



User Guide

Version 2.0
February 2018



**Centers for Disease Control
and Prevention**
National Institute for Occupational
Safety and Health

This document is in the public domain and may be freely copied or reprinted.

DISCLAIMER

Mention of any company or product does not constitute endorsement by the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). In addition, citations to websites external to NIOSH do not constitute NIOSH endorsement of the sponsoring organizations or their programs or products. Furthermore, NIOSH is not responsible for the content of these websites. All web addresses referenced in this document were accessible as of the publication date.

ORDERING INFORMATION

To receive documents or other information about occupational safety and health topics, contact NIOSH:

Telephone: 1-800-CDC-INFO (1-800-232-4636)

TTY: 1-888-232-6348

CDC INFO: www.cdc.gov/info

or visit the NIOSH website at www.cdc.gov/niosh/.

For a monthly update on news at NIOSH, subscribe to *NIOSH eNews* by visiting www.cdc.gov/niosh/eNews

SUGGESTED CITATION

NIOSH [2018]. ERMHS info manager user guide version 2.0. By Shugart JM, McGarvey A, Williams S, Dowell CH. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication 2018-115.

DOI: <https://doi.org/10.26616/NIOSH PUB2018115>

DHHS (NIOSH) Publication No. 2018-115

February 2018

ACKNOWLEDGEMENTS

CDC/NIOSH CORE TEAM

(in alphabetical order)

- Rayfus (Ray) Buckner (OCOO/OCIO)
- Harold Collins (CDC/OPHSS)
- Chad Dowell (NIOSH/EPRO)
- Renée Funk (ONDIEH/EPRO)
- Anirban Ghosh (Deloitte)
- Karen Hales (CACI)
- Mohammad (Asad) Islam (FDA/CDER)
- Tracina Jackson (NIOSH/WTCHP)
- Johnathan Keith (ATTAIN)
- Amita McGarvey (CACI)
- Leslyn McNabb (OPHSS/CSELS)
- Ken McNeeley (NIOSH/OD)
- Roger Mir (CDC/OPHSS)
- John (Jay) Schroeder (IHS/ABR)
- Jill Shugart (NIOSH/EPRO)
- Arianna Smith (Deloitte)
- Steven Williams (ATTAIN)
- Matt Young (NIOSH/HELD)

*Associated programs of Core Team members are from time of their contribution

CONVENTIONS USED IN THIS MANUAL

Convention	Explanation
Boldface type	Emphasizes heading levels, column headings, and the following literals when writing procedures: <ul style="list-style-type: none">• Names of options and elements that appear on screens.• Keys on the keyboard.
<i>Italic type</i>	Emphasizes titles within subsections that a user should enter context.
Hyperlink	Provides quick and easy access to cross-referenced topics. Hyperlinks are highlighted in blue and may be underlined.
“ ”	Quotation marks must surround all text values.
<u>Underlined</u>	Provides emphasis that an action not recommended for a user to take.

Table of Contents

DISCLAIMER	I
ORDERING INFORMATION	I
SUGGESTED CITATION	I
ACKNOWLEDGEMENTS	II
CONVENTIONS USED IN THIS MANUAL	III
QUICK START	1
BACKGROUND	1
ERHMS™ Framework.....	1
SETUP	3
ERHMS Info Manager™ Installation.....	3
Optional Components	4
Automatic Updates.....	4
First-Time Setup	4
User Interface Navigation.....	5
Settings 6	
Roles 7	
Email Settings	8
Mapping Settings	8
Web Survey Settings.....	8
DATA SOURCES	9
Adding a New Data Source	9
Changing Data Sources	11
RESPONDERS	11
Creating a Responder Profile	11
Editing a Responder Profile.....	12
Merging Responders.....	12
INCIDENTS	13
Creating Incidents	14
Viewing and Adding Notes	16
Managing an Incident Roster	16
Incident Roles	18
Teams 19	
Locations	20
Jobs 22	
FORMS	23
Creating a Form	23

Collecting Data.....	24
Publishing Forms to the Web	25
Templates	27
Creating a Form from a Template	27
Creating a Template from a Form	29
Data Import/Export.....	30
ASSIGNMENTS.....	34
Distributing Surveys	34
Downloading Forms from Web Survey	36
ANALYSIS.....	37
SECURITY.....	39
Recommended Technical controls	40
Auditing 40	
Access Control.....	41
Integrity 41	
Encryption.....	41
Automatic Timeout	42
HELP 42	
ERHMS Info Manager™ Support	42
Logs 43	
Viewing Logs.....	43
Deleting Logs.....	43
Packaging Logs	43
ERHMS Info Manager™ Uninstall	43
ABOUT.....	44
License Information.....	44
APPENDIX A: KEY TERMS	48
APPENDIX B: REFERENCES.....	50

QUICK START

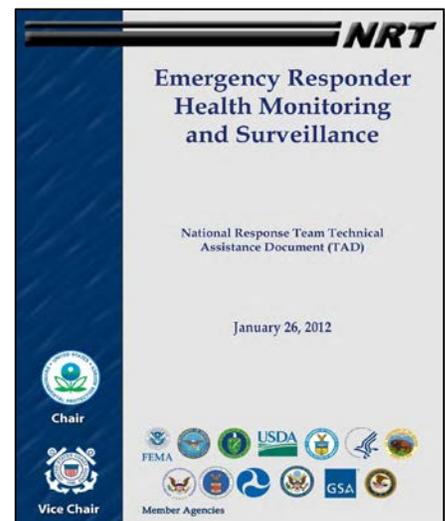
- Use Internet Explorer or another web browser to go to <http://www.cdc.gov/niosh/erhms/software>.
- Click the button labeled **Click here to access the software** to start ERHMS Info Manager™ installation. Note that the software requires at least Microsoft Windows® XP and Microsoft® [.NET Framework 4](#).
- Click **Install** and follow any prompts to complete the installation.
- The first time you open ERHMS Info Manager™ it will ask you to select a default location for your application files; browse to a location where you want to keep your application files.
- Under the **Tools** menu select **Settings** to configure email, mapping, and web survey settings.
- Under the **File** menu select **Data Sources** to open the sample data source.
- ERHMS Info Manager™ will check for updates each time it is opened and ask if you would like to install the updates.

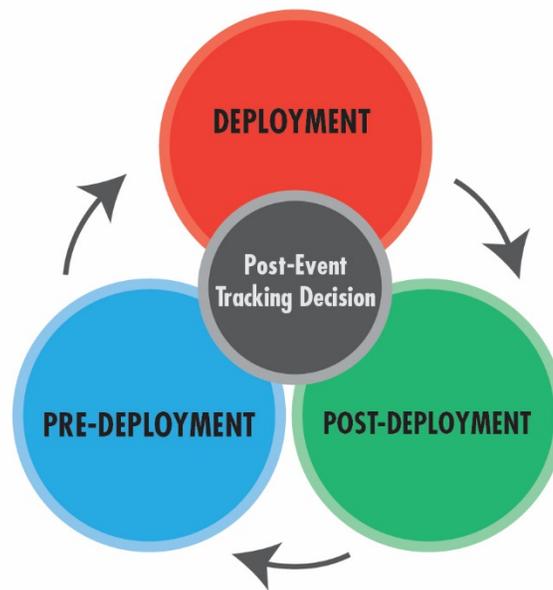
BACKGROUND

The collapse of the World Trade Center and the subsequent persistent and complex health problems experienced by the emergency responders illustrated the need for improved health monitoring and surveillance of emergency responders. As a result, a multi-agency task force was created to address the problem. This task force worked with the U.S. National Response Team (NRT) to develop the Emergency Responder Health Monitoring and Surveillance™ (ERHMS™) Technical Assistance Document (TAD). The TAD details best practices and contains tools, examples, and forms that have been used by various agencies when responding to incidents. The TAD is available at <https://www.cdc.gov/niosh/topics/erhms/> under Additional Resources, ERHMS Documents.

ERHMS™ FRAMEWORK

ERHMS™ is a framework designed to help protect emergency responders throughout the pre-deployment, deployment, and post-deployment phases of a response as depicted in this diagram.





The intent of medical monitoring and surveillance of emergency response and recovery workers is to identify exposures, signs, and symptoms of health outcomes early in the course of an emergency. Early identification will prevent or mitigate adverse outcomes as well as ensure that workers maintain their ability to respond effectively and are not harmed in the course of their work. Monitoring and ongoing assessment can help determine whether protective measures are adequately being provided to the workforce and are sufficient to prevent or reduce harmful exposures to workers. Data collected during the pre-, during-, and post-deployment phases will also help to identify which responders would benefit from medical referral and possible enrollment in a long-term health surveillance program. Key concepts identified within the ERHMS™ framework include:

- **Pre-deployment Phase:** Rostering and credentialing of emergency response and recovery workers, health screening for emergency responders, health and safety training, data management, and information security
- **Deployment Phase:** On-site responder in-processing, health monitoring and surveillance during response operations, integration of exposure assessment, responder activity documentation and controls, and communications of exposure, health monitoring, and surveillance data during an emergency response
- **Post-Deployment Phase:** Responder out-processing assessment, post-event tracking of emergency responder health and function, lessons-learned, and after-action assessments

This framework builds on systems and practices currently in use and can be used in both small and large scale incidents depending on the needs of the organization and event.

ERHMS Info Manager™ is a free software platform to track and monitor emergency response and recovery worker activities before, during, and after their deployment to an incident site. ERHMS Info Manager™ enables organizations to implement the ERHMS™ framework. For

more information on how to implement the ERHMS™ framework, install ERHMS Info Manager™, online training courses, and additional resources, visit the ERHMS™ website at <https://www.cdc.gov/niosh/erhms/>.

Using ERHMS Info Manager™, you can:

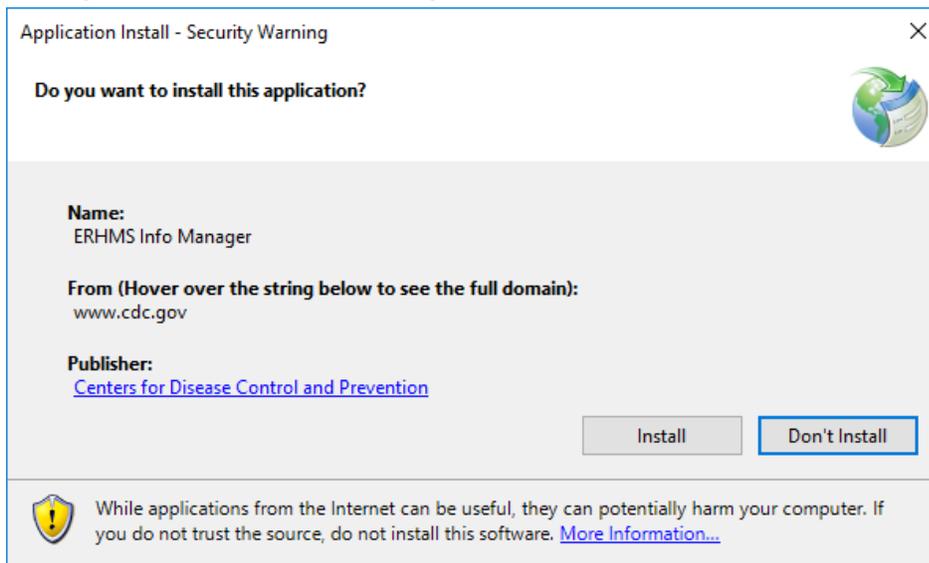
- Create responder profiles
- Record response incidents and map incident locations
- Assign responders to an incident roster
- Assign responders to teams and track the jobs they perform
- Design forms and surveys using custom and pre-built templates
- Request information from responders by using forms and surveys
- View and analyze forms and survey responses

ERHMS Info Manager™ uses the free and publically-accessible software application, Epi Info™. ERHMS Info Manager™ uses Epi Info™ for creating forms, capturing data, and analyzing data. Epi Info™ is automatically installed with the installation of ERHMS Info Manager™. To efficiently utilize ERHMS Info Manager™, users should familiarize themselves with the functions and features of Epi Info™. The Epi Info™ User Guide, User Community Q & A, FAQs, and Tutorials are excellent resources available on the Epi Info™ website at <https://www.cdc.gov/epiinfo/index.html>.

SETUP

ERHMS INFO MANAGER™ INSTALLATION

To install ERHMS Info Manager™, go to the installation link on the ERHMS Info Manager™ web page at <http://www.cdc.gov/niosh/erhms/software>. Once you go to the link, the NIOSH ERHMS Info Manager™ screen will appear. ERHMS Info Manager™ installation has some prerequisites, namely, Microsoft Windows® XP or higher and Microsoft® [.NET Framework 4](#). Once the prerequisites are installed, you can proceed with the installation of ERHMS Info Manager™, as shown in the image below.



To uninstall ERHMS Info Manager™, go to the [Uninstall section](#) of this User Guide.

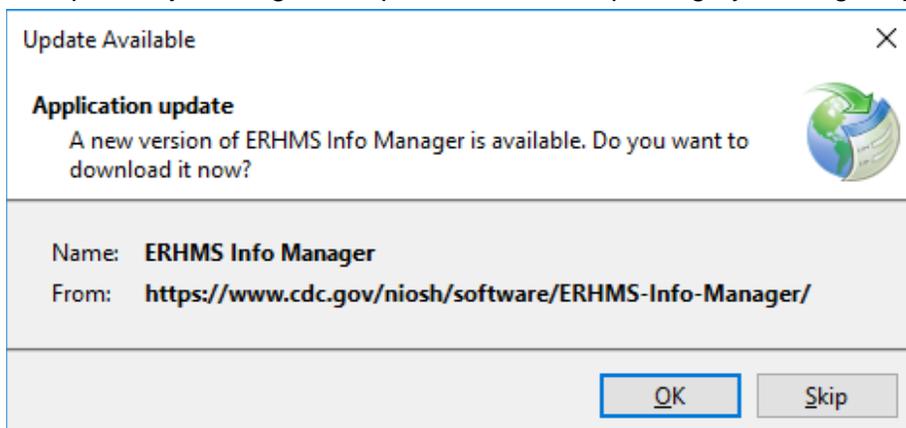
OPTIONAL COMPONENTS

ERHMS Info Manager™ includes some advanced features which require interaction with other software components. Installing these components is only necessary if you would like to make use of these features. To see more information on Microsoft SQL Server®, visit the [Adding a New Data Source section](#) of this Manual.

- Microsoft SQL Server® may be used as the underlying database management system for ERHMS Info Manager™.
- Epi Info™ Web Survey is a server-based software component that consists of a website and a database. It allows collection of information from responders through the internet by using a responsive web interface. Refer to the Epi Info™ website at <https://www.cdc.gov/epiinfo/cloud.html> for more instructions on downloading, installing, and configuring Epi Info™ Web Survey.

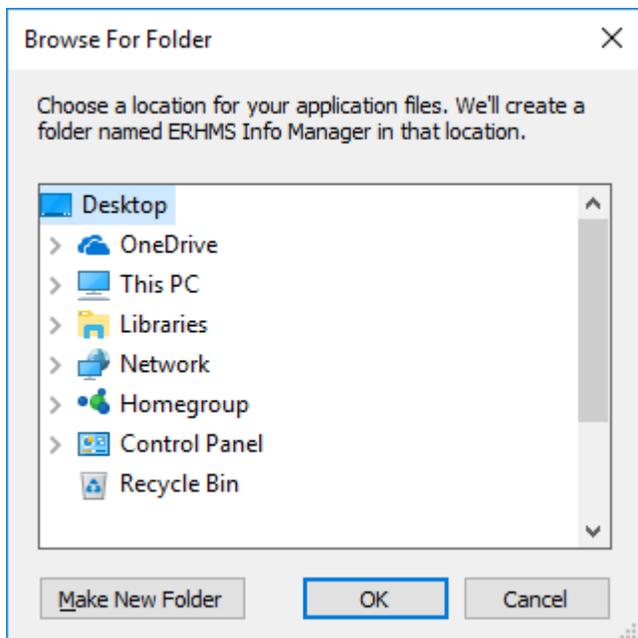
AUTOMATIC UPDATES

Each time you open ERHMS Info Manager™ the software will check with the NIOSH server to see if there is an update. If an update is available, a prompt will ask if you would like to install the update by clicking **OK** or proceed without updating by clicking **Skip**.



FIRST-TIME SETUP

The software will be downloaded and installed under your user account. The first time the software is started, you will be prompted to select a location to store your application files. Browse your folders, select the location that you desire, and click **OK**. The software will create a folder named ERHMS Info Manager in that location to store your application files.

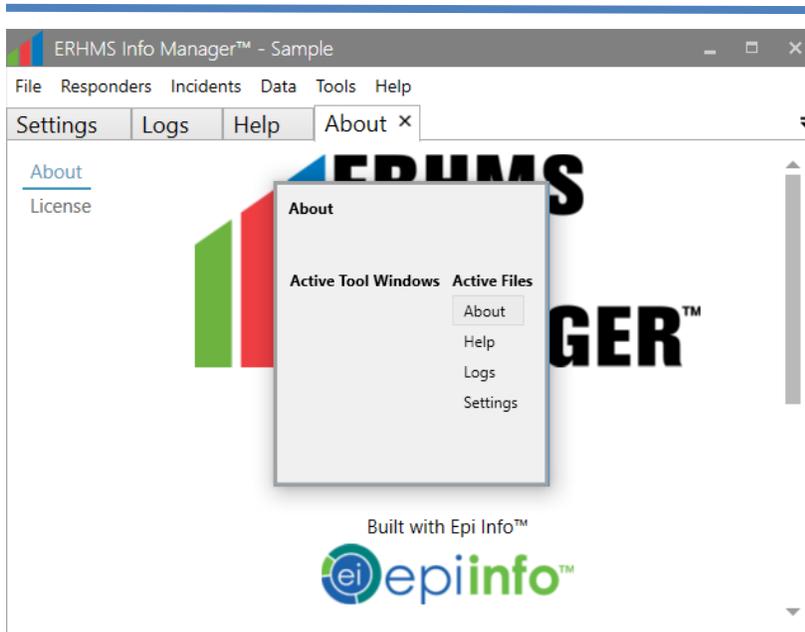


USER INTERFACE NAVIGATION

ERHMS Info Manager™ includes a tabbed user interface that allows simultaneous access to multiple screens. As each screen is opened, new tabs appear at the top of the window just below the ribbon. Each tab may contain subsections that are listed along the left-hand side of the window. See the screenshot below for an example.



To navigate between screens or subsections using the mouse, simply select the desired heading. To navigate between screens using the keyboard, press and hold the **Ctrl** key, then press **Tab**. This brings up a dialog that lists the screens that are currently open (see below). While continuing to hold **Ctrl**, press **Tab** until the desired screen is selected, then release **Ctrl** to display it.



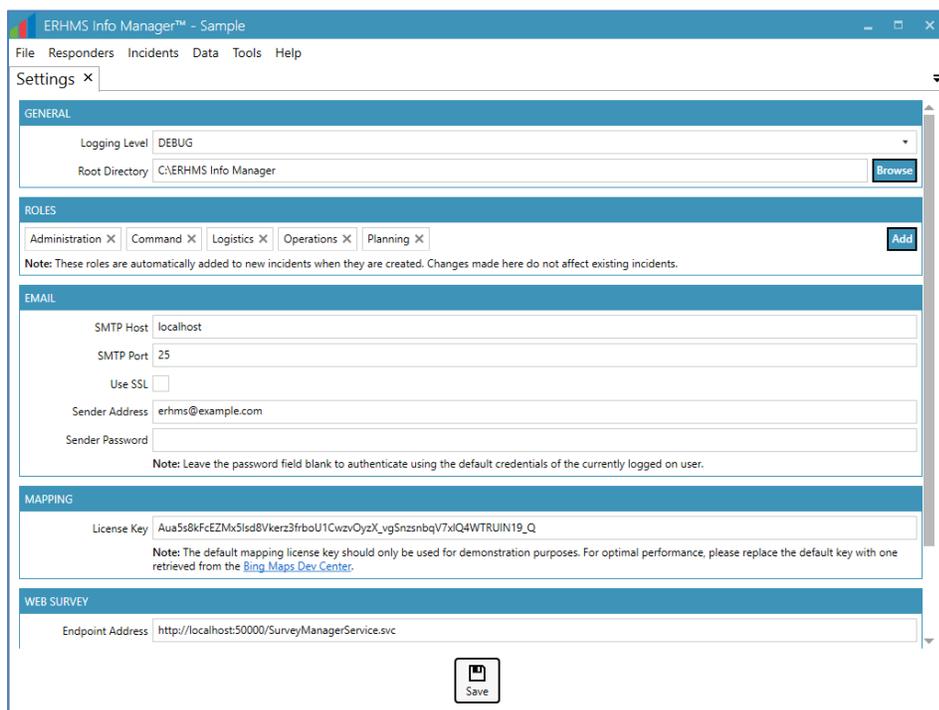
To navigate between subsections using the keyboard, press and hold the **Ctrl** key, then press **Page Up** or **Page Down** to cycle backward or forward through the available subsections. Note that, on the Help screen, each subsection represents a link to the corresponding section of this user guide located on the ERHMS website.

To close a screen using the mouse, select the close button on its corresponding tab, or select **File – Close Tab** from the ribbon. To close a screen using the keyboard, press **Ctrl+W**.

ERHMS Info Manager™ also supports other standard mechanisms for keyboard navigation. For example, to cycle keyboard focus through the elements within a screen, press **Tab** to move forward or **Shift+Tab** to move backward. Many elements are also directly accessible without having to cycle to them. Press and hold the **Alt** key to show any available shortcuts, which appear as underlined letters. While continuing to hold **Alt**, press the key corresponding to the underlined letter to activate the element.

SETTINGS

The first time using ERHMS Info Manager™, configure its settings by selecting, **Tools – Settings** from the Ribbon. This tab will give you the ability to configure your Roles, Email Settings, Mapping Settings, and Web Survey Settings, each of which will be described further below. The General Settings (Logging Level and Root Directory) should not be changed during the routine operation of ERHMS Info Manager™.



ROLES

Roles are used to track responder activity during incidents. A user can add Roles in the Settings section, by selecting **Add** to the right of the Roles heading. By default, the global list of roles is somewhat vague; you should customize this list based on the activities typically performed by responders in your organization. Note that changes made here do not affect existing incidents. The roles shown on the Settings screen are added to each incident when it is created. A [data](#)

[source](#) must be open in order to view and customize this global list. Incident roles can be further customized (via addition and removal of roles) without affecting either this “global” list of roles on the Settings screen or other incidents’ roles. Further instructions on how to add incident roles are described in the [Incident Roles](#) section below.

EMAIL SETTINGS

ERHMS Info Manager™ allows communication with responders via email. To configure this feature, enter the following in the Email Settings section (your System Administrator can provide you with this information):

- **SMTP Host:** The name or IP address of the host used to send email
- **SMTP Port:** The port used to send email
- **Use SSL:** Whether or not to use Secure Sockets Layer (SSL) to encrypt the connection
- **Sender Address:** A valid email address that will be used for ERHMS™ administration
- **Sender Password:** The password used to log in to the mail server (If you would like to use the default credentials of the currently logged in user, leave this section blank.)

When you have finished entering the Settings information, select the **Save** button.

MAPPING SETTINGS

ERHMS Info Manager™ uses Bing Maps to plot incident locations. The default Map Service Key should only be used for demo purposes. For optimal performance with mapping and geocoding, replace the default key with one retrieved from Microsoft’s Bing service Bing Maps Portal at <https://www.bingmapsportal.com/>. To request a key, you will need to create a Microsoft® or Azure account, or log in using an existing account. When you have finished entering the Settings information, select the **Save** button.

WEB SURVEY SETTINGS

Epi Info™ Web Survey is a server-based software component (separate from ERHMS Info Manager™) that consists of a website and a database. If you are using Epi Info™ Web Survey, enter your connection information in the Web Survey settings section. Refer to the Epi Info™ website at <https://www.cdc.gov/epiinfo/index.html> for more instructions on downloading, installing, and configuring Epi Info™ Web Survey. For information on completing the Web Survey fields, visit the Web Survey Section of the Epi Info™’s User Guide at <https://wwwn.cdc.gov/epiinfo/user-guide/survey/initial-setup.html>. When you have finished entering the Settings information, select the **Save** button.

A description of each field that appears in the Web Survey section of the Settings screen, is provided below:

- **Endpoint Address:** The URL that ERHMS Info Manager™ uses to connect to the Epi Info™ Web Survey server.
- **Windows® Authentication:** Whether or not to pass your Microsoft Windows® credentials to the Epi Info™ Web Survey server for authentication.
- **Binding Protocol:** The protocol used to communicate with the Epi Info™ Web Survey server.
- **Organization Name:** The name of your organization in the Epi Info™ Web Survey database.
- **Organization Key:** The password for your Epi Info™ Web Survey.

DATA SOURCES

A Data Source is a repository that stores the information that is entered through the ERHMS Info Manager™ software. When the software opens, it displays a list of the data sources available for use and offers to open the previously used data source (if any). Each data source represents a separate repository or workspace for ERHMS™ data, including responders, incidents, forms and surveys. A data source is typically maintained by a single emergency response organization. However, there are situations in which multiple Data Sources might be necessary. See the following list of options available on the Data Sources screen, which includes descriptions of when you might use each option:

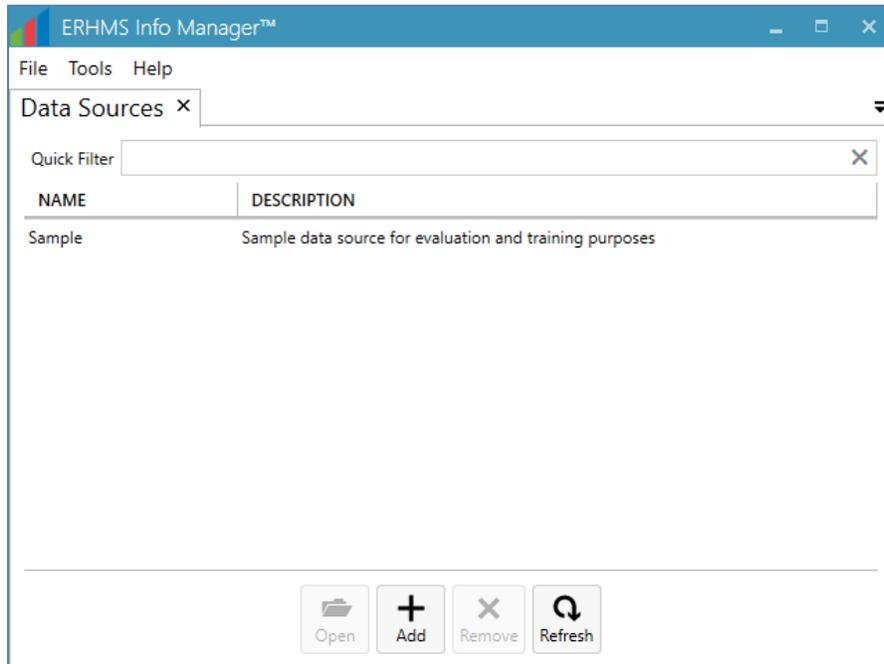
- Add a new data source
Use this option if you would like to create a new, empty data source. This data source will initially contain no responders, incidents, or custom forms, so you will need to add these items once the data source is created. You would typically choose this option when first starting to use ERHMS Info Manager™ in your organization.
- Open an existing data source from the list
Use this option if you would like to open a previously created data source that already appears in the list of data sources.
- Add an existing data source previously created in ERHMS Info Manager™
Use this option if you would like to open a previously created data source that does not appear in the list of data sources. You would typically choose this option when there are multiple users in your organization using ERHMS Info Manager™. In order to connect to a data source created by another user, first use this option to add the data source to your list. Then open the data source normally.

ERHMS Info Manager™ includes a “sample” data source that you may use to familiarize yourself with the software. We recommend that you create a separate data source to store your organization’s data. A typical organization will use a single data source to store all their responders, incidents, forms, and surveys. However, you may choose to create additional data sources for a variety of reasons:

- You may create a “test” data source in order to test the features of ERHMS Info Manager™ without modifying your organization’s actual data. You may also use the sample data source for this purpose.
- If you are managing data for multiple organizations, you may create a different data source for each organization.
- If you would like to keep data separate for organizational purposes, you could, for example, create a new data source every year, using it to store data related to the incidents that occur during that year. Note that the new data source would initially be empty, meaning that responders would need to be reentered. To avoid manual reentry, responders could be exported from the old data source and imported into the new data source. For more information on importing and exporting data, visit the [Import/ Export section](#) of this manual.

ADDING A NEW DATA SOURCE

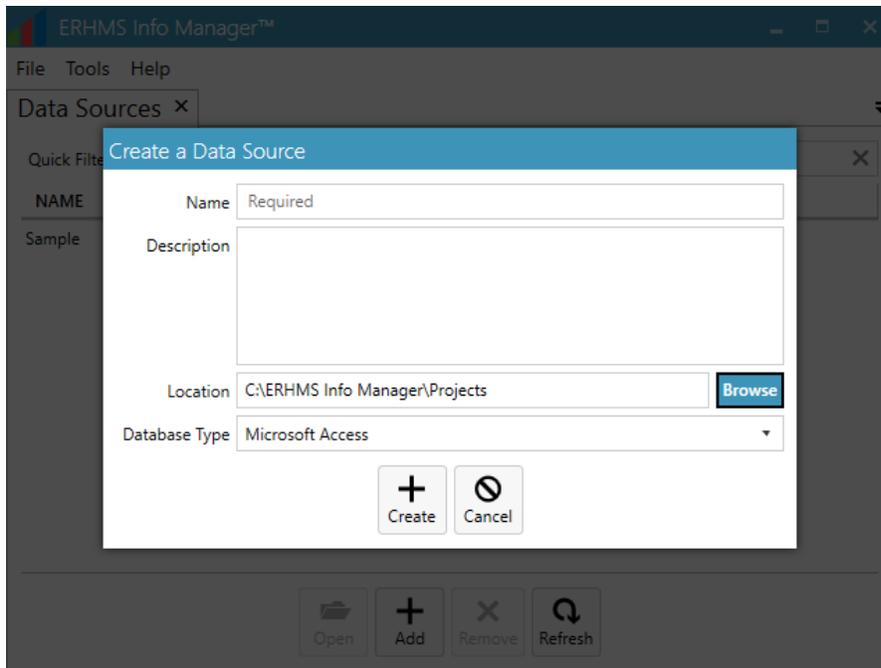
When ERHMS Info Manager™ opens, select **Data Sources** from the start screen. This screen will display a sample data source that you can use to familiarize yourself with the software. Note the Quick Filter that appears at the top of this screen and many other screens in ERHMS Info Manager™. You may use the Quick Filter to search through a list for items matching a given string of text.



Add a new data source by selecting **Add – New**. In the pop-up window, enter the **Name**, **Description**, and **Location** of the new Data Source. Specify the Database Type from the dropdown list of options:

- Microsoft Access®—Select this option when a single user will be accessing the data source. ERHMS Info Manager™ will create a new Microsoft Access® database in the specified location. Note that the user does not need Microsoft Access® installed in order to use this option.
- Microsoft SQL Server®—Select this option when multiple users will be accessing the data source. Using a Microsoft SQL Server® database requires server connection information from your database administrator. Each individual using a Microsoft SQL Server® data source will need to install ERHMS Info Manager™ on their computer, and all users will use the same server connection information.

If a user would like to use the Microsoft Access® option, select it, provide a **Name** for the Data Source, and go to **Create**. For Microsoft SQL Server®, additional options (such as the server and database names) must be provided before selecting **Create**. When the data source creation is complete, the user will select the new data source from the Data Sources list and select **Open**. The next time ERHMS Info Manager™ is opened, the new data source will be included in the list of previously opened data sources.



CHANGING DATA SOURCES

You may switch to another data source at any time. Select **File – Data Sources** from the ribbon, select the data source from the list, and select **Open**. ERHMS Info Manager™ will close the currently open data source before opening the selected one.

RESPONDERS

CREATING A RESPONDER PROFILE

To create a new responder profile, select **Responders – Create New** from the ribbon, which opens the responder detail screen. There are four subsections of responder information: 1) Personal, 2) Emergency Contact, 3) Organization, and 4) Reports. The Reports subsection is not used for data entry, but will show Incidents, Teams, and Jobs the responder has participated in, as well as Forms associated with their record. In the Personal subsection, the *first name*, *last name*, and *email address* fields are required. After entering the information, select **Save**. Note: The entire responder pool should be entered in order to track all responders who participated in an incident. This roster of responders can be used as a baseline contact mechanism to create a registry of affected workers if medical or legal follow-up is needed.

The responder data collected in ERHMS Info Manager™ is stored in an underlying Epi Info™ form. This means that you may use any of the form-related features provided by ERHMS Info Manager and Epi Info™ to manage your responder data. You may access these features by selecting **Data – Forms** from the ribbon, selecting the Responders form, and choosing one of the available options. You may also access many of these features by selecting **Responders - Show All** from the ribbon. Form-related features are accessible via the **Import**, **Export**, and **Analyze** buttons at the bottom of this screen.

A user can edit the form in order to add fields that are not provided by ERHMS Info Manager™, such as a responder’s mother’s maiden name or an organization-specific ID. These custom fields would not be displayed in the ERHMS Info Manager™ responder detail screen, but they could be viewed and edited in the Epi Info™ Form Designer, data entry screen, and analysis tools. See the [Forms](https://www.cdc.gov/epiinfo/pdfs/userguide/2_formdesigner.pdf) section of this document or the Forms Section of the Epi Info™ User Guide at https://www.cdc.gov/epiinfo/pdfs/userguide/2_formdesigner.pdf for more information on working with forms.

Be careful not to delete the Responders form or any of the fields used by ERHMS Info Manager™, as this will cause system instability.

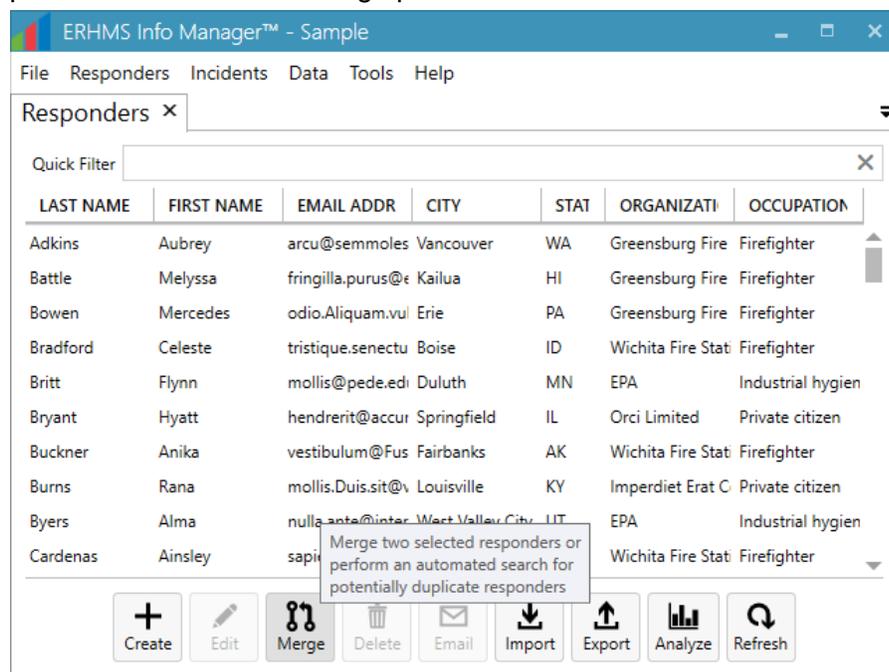
EDITING A RESPONDER PROFILE

Once a responder profile has been saved, their information will display in the list of responders, which can be accessed by selecting **Responders – Show All** from the ribbon. To edit a responder profile, select the profile from the list and go to **Edit** at the bottom of the screen. You may also use the Epi Info™ data entry screen to edit responder data by selecting the **Data – Forms** button from the ribbon, selecting the Responders form, and selecting **Data – Edit**. This should only be necessary if you have added custom fields to the responder data as described above.

MERGING RESPONDERS

In some instances, a user may accidentally record a Responder Profile multiple times. There are two options to merge duplicate responder profiles. These options are described when the

user hovers their mouse over the Merge button. Merge two responders by selecting them in the list and clicking **Merge – Selected**. Use Ctrl-click or Shift-click to highlight multiple records. For each data field, select the desired value from the two records. When finished, click **Save** and verify that only one record is now displayed on the Responders screen. Another option a user has to undo duplicate responders is to click **Merge – Automated**. This enables a search for potentially duplicate responders based on similar name, email address, etc. If potential duplicates are found, the user may select the desired pair of responders and click **Merge** (goes to the same screen as Merge – Selected) or **Ignore** to mark the pair as non-duplicates, which prevents them from showing up in future searches. A user can then close the duplicates screen.



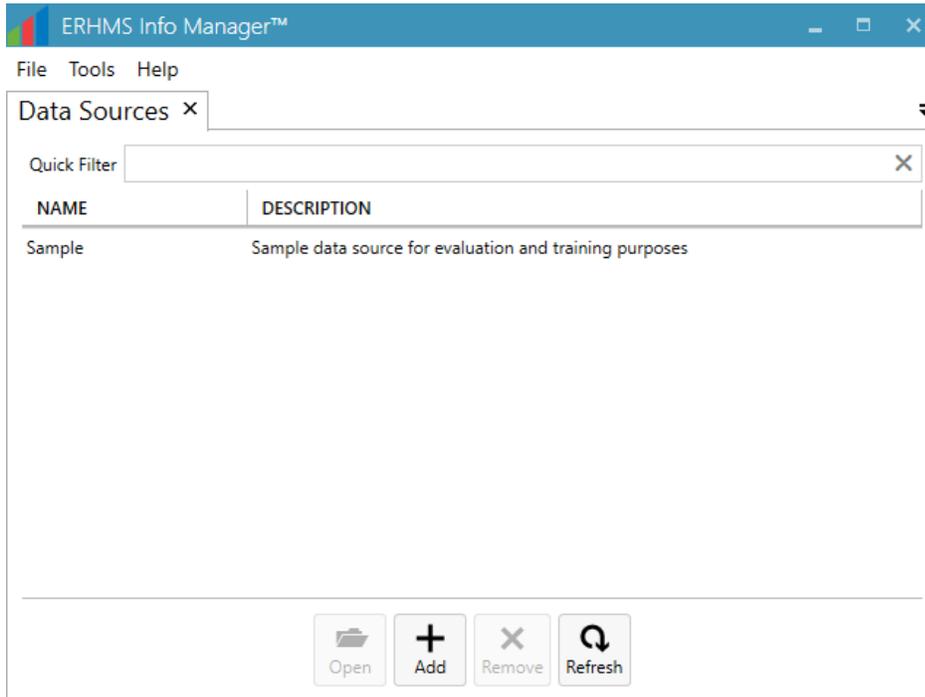
INCIDENTS

An incident is an emergency event, such as a fire, oil spill, flood, tornado, or disease outbreak. To improve the effectiveness and management of responses to and recovery from incidents, use ERHMS Info Manager™ to:

- Document the incident
- Define and map incident locations
- Add responders to an incident roster
- Manage responder roles
- Define responder teams
- Track jobs performed by teams or individual responders
- Manage and update responder information
- Request and collect information from responders
- Analyze collected information

Before an incident can be created, you must open a Data Source. Open ERHMS Info Manager™, select a data source, and select **Open**. Be sure to check that the correct Data Source is open before creating your Incident. Remember that the Data Sources screen can be

accessed at any time by selecting **File – Data Sources** from the ribbon, or by selecting **Data Sources** from the start screen.



CREATING INCIDENTS

To create a new incident, select **Incident – Create New** from the ribbon or select **Incidents** from the start screen.

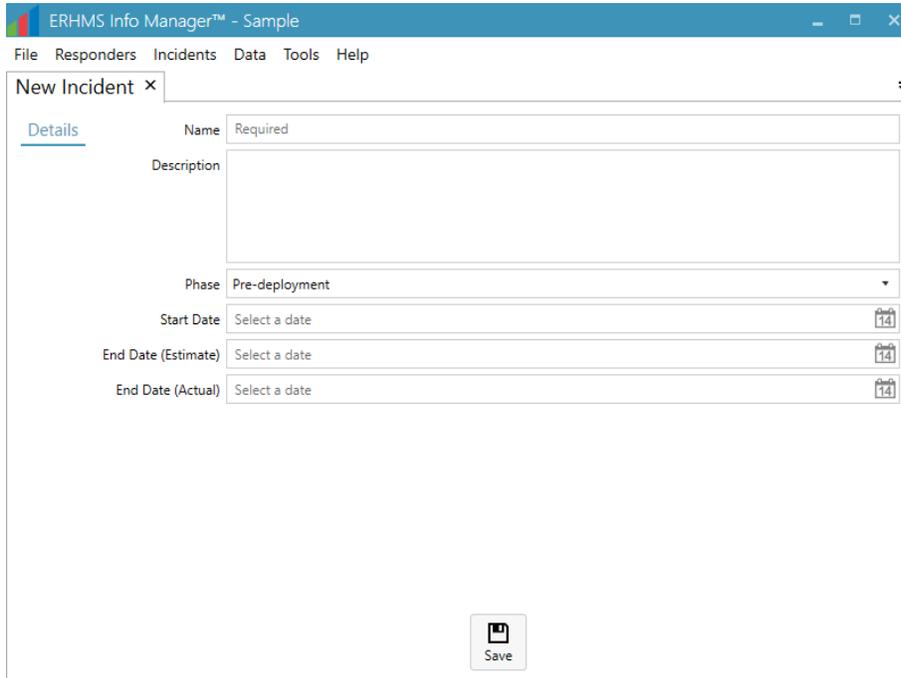


On the New Incident screen, enter the following:

- Name

- Description
- Phase (Pre-Deployment, Deployment, Post-Deployment)
- Start Date
- End Date (Estimated)
- End Date (Actual) – Leave blank until the incident is closed.

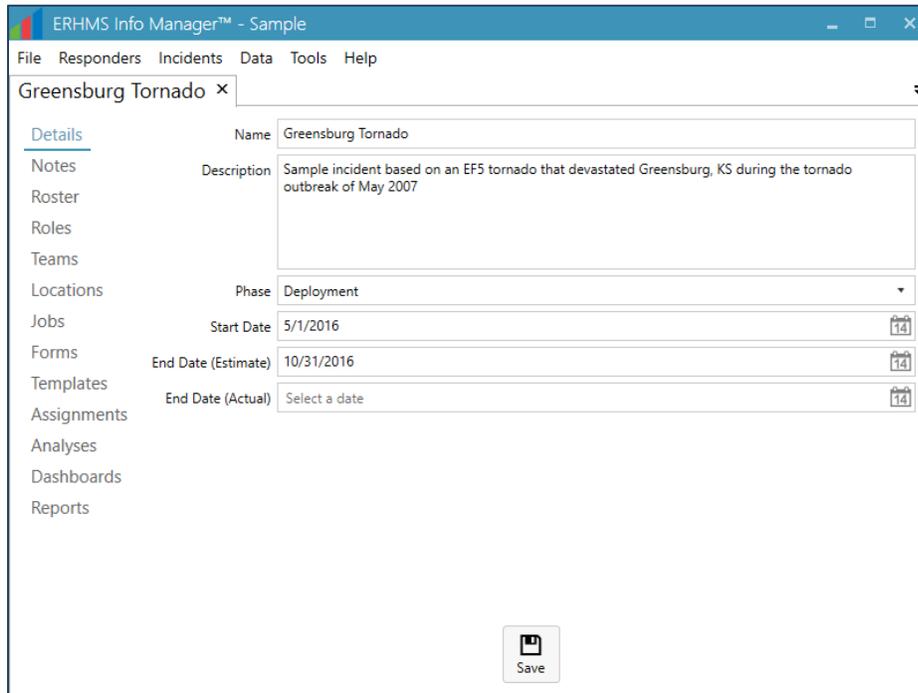
Select the **Save** button. If you would like to record additional information about the incident, you may do so by using the Notes functionality described below.



The screenshot shows the 'New Incident' form in the ERHMS Info Manager application. The window title is 'ERHMS Info Manager™ - Sample'. The menu bar includes 'File', 'Responders', 'Incidents', 'Data', 'Tools', and 'Help'. The form has a 'Details' tab selected. The fields are: 'Name' (Required), 'Description' (text area), 'Phase' (Pre-deployment), 'Start Date' (Select a date), 'End Date (Estimate)' (Select a date), and 'End Date (Actual)' (Select a date). Each date field has a calendar icon. A 'Save' button is located at the bottom center of the form.

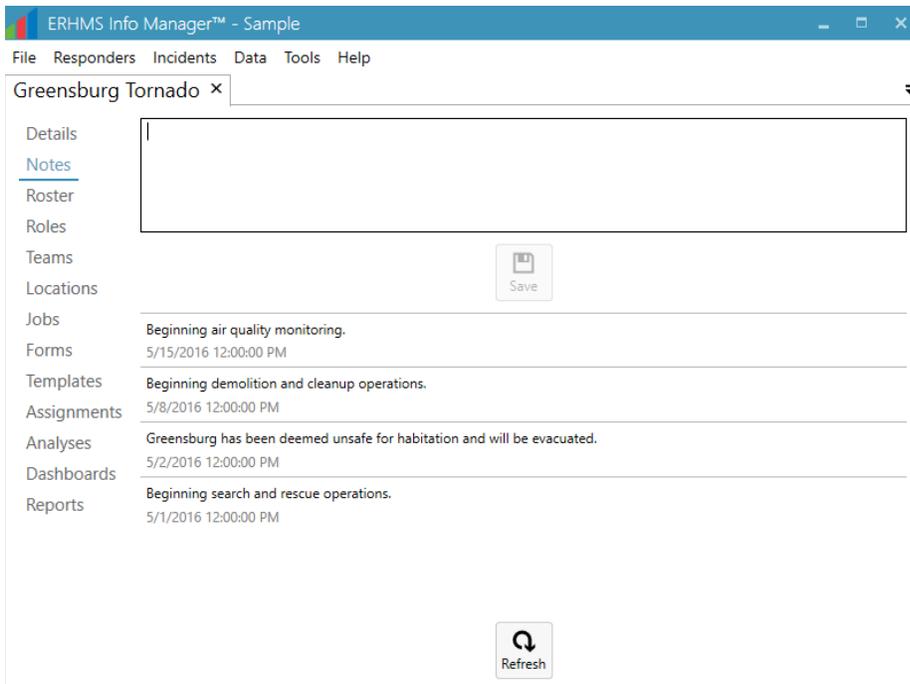
After clicking save, new incident subsections are displayed on the left sidebar, as shown in the figure below. The information provided by these subsections is incident-specific. For example, the Forms subsection displays only forms that have been assigned to the current incident. To view information that applies to any incident or that is non-incident-specific use the ribbon items (such as **Data – Forms**) or by selecting **Forms** from the start screen.

Note that forms, analyses, and dashboards that are created from the incident screen are automatically linked to that incident. Those that are created from screens opened via the **Data** ribbon item or from the start screen are not linked to any incident by default. To link a form, analysis, or dashboard to a different incident, first open the appropriate screen by selecting an option (**Forms**, **Analyses**, or **Dashboards**) under the **Data** ribbon item or from the start screen. Choose the desired item and select **Incident**. To associate the item with an incident, choose the desired incident and select **Link**, or select **Unlink** to remove an existing association with an incident.



VIEWING AND ADDING NOTES

Go to the **Notes** subsection to enter incident information. Whenever new notes are added, a date and timestamp are also added to each record. To effectively document responses, enter as many notes as needed.



MANAGING AN INCIDENT ROSTER

From the list of incident subsections, select **Roster** to create a list of responders assigned to the incident. The list at the top of the screen includes the entire responder pool (all responders

that you have added to ERHMS Info Manager™). Use the Quick Filter option at the top of the module screen to locate individuals by name, or to find all members of a specific organization, occupation, or city. Select multiple responders by holding down **Ctrl** or **Shift**, or by clicking and dragging. To add responders to the roster for your active incident, select the responder(s) to be added to the roster and select **Add**.

The screenshot shows the ERHMS Info Manager interface for an incident titled 'Greensburg Tornado'. The interface is divided into two main sections: 'Unrostered Responders' and 'Rostered Responders'. Both sections feature a 'Quick Filter' search bar and a table of responders with columns for LAST NAME, FIRST NAME, EMAIL ADDRESS, CITY, STATE, ORGANIZATION, and OCCUPATION. Below the 'Unrostered Responders' table are 'Add' and 'Remove' buttons. Below the 'Rostered Responders' table are 'Email' and 'Refresh' buttons.

LAST NAME	FIRST NAME	EMAIL ADDRESS	CITY	STATE	ORGANIZATION	OCCUPATION
Battle	Melyssa	fringilla.purus@er	Kailua	HI	Greensburg Fire	Firefighter
Bradford	Celeste	tristique.senectus	Boise	ID	Wichita Fire Statio	Firefighter
Britt	Flynn	mollis@pede.edu	Duluth	MN	EPA	Industrial hygienis
Bryant	Hyatt	hendrerit@accum	Springfield	IL	Orci Limited	Private citizen

LAST NAME	FIRST NAME	EMAIL ADDRESS	CITY	STATE	ORGANIZATION	OCCUPATION
Adkins	Aubrey	arcu@semolesti	Vancouver	WA	Greensburg Fire	Firefighter
Bowen	Mercedes	odio.Aliquam.vulp	Erie	PA	Greensburg Fire	Firefighter
Byers	Alma	nulla.ante@interd	West Valley City	UT	EPA	Industrial hygienis
Cunningham	Adrian	est@duinec.org	Davenport	IA	Greensburg Fire	Firefighter

The individuals added to the incident roster disappear from the list of available responders and appears on the current roster list below. To remove a responder from the assignee list, select the responder from the list of assignees and select the **Remove** button. Note: In order to track all responders during an incident, no matter how long they have worked, it is strongly recommended to NOT remove a responder from the assignee list unless a mistake was made (e.g., an incorrect entry). Responders may be rostered to any number of incidents simultaneously.

ERHMS Info Manager™ - Sample

File Responders Incidents Data Tools Help

Greensburg Tornado

Details Unrostered Responders

Notes Quick Filter

Roster

LAST NAME	FIRST NAME	EMAIL ADDRESS	CITY	STATE	ORGANIZATION	OCCUPATION
Battle	Melyssa	fringilla.purus@er	Kailua	HI	Greensburg Fire	Firefighter
Bradford	Celeste	tristique.senectus	Boise	ID	Wichita Fire Statio	Firefighter
Britt	Flynn	mollis@pede.edu	Duluth	MN	EPA	Industrial hygienis
Bryant	Hyatt	hendrerit@accum	Springfield	IL	Orci Limited	Private citizen

Forms Add Remove

Templates

Assignments Rostered Responders

Analyses Quick Filter

Dashboards

LAST NAME	FIRST NAME	EMAIL ADDRESS	CITY	STATE	ORGANIZATION	OCCUPATION
Adkins	Aubrey	arcu@semolesti	Vancouver	WA	Greensburg Fire	Firefighter
Bowen	Mercedes	odio.Aliquam.vulp	Erie	PA	Greensburg Fire	Firefighter
Byers	Alma	nulla.ante@interd	West Valley City	UT	EPA	Industrial hygienis
Cunningham	Adrian	est@duinec.org	Davenport	IA	Greensburg Fire	Firefighter

Reports Email Refresh

INCIDENT ROLES

The roles displayed under the Roles subsection are specific to the current incident and may be used when adding responders to a team or job. Incident roles can be customized (via addition and removal of roles) without affecting either the “global” list of roles on the Settings screen or other incidents’ roles. Click the Roles subsection within the specific incident screen. Click **Add** to start adding a new role. This will allow a user to add a name and a description for the Role and select **Save**. Verify that the new role is added to the list.

ERHMS Info Manager™ - Sample

File Responders Incidents Data Tools Help

Greensburg Tornado

Details Quick Filter

Notes NAME

Roster Administration

Roles Command

Teams Logistics

Locations Operations

Jobs Planning

Forms

Templates

Assignments

Analyses

Dashboards

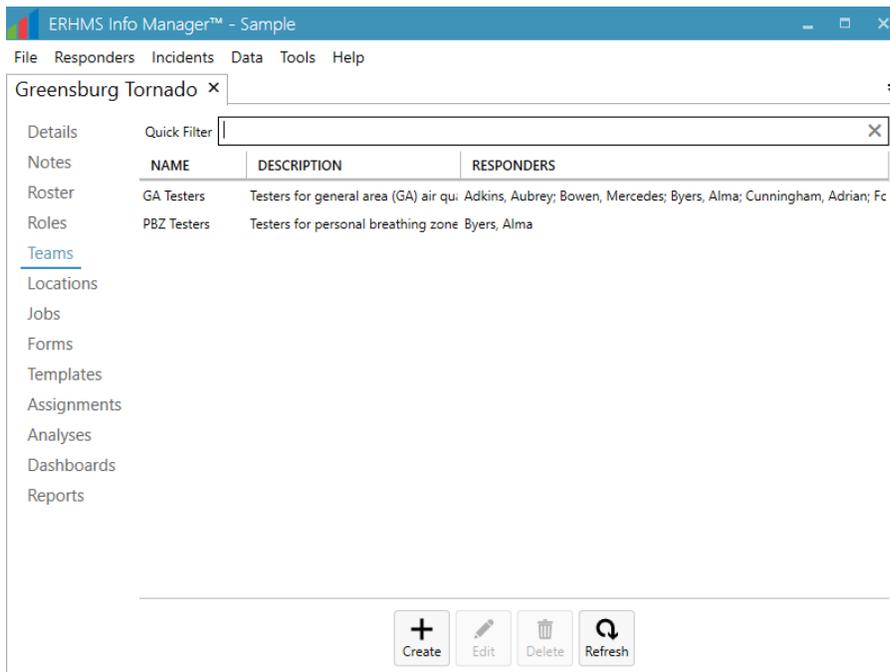
Reports

Note: These roles are specific to this incident. Changes made here do not affect other incidents or the global list of roles in [Settings](#).

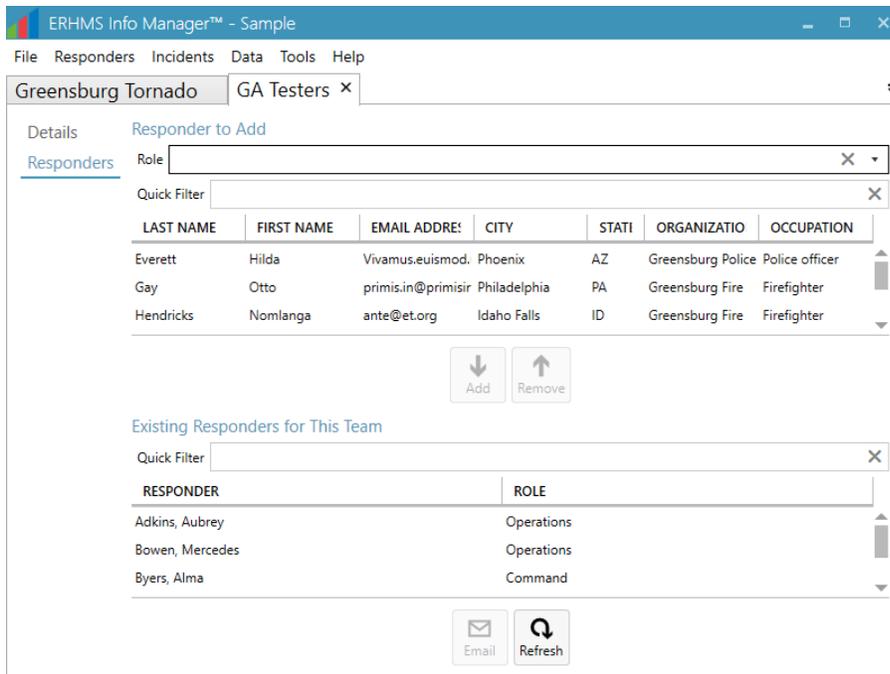
Add Edit Delete Refresh

TEAMS

Teams are used to group an incident's responders for the purpose of tracking their job activity (i.e., job ticketing). Responders who are currently rostered to the incident (as described in the previous section) are available to be added to a team. A role may be selected for each responder to indicate his or her typical duties as part of the team. A responder's role may vary from team to team. To add a team, a user may select **Create** at the bottom of the page for the Teams subsection within an incident. This will allow a user to add a name (the role) and a description (to describe the responsibilities) for the Team and select **Save**. Additional subsections should appear on the left-hand side of the specific team screen. A user also has the ability to **Edit** or **Delete** a team by selecting these options at the bottom of the Teams page.

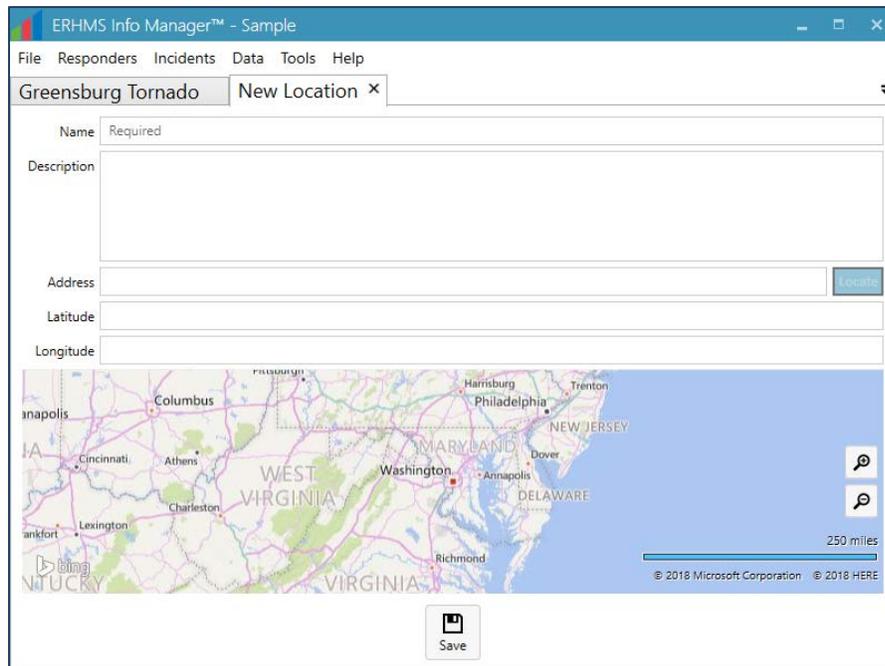


Once a team has been saved, responders may be added to it by selecting the **Responders** section on a specific team screen. Start by selecting a **Role** (optional), then highlight the desired responders in the upper list. Click **Add** to associate the selected responders with this team. These responders are moved to the bottom list. If necessary, responders may be removed from a team by highlighting their records in the bottom list and clicking **Remove**.

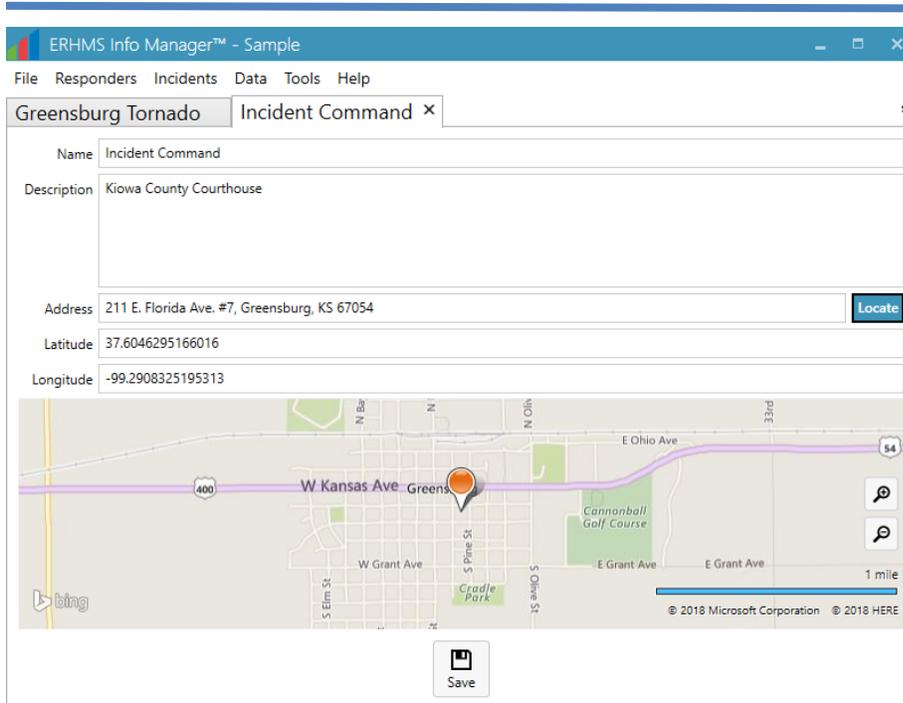


LOCATIONS

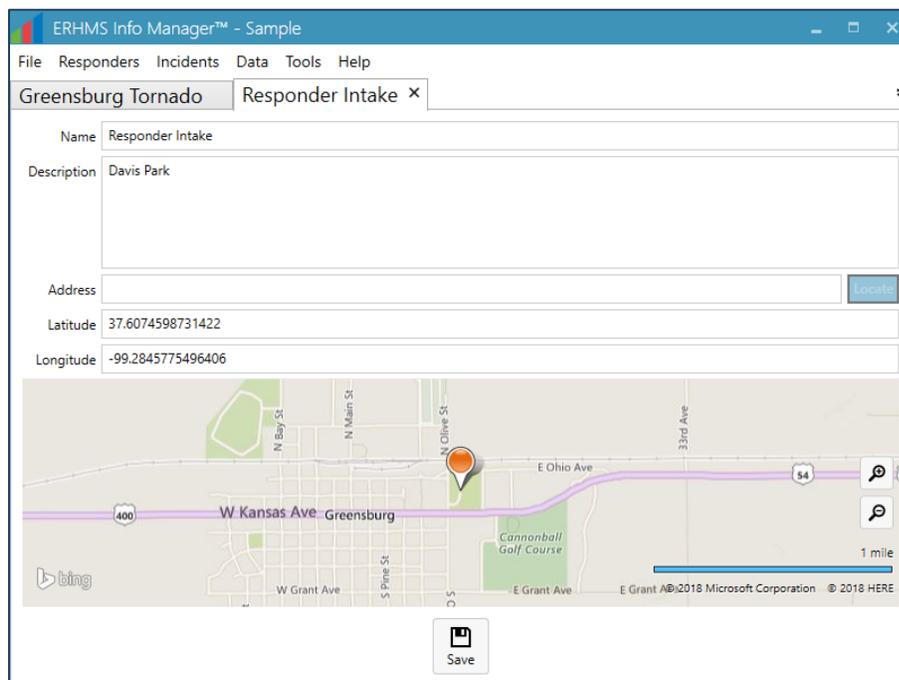
To add incident locations, select **Incidents** from the ribbon and then select the **Locations** subsection. Select **Create** at the bottom of the page.



Enter the Name and Description of the location. If the location's Address is known, enter the address and select **Locate** (to the right of the Address entry box), which automatically plots the latitude and longitude of the location. Select **Save**.



Use the Map feature when an address is unknown or unavailable. To get an approximate location of an unknown address, enter the nearest city or known address in the *Address* field and select the **Locate** button. Zoom by rolling the mouse wheel while hovering over the map or by selecting the plus and minus buttons. Double-click the spot corresponding to your location, which drops a pin on the spot and automatically plots the latitude and longitude. Select **Save**.



The Locations subsection in the Incident tab will contain all locations associated with the incident. If a new location has been entered but is not displaying, select the **Refresh** button at the bottom of the screen.

ERHMS Info Manager™ - Sample

File Responders Incidents Data Tools Help

Greensburg Tornado ×

Details Quick Filter

Notes

	NAME	DESCRIPTION	ADDRESS	LATITUDE	LONGITUDE
Roster	Incident Command	Kiowa County Courthouse	211 E. Florida Ave. #7, Greensburg, KS 67	37.605	-99.291
Roles	Responder Intake	Davis Park		37.607	-99.285

Teams

Locations

Jobs

Forms

Templates

Assignments

Analyses

Dashboards

Reports

JOBS

Jobs are used to track the activity or tasks of responders during an incident. Each job associates teams of responders with the locations at which they are working. Individual responders may also be added to jobs in an ad-hoc fashion without first adding them to a team. Job notes may be used (similar to incident notes as described above) to track a job's progression. To manage Jobs, select **Create** at the bottom of the page. This will allow a user to add a name, description, start date and end date for the Job and select **Save**. A user also has the ability to **Edit** or **Delete** a Job by selecting these options at the bottom of the Job's subsection.

ERHMS Info Manager™ - Sample

File Responders Incidents Data Tools Help

Greensburg Tornado ×

Details Quick Filter

Notes

	NAME	DESCRIPTION	START	RESPONDERS
Roster	Air Quality Testing	Testing for general area (GA) and personal br	5/15/2016	Adkins, Aubrey; Bowen, Mercedes; Byers, Alm

Roles

Teams

Locations

Jobs

Forms

Templates

Assignments

Analyses

Dashboards

Reports

Once a job has been saved, you may associate notes, teams, responders, and locations with it via the corresponding subsections within the specific job's tab.

The screenshot shows the ERHMS Info Manager application window. The title bar reads 'ERHMS Info Manager™ - Sample'. The menu bar includes 'File', 'Responders', 'Incidents', 'Data', 'Tools', and 'Help'. The main window is titled 'Greensburg Tornado' and contains a tab for 'Air Quality Testing'. On the left, there is a sidebar with navigation options: 'Details', 'Notes', 'Teams', 'Responders', and 'Locations'. The 'Details' section is active, showing a form with the following fields:

Name	Air Quality Testing
Description	Testing for general area (GA) and personal breathing zone (PBZ) air quality
Start Date	5/15/2016
End Date	6/15/2016

At the bottom center of the form, there is a 'Save' button with a floppy disk icon.

FORMS

ERHMS Info Manager™ uses a built-in version of Epi Info™ for creating and editing forms, entering data into forms, viewing form responses, and analyzing the data. Visit the [Form Designer Section](#) of the Epi Info™ User Guide for more information on Forms. Many forms have been included in ERHMS Info Manager™ as templates. To view these, select **Data – Templates** from the ribbon or select **Templates** from the start screen. Visit the [Templates](#) section below for an explanation of how to open the templates. You may also create forms from scratch if these templates do not meet your needs.

Many pre-deployment forms, such as those completed by potential responders during registration and credentialing, contain information that is not tied to a specific incident. It is strongly recommended that this information be updated at least annually, including in ERHMS Info Manager™.

Other forms are incident-specific and help us understand the impact of the incident on the responder. These can include check-in forms, exposure assessments, site specific training rosters, and sampling results.

CREATING A FORM

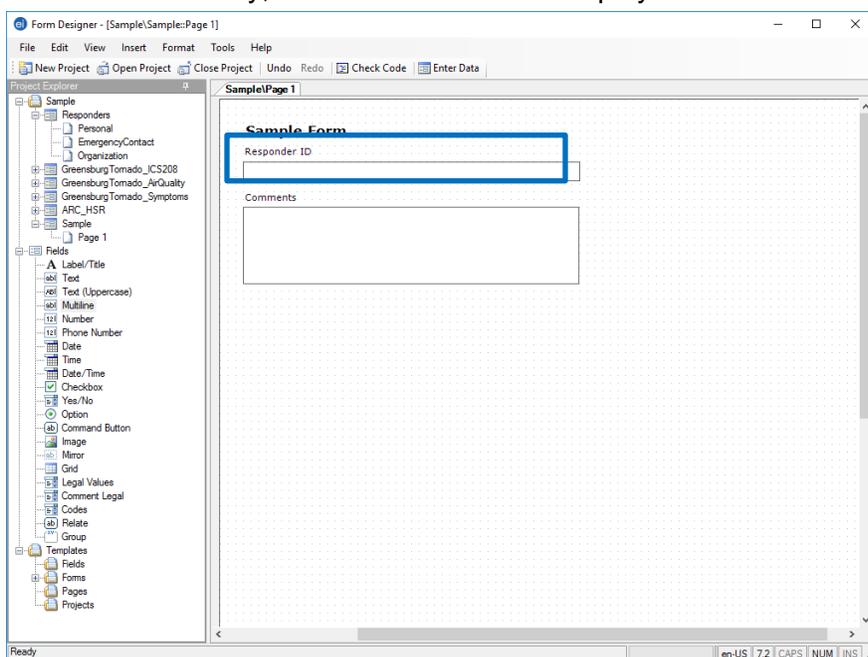
To manage incident-specific forms, select the **Forms** item from the incident subsections. To manage all forms, select **Data – Forms** from the ribbon or select **Forms** from the start screen. You may create a new form by selecting **Create**. In the Epi Info™ Form Designer, give the form a Name, then select **OK**. It is suggested that the name for an incident-specific form be prefixed by the name of the incident, but this is not a requirement. If the form that has been

created meets your needs, select **yes** on the prompt that comes up asking whether Epi Info™ should be closed. If you intend to make changes, press **no** and proceed with making edits using the Epi Info™ Form Designer.

By default, forms created in ERHMS Info Manager™ contain fields for a responder ID, email address, first name, and last name. These fields allow you to link form responses back to the responders who provided them. If you do not require this functionality, you may delete the responder data fields.

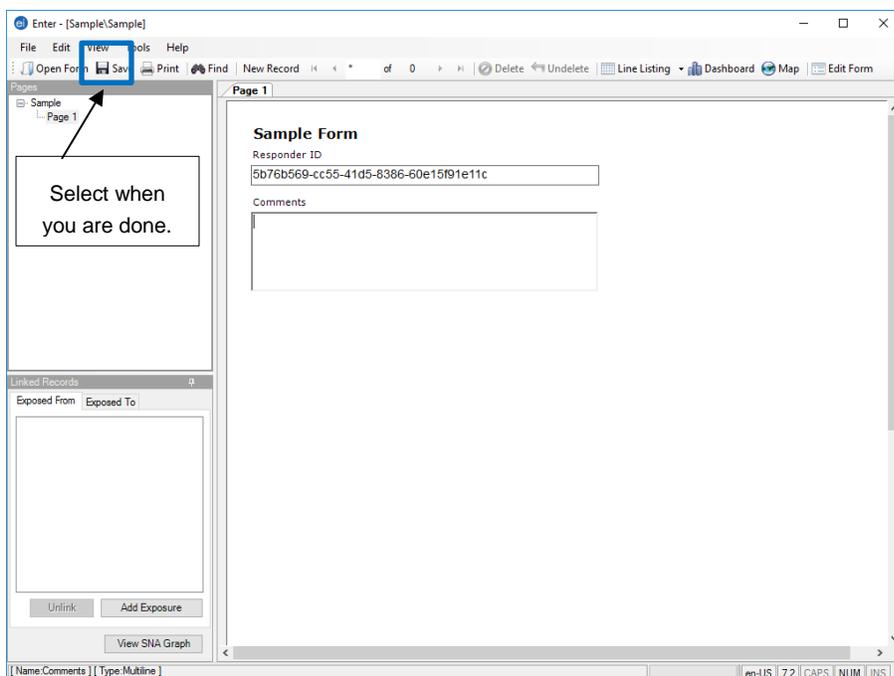
Once a form has been designed, you may [enter data into it directly](#) or (using Epi Info™ Web Survey) [publish it to the web](#) and [request data from responders via email](#) as described in the following sections. Alternatively, you may print blank copies of the form and distribute them to responders to be filled out by hand. In the Form Designer, select **File – Print**, choose a page range, and select **Print**. Note that data collected in this manner will still need to be entered into ERHMS Info Manager™ in order to perform subsequent analysis.

When you are done making changes to the form, close the Form Designer. Changes are saved automatically, and the new form will display in the Forms list.



COLLECTING DATA

To enter data into a form, select the form and go to **Data – Enter** at the bottom of the screen. If the form contains responder data fields, you will be asked to select the responder to whom the entered data applies. Choose a responder from the list and select **Continue**. In the Epi Info™ data entry window, enter data into the form fields. Select **Save** in the ribbon at the top of the page when you are done. Use the **New Record** or arrow buttons to navigate between records. Close the data entry window when you are done.

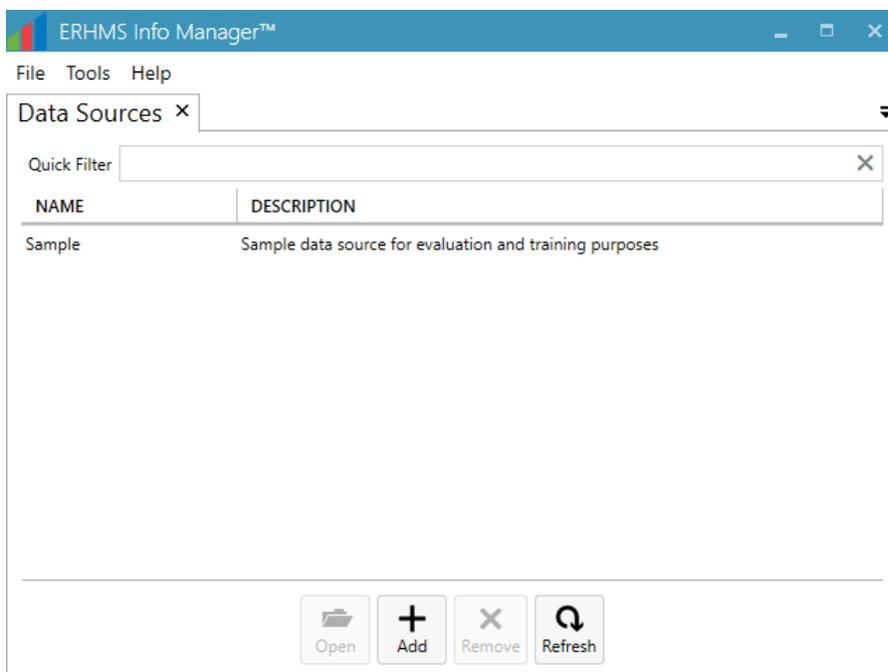


PUBLISHING FORMS TO THE WEB

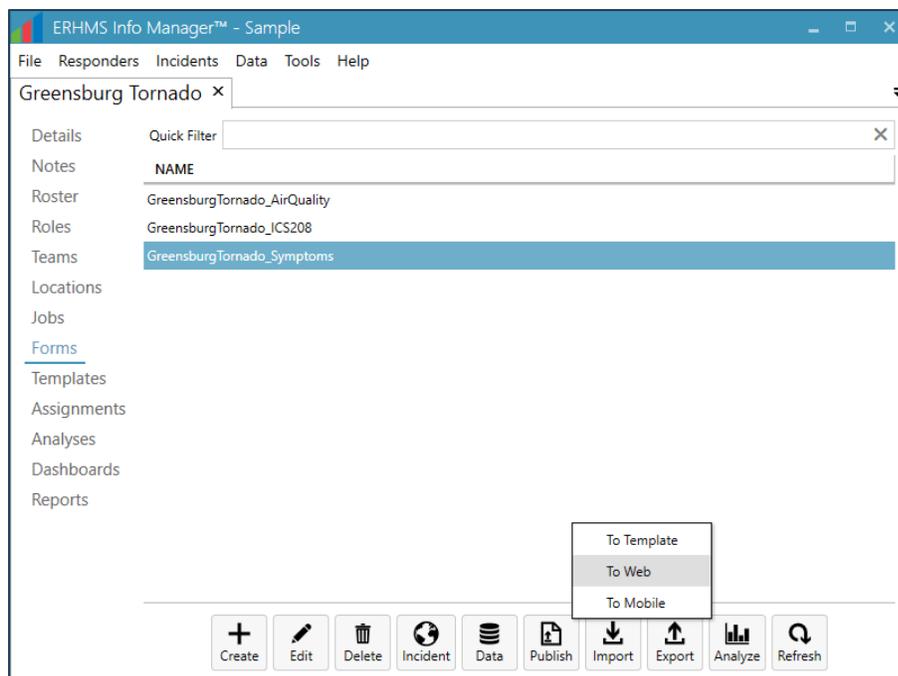
By using ERHMS Info Manager™, you can publish forms to the web that will serve as a questionnaire or signup/information gathering document that responders can complete online. With web publishing, you can:

- Create a web link for surveys
- Send the web link to multiple recipients by using email
- Allow users to complete the survey online by using responsive web pages
- Download the survey responses into ERHMS Info Manager™

ERHMS Info Manager™ is integrated with the Epi Info™ Web Survey system. To utilize the web publishing feature, install Epi Info™ Web Survey, available at https://www.cdc.gov/epiinfo/pdfs/userguide/5_websurvey.pdf. To allow ERHMS Info Manager™ to send web survey links to responders, provide a sender email address in the Email section under Settings. For further detail, please see the [Email Settings section](#) of this user guide.



To publish a survey to the web, first choose a form to publish. To locate forms, select **Data – Forms** from the ribbon or select **Forms** from the start screen. Forms related to individual incidents are also found by selecting **Forms** in the subsection of the specific incident screen. Select the form and go to **Publish – To Web**.

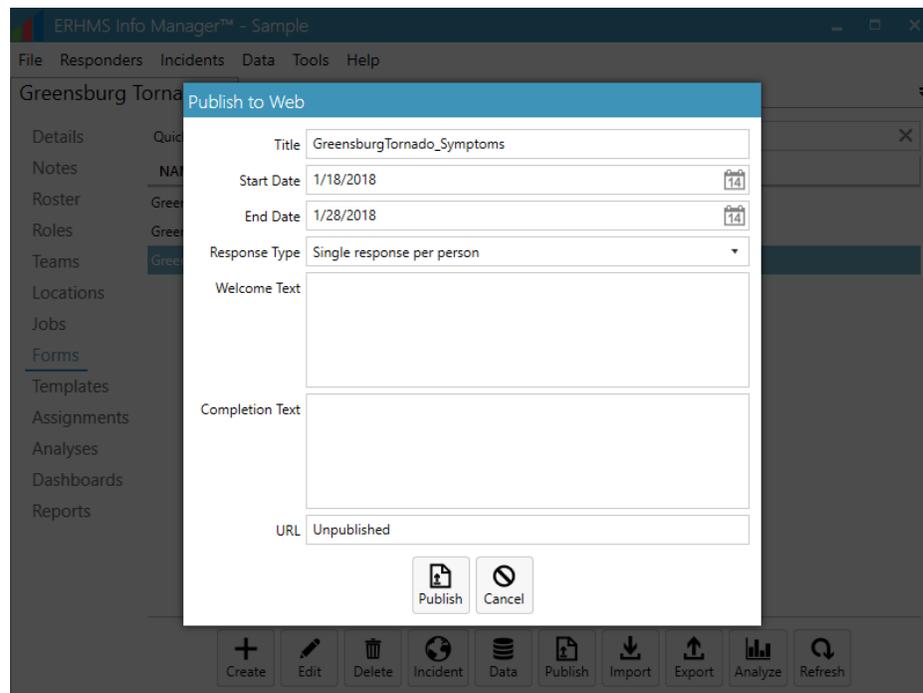


You can customize the survey publication options listed below. For more information on customizing these options, visit Epi Info™'s User Guide, Publish Form to the Web Section at <https://www.cdc.gov/epiinfo/user-guide/survey/publish-form-to-web.html>.

- Title: The name of the survey that will be displayed to users.
- Start Date: The first date on which the survey is available to be filled out.
- End Date: The last date on which the survey is available to be filled out.

- Response Type: Whether Epi Info™ Web Survey prompts the user for additional responses when the survey is completed.
- Welcome Text: The text that is displayed when the user starts the survey.
- Completion Text: The text that is displayed when the user finishes the survey.

After entering the appropriate information in the Publish to Web window, select **Publish**.

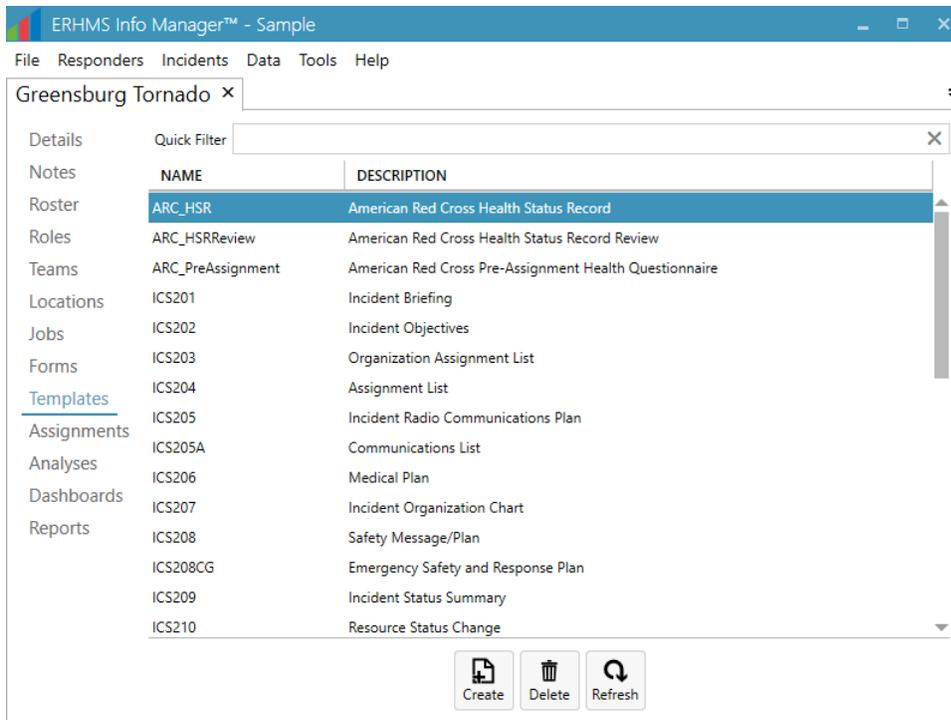


TEMPLATES

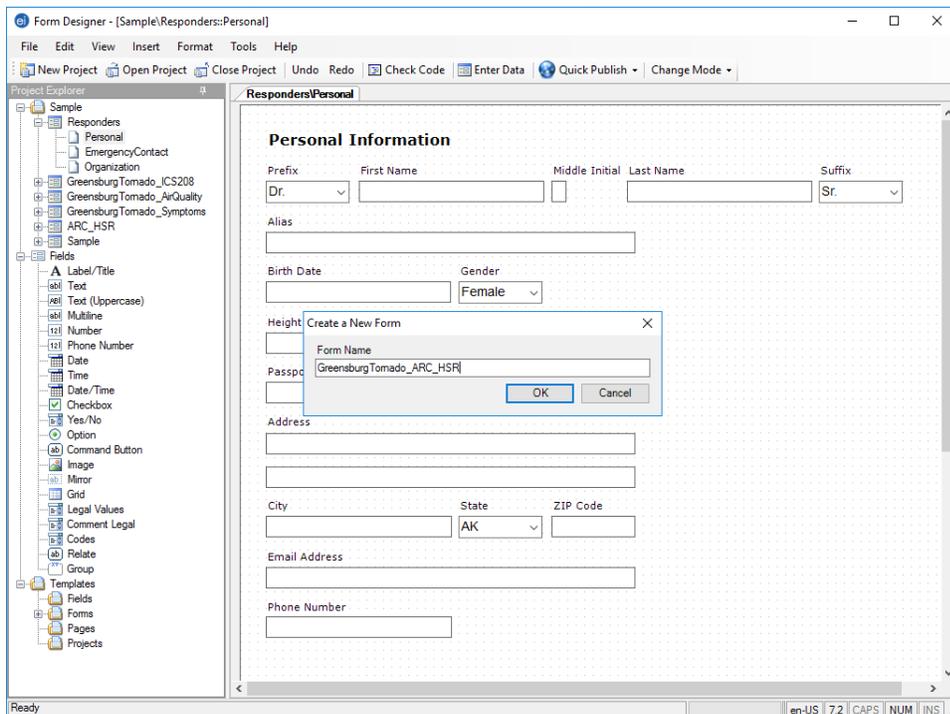
There are various standardized form templates in the ERHMS Info Manager™ Templates tab, including forms from Federal Emergency Management Agency (FEMA), American Red Cross, Occupational Safety and Health Administration (OSHA), and other organizations that frequently send emergency responders to incident sites. These are just a few examples of forms that are available. You can use these form templates unchanged, edit them for your purposes, or create an original form to meet the needs of your organization. Information that could be collected when responders report for duty at the incident, include: exposures, work activities, personal protective equipment (PPE) use, contact information, and other pertinent information from the incident. This information can allow for prompt recognition of risks, understanding the health effects of ongoing or new exposures, setting up medical surveillance, or performing follow-up related to work at an incident.

CREATING A FORM FROM A TEMPLATE

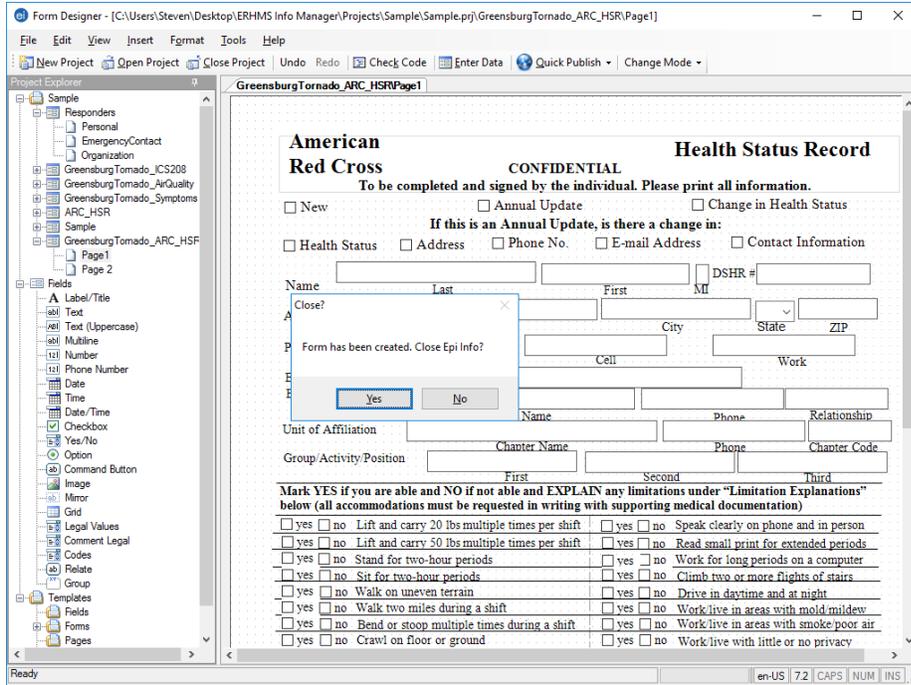
A template can accelerate the creation of a form. To create a form that is not linked to a specific incident, begin by selecting **Data – Templates** from the ribbon or select **Templates** from the start screen. To create an incident-linked form, begin by opening the incident and navigate to the **Templates** subsection. Then choose the template that fits your needs and select **Create**.



Once you press the **Create** button, the Epi Info™ Form Designer window opens up. A pop-up prompts for the name of the new form. It is suggested that the name for an incident-specific form be prefixed by the name of the incident, but this is not a requirement. After you enter a name and select **OK**, Epi Info™ creates the form using the template selected. It may take a few moments for Epi Info™ to add all the template fields to the new form.



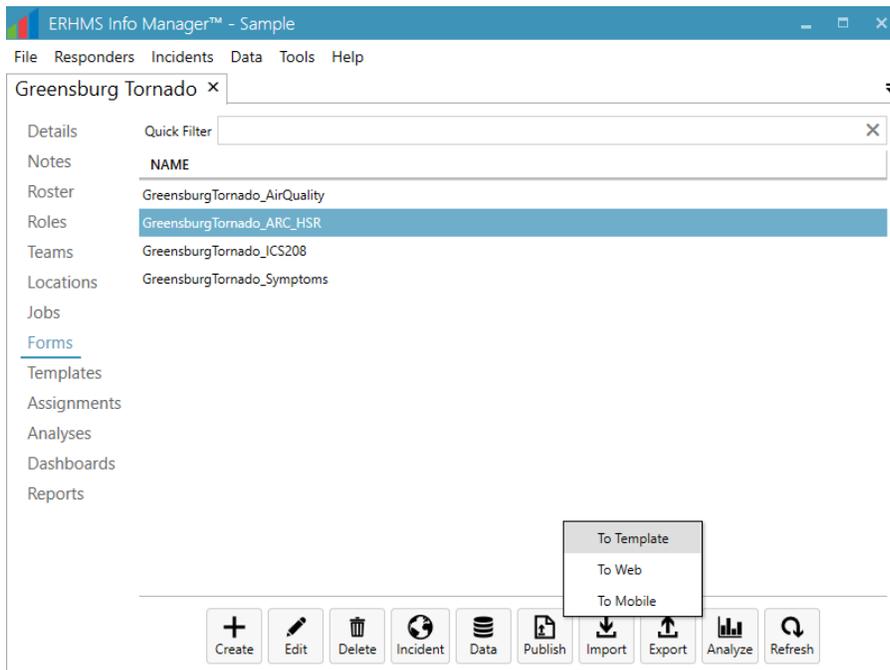
If the form that has been created meets your needs, select **yes** on the prompt that comes up asking whether Epi Info™ should be closed.



If you intend to make changes, press **no** and proceed with making edits by using the [Epi Info™ Form Designer](#). Once the changes are finalized, close the Epi Info™ Form Designer window. Changes will be saved automatically.

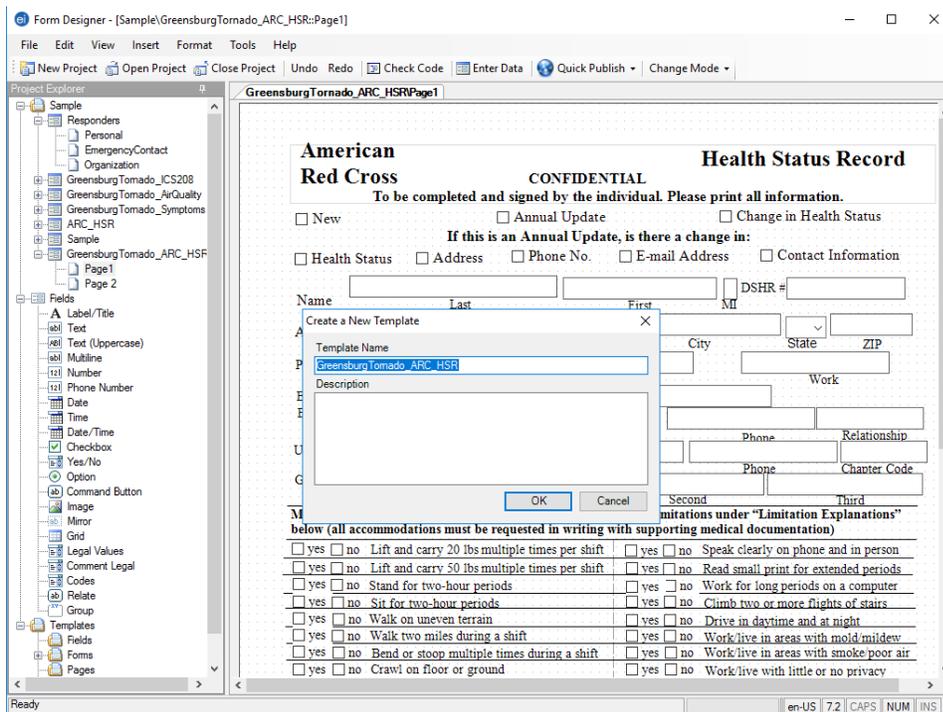
CREATING A TEMPLATE FROM A FORM

Existing forms may also be converted into templates. You would typically do this if you have an incident-specific form that you would like to reuse for future incidents. Start by selecting the desired Form. Press the **Publish** button and choose the **To Template** option.



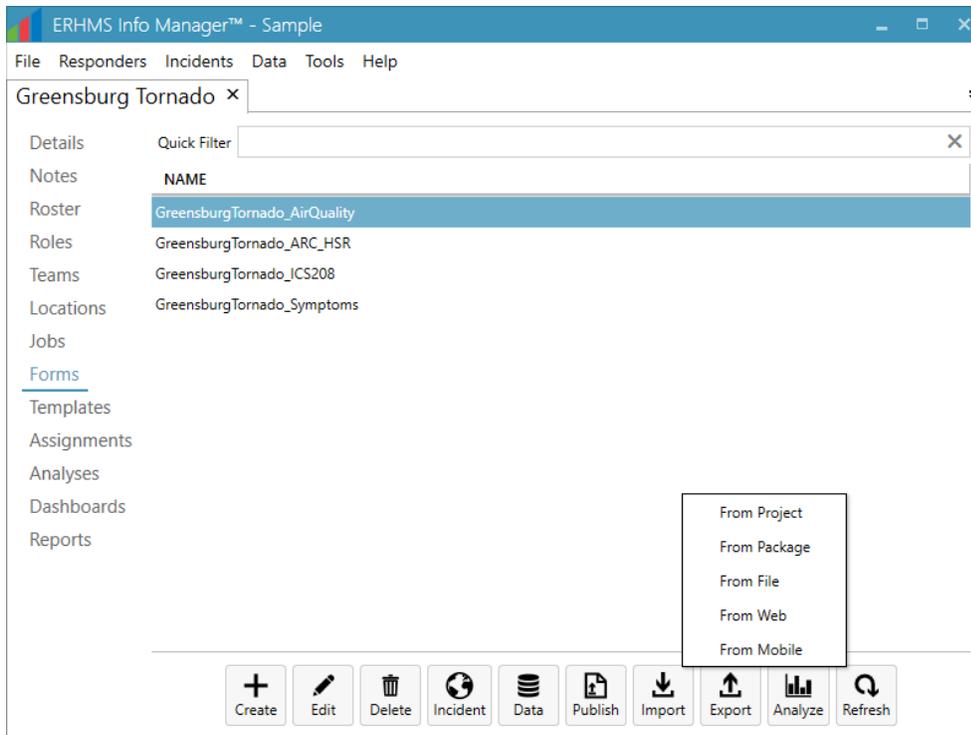
The Epi Info™ Screen opens up the newly created template with the option to rename the template. Also, the user is able to provide a more detailed description within the template if

necessary. Once the template has been created, select **yes** when prompted to close Epi Info™. Note that templates cannot be edited. In order to make changes to a template, you must create a form using the template, edit that form, and republish it to a new template.



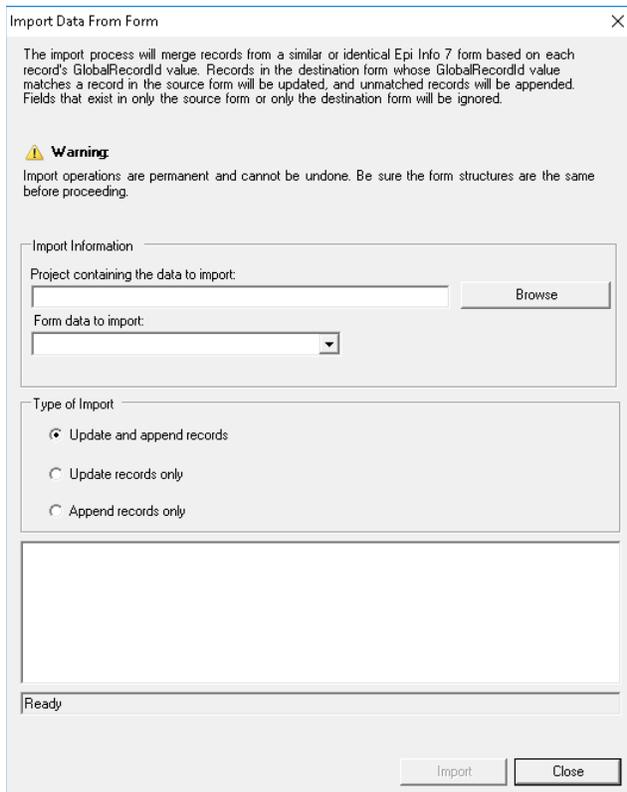
DATA IMPORT/EXPORT

The Data Packager tool allows users to share data with other users or to merge data collected by multiple users into a single database for analyses. The Data Packager does this by offering the option to package and export, as well as import data safely and securely. If you would like to import data, go to **Data – Forms** and select the desired form. Press the **Import** button to see the multiple options available.



To import data from a previously created Epi Info™ project or ERHMS Info Manager™ data source, select **From Project** and take the following steps:

- Note: this procedure requires an Epi Info™ project file (.prj) and a data file (.mdb – if data tables were created in Microsoft Access®).



- Browse for the Epi Info™ project file by clicking the **Browse** button 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.
- Select the manner in which you would like the data imported from the **Type of Import** 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 form.

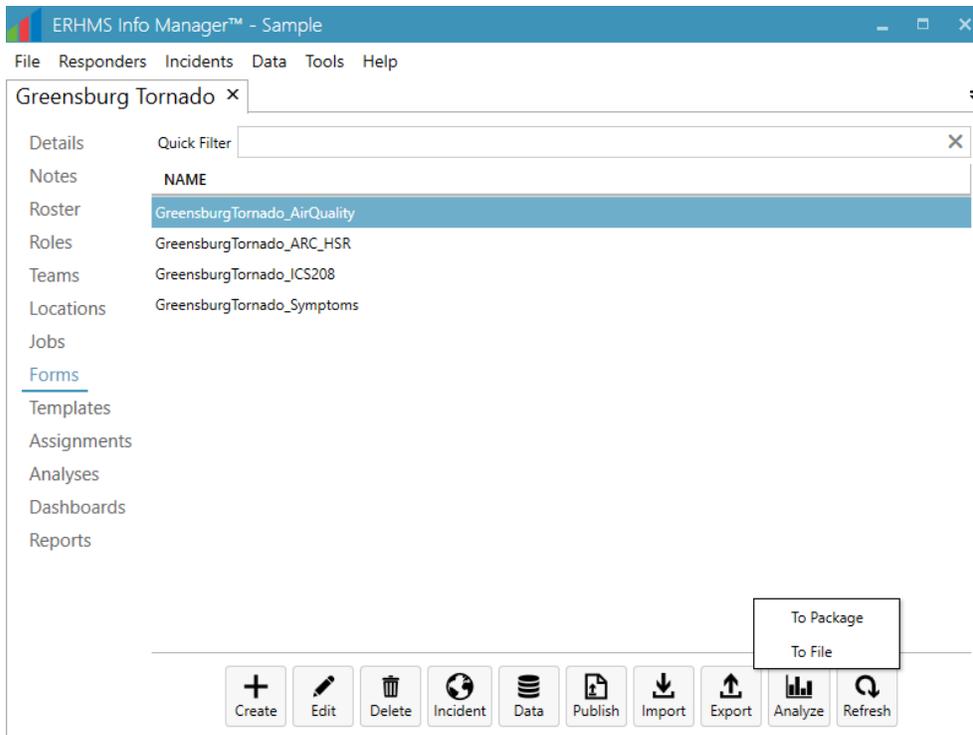
To import data from an Epi Info™ data package, select **From Package** and reference the Data Packager section of the Epi Info™ User Guide at https://www.cdc.gov/epiinfo/pdfs/userguide/7_DataPackager.pdf. Note that this requires a data package that was previously exported from an Epi Info™ project or ERHMS Info Manager™ data source as described later in this section.

To import data from a file (such as a CSV file, Microsoft Excel® spreadsheet, or Microsoft Access® database), select **From File**. An Epi Info™ Classic Analysis window will open. Step through the dialogs for selecting the file and mapping its variables to the fields of the selected form.

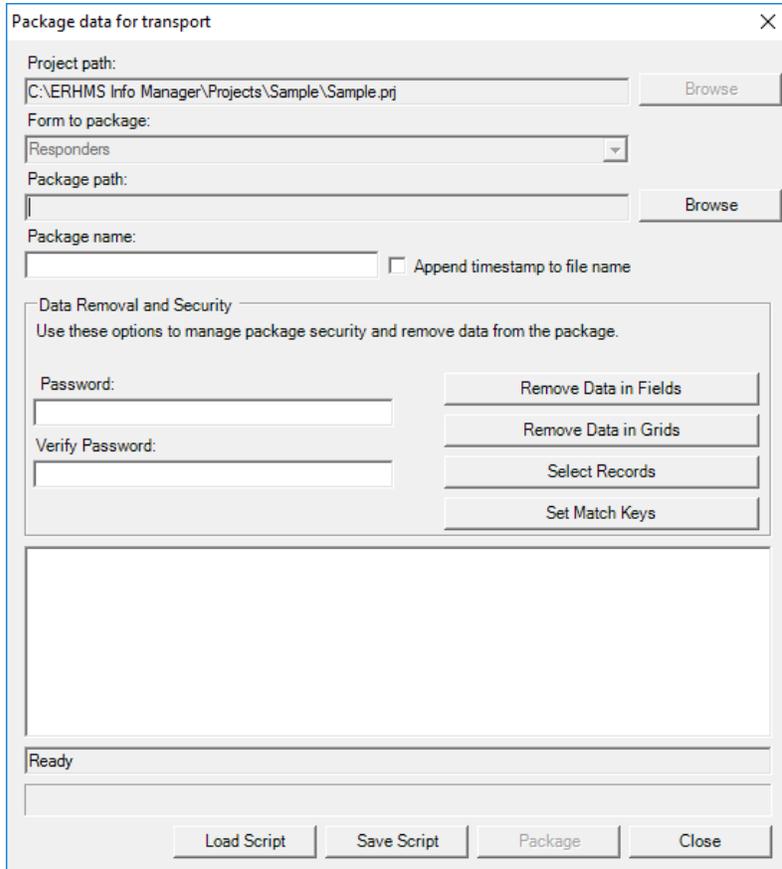
To import data from the web, select **From Web** and refer to the [Distributing Surveys Section](#) of this User Guide. Note that this will only work for forms that have been previously published to the web.

To import data from an Android mobile device, select **From Mobile** and refer to the Companion for Android section of the Epi Info™ User Guide at https://www.cdc.gov/epiinfo/pdfs/userguide/6_android.pdf. Data cannot be imported from an iPhone.

If you would like to export data, go to **Data – Forms** and select the desired form. Press the **Export** button to see the multiple options available.



Epi Info™ data packages are a convenient way to store and transmit data contained in an Epi Info™ project or ERHMS Info Manager™ data source. To package and export data, select **To Package** and take the following steps:



- The *Package data for Transport* dialog box appears.
- The *Project path* and *Form to package* textboxes automatically populate with the project and form information. Click **Browse** and select a *Package Path*. The package path designates where the data package will be saved. Click **OK**.
- Enter a name for the data package in the *Package Name* field.
- Check the *Append Timestamp to File Name* checkbox if you wish to add a timestamp to the file name. The default setting is unselected.
- Enter *Password* if you wish to encrypt the data package. This increases the security of your data transmission. Save your password in a safe location as this password will be required to access the data package. If you do not wish to encrypt your data, leave the *Password* field blank and skip the following step.
- To *Verify Password*, re-enter the password from the step above.
- Click the **Remove Data in Fields** button to omit specific fields from the data package.
- Click the **Remove Data in Grids** button to remove data from columns in the selected grid.
- Click the **Select Records** button to select specific records to include in the data package.
- Click the **Package** button. When complete, the *Package Creation Complete* verbiage will appear at the bottom of the dialog box.
- Click **Close** to exit.
- The data package appears at the location (*Package Path*) specified in step one.

For more information on importing or exporting data, visit the Entering and Editing Data Section of the Epi Info™ User Guide at

https://www.cdc.gov/epiinfo/pdfs/userguide/4_enter.pdf.

ASSIGNMENTS

DISTRIBUTING SURVEYS

If you have previously published a form as a web survey, you can distribute the survey to your responders by first *assigning* the survey to them, and then sending the assigned responders an email that contains a web link to the survey. To assign forms, select **Data – Assignments** in the ribbon, or for an incident-specific form, you may also select the **Assignments** subsection in the incident screen. First, select a Form from the dropdown box at the top of the screen, then select the responders you wish to give the survey to. To select multiple responders, hold down the **Ctrl** or **Shift** key while clicking. To quickly select all responders, select any responder in the list then press **Ctrl+A**. Select **Add** to confirm the responders you wish to provide the survey to, who are then added to the list at the bottom of the screen. To notify responders of their pending surveys via email, hold down the control key and select all responders who need to fill out the survey and go to **Email**. If there are two different surveys that a user wants to send, they will need to select the responders for the first survey and email and repeat the process for the second survey.

ERHMS Info Manager™ - