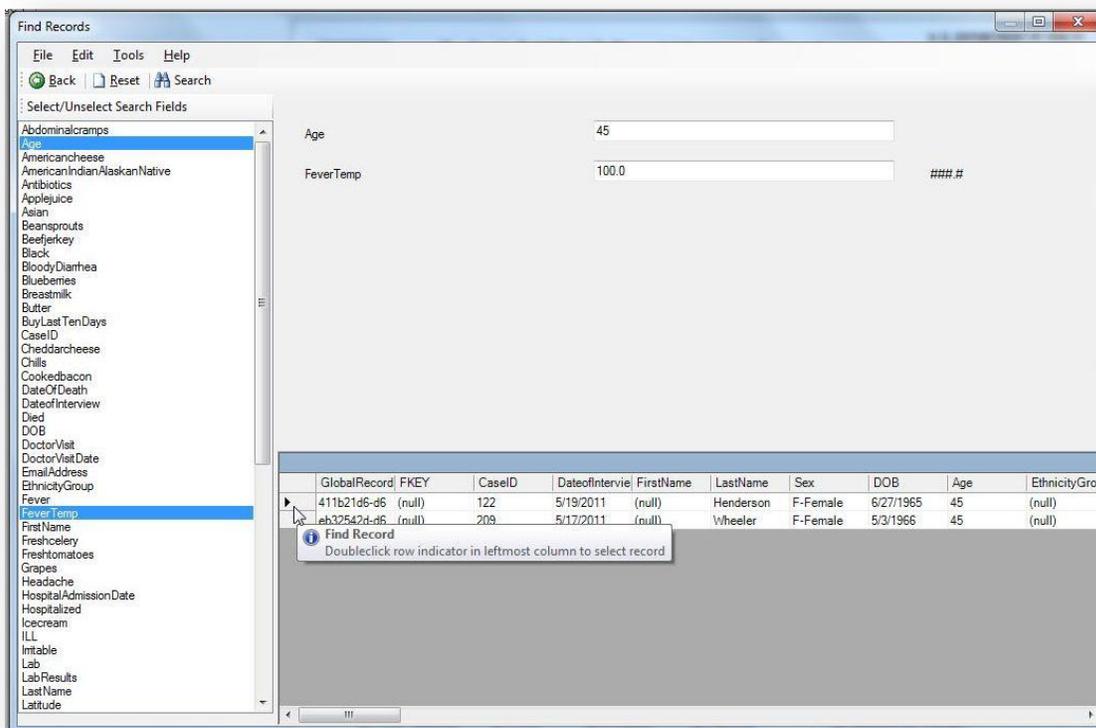


Figure 4.28: Find Records Results

Additional Search Features

1. Embedded text items in multiline and text fields can be found by searching for *word* where "word" is the text string being sought. This type of search is called a Wild Card search. In a Wild Card search, the asterisk represents any letter or string of letters (i.e., a search for DIAGNOSES *heart* would identify all records for a large text field called DIAGNOSES which contained the word "heart)."
2. Dates and numeric fields can be searched using less than or greater than values (<>).

3. Only “OR” can be used to search for matches based on more than one criteria in the same field (i.e. searching last names, Smith OR Doe will return records containing both Smith or Doe. The search field must contain “OR” to perform the desired search. Search criteria cannot be separated by a comma.
4. Searches are not case sensitive and are designed to be more inclusive than exclusive.

Printing Forms

Users can print a blank copy of the form or a copy of the form with data if needed. In order to print the form, please complete the following steps:

1. Open your Epi Info 7 project and form in the Enter Data module.
2. Click on the PRINT option. The following window will be displayed:

