Anthrax Case Investigation System (AIS)

Purpose and Use of System

Case Investigation Form (CIF)

CDC requests that Health Departments that do not have their own anthrax investigation form use the CDC's CIF. It should be used for naturally acquired anthrax cases and at the beginning of an intentional anthrax release to submit case notifications to CDC.

The CIF contains a comprehensive set of variables that may help to identify the source and location of exposure. The form collects signs and symptoms to identify the type of disease and laboratory results to classify the case. Variables on the CIF can also identify the success of post-exposure prophylaxis (PEP) campaigns following an identified event, as well as PEP failures. The intention of the CIF is to be a starting point to identify known and potential exposures, with the possibility for modification in the context of an investigation.

Some of the information will be redundant with other data sources (e.g., laboratory results and LRN reporting system). Once a system is in place for the integration of data from multiple sources, the data can be integrated automatically, and separate laboratory data will not need to be entered here. A notification will be sent when this occurs.

Summary Notification Form (SNF)

The SNF can be used by state health departments when:

- The burden of completing CIFs for each case is overwhelming public health staff.
- The outbreak is well understood, and specific case data is no longer needed to make policy or response decisions.

The aggregated case counts will provide information on national scope of outbreak while limiting the data collection burden.

Contents

Download Database from the Public FTP

1. The Anthrax Investigation Database zip file can be downloaded from: ftp://ftp.cdc.gov/pub/DACI

   a. This is a blank database; no data can be posted or uploaded to this location

2. Click on the Anthrax Investigation Database file

3. Click on the zip file and save to your desired local drive

4. Open the zip file and copy it to a final location

   a. The system is designed to be portable, so it will not matter what the folder is named or how deep in the folder structure it resides. However, Epi Info™ 7 works best when run from a hard drive on your computer, rather than from a network location.

   b. Epi Info™ 7 does not need to be downloaded separately, as it is included in the package. The folders and files within 'Epi Info 7' must remain as they were packaged.

5. Open the folder location. Click on "Launch Anthrax Investigation Menu" to open the Main Menu.
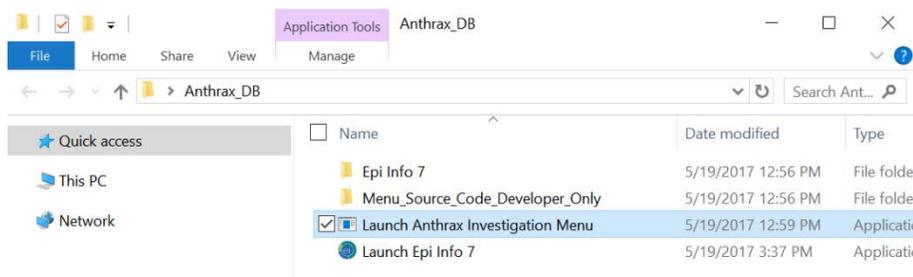
6. The Anthrax Investigation Menu contains 4 buttons for "Instructions and Notices", 6 buttons for "Data Entry, Analysis, and Submission" and viewing data with pre-packaged Dashboard and Map files. There is also a menu option to launch *Epi Info™ 7*.

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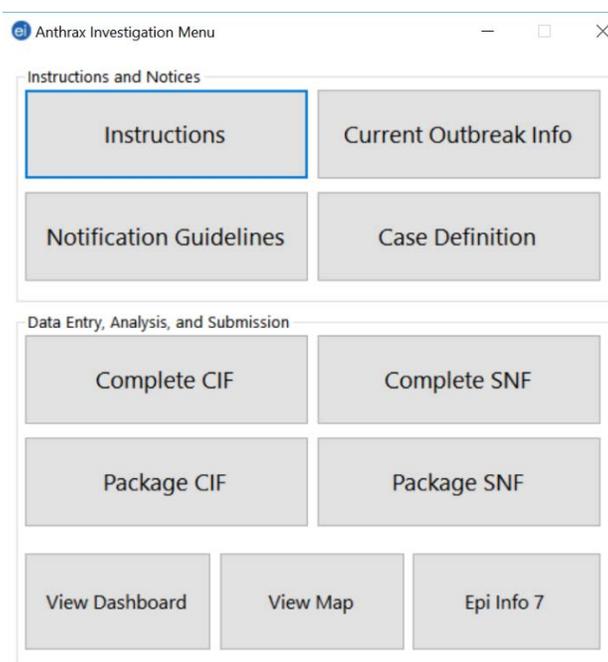
Epi Info™ Tutorial

The Epi Info [user guide](#) has written and video tutorials on how to use Epi Info. Also, questions can be directed to the [Epi Info helpdesk](#). How to use this Anthrax Investigation System is described below.

Enter and Save Data

From the Anthrax Investigation Menu, click on **Complete CIF** or **Complete SNF**. These command buttons will take you to the respective forms.

When data are entered into a form, the data table inside the project is populated. Use the **Tab** or **Enter** key to move to the next field. Moving from one field to another will execute various data validation rules to reduce data entry errors.

Data are saved automatically as you move 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. Records can also be saved manually.

- Plain text fields hold up to 128 characters per field.

- Navigation between records can be done with the New Record button and navigation buttons for next (▶), previous (◀), first (◀◀), and last (▶▶) records.

- **Date of Onset** (Twenty-four Hour Report page) must be entered in order for the system to calculate the **Earliest Possible Exposure Date** (Exposures page).

Find a Record

The Find function allows records to be located based on a series of matched variables, which can be useful if an existing record needs to be edited. The [Find Records tutorial](#) shows how to do simple and advanced searches.

Case Definition and Notification Instructions

The case definition and case notification guidelines are available on the menu, as well as on the Case Identification and Twenty-four Hour Report pages.

Data Visualization: Dashboard

Descriptive statistics and data visualization are available on the Dashboard. You can access the Dashboard from the Main Menu, or from the toolbar within the CIF or the SNF.

There is a short dashboard developed for the anthrax investigation system. To find the existing Dashboard, click on the Open icon 🗁 in the Dashboard toolbar and then Browse. The Dashboard file is titled "AnthraxCIFDashboard.cvs7".

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This dashboard can be easily modified—all edits must be saved to keep the changes—click **Save As** and save the new Dashboard under a new name in the default folder. You can also create a new Dashboard and Save it for future use.

Data Visualization: Maps

The map will display project data by adding Data Layers; Reference Layers can be added to change the visible boundaries. [Click here for instructions to use and manipulate maps](#).

To create a GIS location for each case's home location:

- Enter each case patient's address on the **Case_Identification** page of the CIF
- Click on the **Get Coordinates** button—**Latitude** and **Longitude** fields are filled
  - The address can be incomplete—when you click Get Coordinates, a pop-up will appear with suggested coordinates and the associated confidence and quality of the coordinates
  - Possible exposure locations can also be geocoded and mapped—these are on the **Exposures 2** page

To display your case data on the map by coordinates, click on the **Map** button at the top right of the data entry screen, or click on **View Map** on the main menu. Click **Open** and find the file: "Case_Residence.map7".

- Add additional layers (variables) with the Add Data Layer button on the side toolbar
  - Select Case Cluster map, then Browse for the data source
  - Select No when you are asked if you want to use external data
  - Select the appropriate Latitude and Longitude variables—the convention is:
    - Variable names 'Latitude' and 'Longitude' are coordinates of Case Residence
    - <u>Areas where people congregate</u> latitude = LatCng1 – 3. Same convention for Longitude
    - <u>Gathering places</u> latitude = LatCng1 – 3. Same convention for Longitude

Coordinates are NOT sent to CDC. CDC-produced maps will use County of Residence.

[Detailed instructions to modify the appearance, filter, stratify, or develop a time lapse case cluster map are available.](#) Choropleth and dot density maps are possible, but will require adding a map/boundary layer. [Instructions are available here](#).

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Data Submission

Submission of CIF

24 Hour Report:

Within 24 hours of case ID, submit data on page "Twenty-four Hour Report" to CDC using the Submit button.

Rest of the form:

Within 1 week, or when feasible, send the remaining information to CDC using the submit button. We will accept data in any format that works for you.

> ***Please notify CDC immediately with information that could affect the national response (e.g., identification of exposure, death within 1 week of case identification).***

Submission of SNF

Complete the Summary Notification page the first time you access the SNF. Each time you enter the SNF, click on Daily Totals button and enter data for the current day. If there are updates for a previous day, click the Updated checkbox and enter the date to be updated. Once data are entered, click the Submit Daily Totals button.

Data Packages

Data on the CIF and SNF can each be easily and separately packaged and sent to CDC via a secure FTP server (see Submitting Data via the Secure FTP server).

To create the package, click the **Submit** button on the CIF and SNF, or the 'Package CIF' or 'Package SNF' buttons on the Anthrax Investigation Menu. The package files are saved to the subfolder '*Location*\Epi Info 7\Packages'; the files save with a date/time stamp in the title.

The package contains all updated data in the system (personally identifying information is removed). The file itself has minimally secure encryption, so transmitting the file via the FTP server improves data security.

You can modify the variables included in the package if you wish to send fewer data elements to CDC.

To modify the scripts:

- Within the CIF or SNF, select the File menu→ Package for Transport
- Browse to the folder location where you want to save your packaged data and give the file a name
    - You can select the option to add a time/date stamp to the filename
- At the bottom of the window, click the **Load Script** button and select the script you want to edit
    - Existing scripts are located in '*Location*\Epi Info 7\Packages\Scripts'

- To change the fields that are removed from the packaged data, click on 'Remove data in fields' and make your desired changes

- Click **Save Script**, and save the modified file with the same name in the same location (*Location*\Epi Info 7\Packages\Scripts) to ensure that the packaging buttons will continue to function

Detailed instructions to create and edit scripts are here.

Questions about the forms?

Contact CDC's Bacterial Special Pathogens Branch: bspb@cdc.gov (404) 639-1711

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Submitting Data via the Secure FTP server

1. **Download third party FTP client**

   A third party FTP client capable of FTP over Secure Shell (SSH) must be installed on the machine that will access the server. Some examples of free, open-source software clients include FileZilla and WinSCP. *CDC does not condone a specific client.*

2. **Request a username and password from BSPB: bspb@cdc.gov, 404-639-1711**

3. **Open your FTP client**

   a. Log into your account

      - Host: **ftp://eftp.cdc.gov** (this is not a link, but gets entered in Host field)

      - Username & Password (provided by BSPB)

      - Port: 22

      - Click **Quick Connect** button
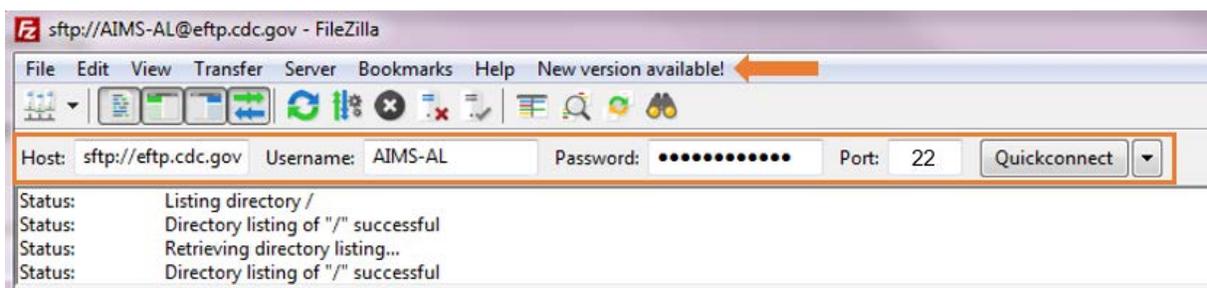
If you cannot connect, check to see if there is a new version of the client available for download—if the version you are using is out of date, it may not be able to connect to the anthrax directory.

4. **Send a file to CDC**
    a. Select folder location of file to transfer on the left side of the window (local folders)
        i. Only files saved on your local drives (not network drives) are visible for uploading
        ii. Once the folder location is selected, all files in the folder will show in the window under the local folders window.
    b. Double-click the secure server folder in the Remote Site window (FTP secure folders) – the folder contents will become visible in the window bellow.
    c. There are several ways to add a file to this folder:
        i. Double-click on your file from the Local site (on the left)
        ii. Drag the file from the Local site into the Remote Site: Filename window
        iii. Right click on your file and select Upload
    d. To transfer directories and/or multiple files, select all files or the folder and right-click the selection. Then you can click on Upload in the popup menu
    e. Disconnect from the server by clicking on the black X ⋮ on the top icon bar
    f. Notify BSPB when you have uploaded data
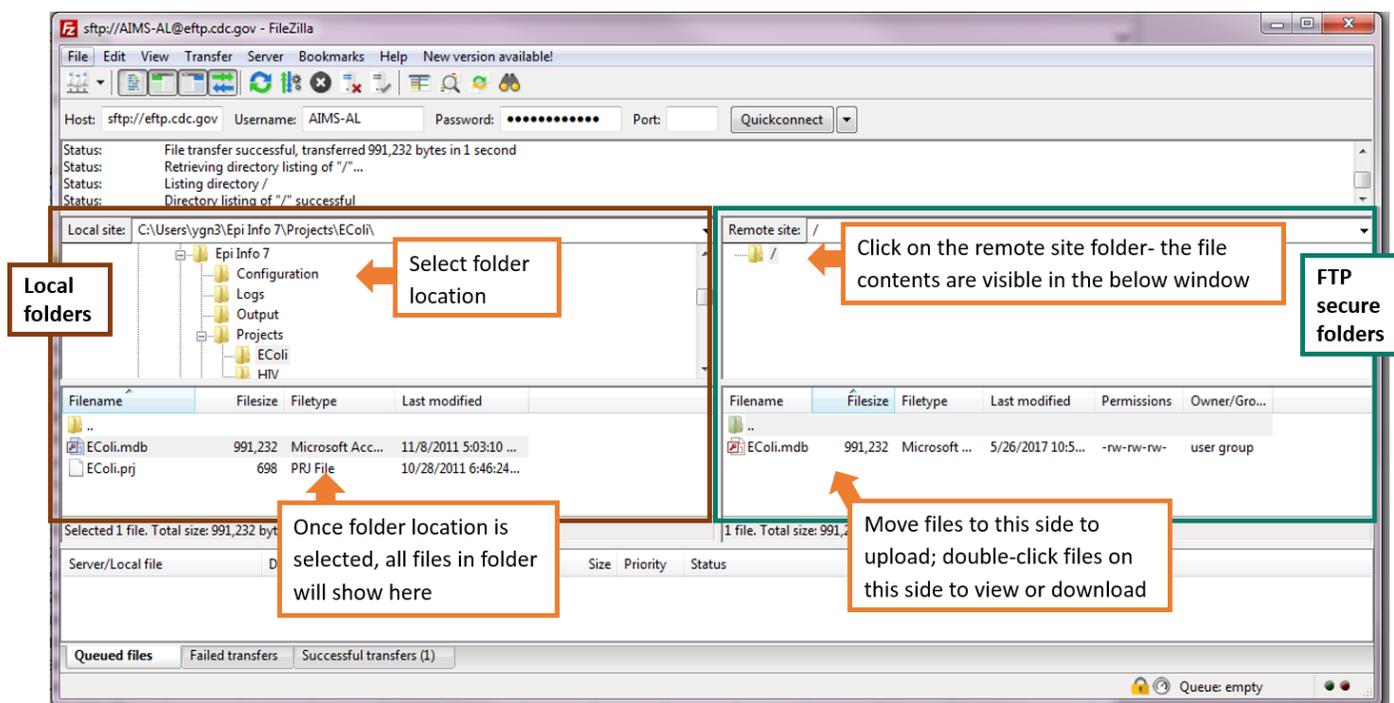
5. **Download a file from CDC**
    a) Log into your account
    b) Open your remote FTP secure folder and select the file
        i. Double-click on the file to open it, OR right-click on the file
        ii. Double-click a directory in the list of the current directory contents