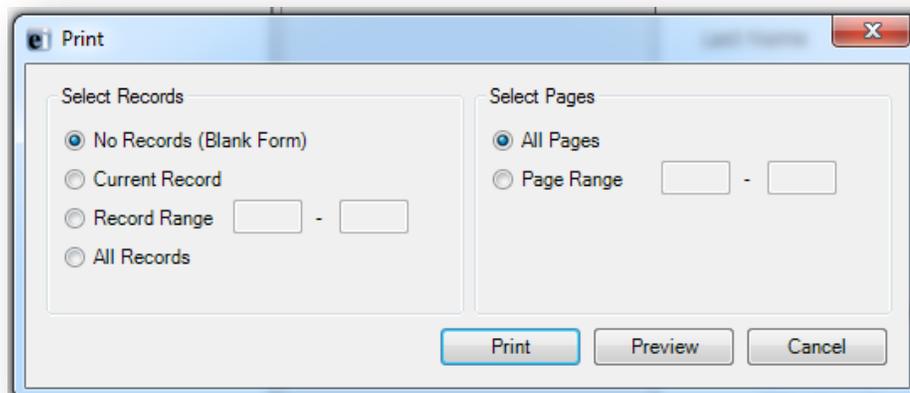


Figure 4.29: Print dialog window

- a. To print a copy of the form without including the data that has been entered, just click the PRINT button
- b. To print a copy of the form including the data that has been entered for the current record, click on the CURRENT RECORD radio button, and then click the PRINT button. This will print the form with the data for the current record.
- c. To print a copy of the form including the data that has been entered for a range of records, click on the RECORD RANGE radio button, and then specify the record number for the records that you want to print the data. When done, click the PRINT button. This will print the form with the data for the records specified.

- d. To print a copy of the form including the data for all records, click on the ALL RECORDS radio button, and then click the PRINT button. This will print the form with the data for all records in the database.
3. To print an electronic copy of the form without any data, click on the PREVIEW button.

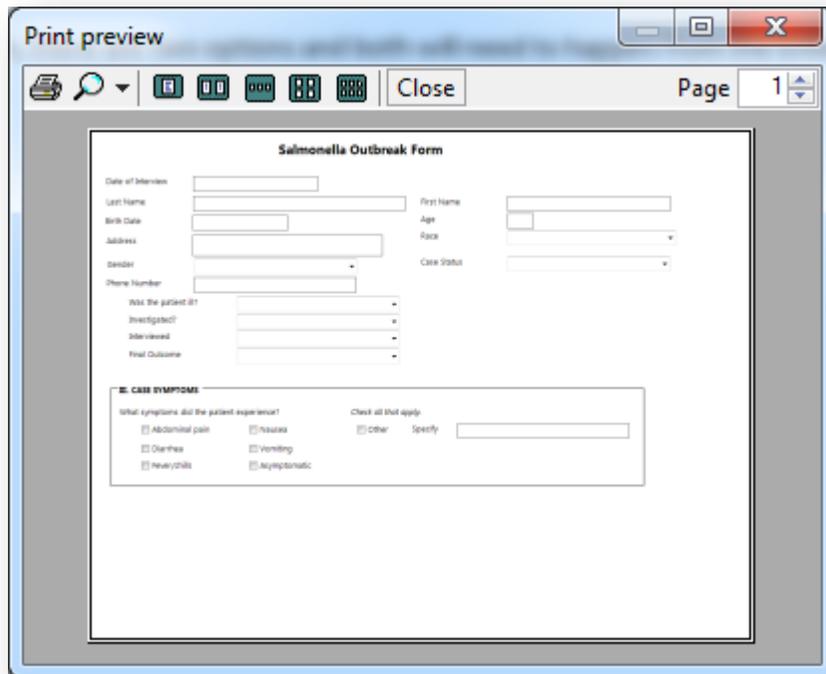


Figure 4.30: Print Preview dialog window

4. Click on the printer icon button.

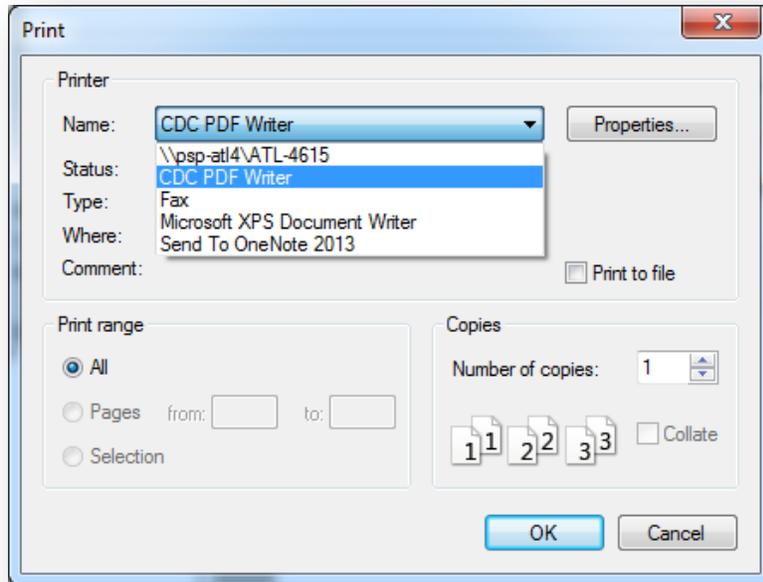


Figure 4.31: Select Printer dialog window

5. Select PDF writer or any other option that allows the creation of an electronic copy of a document.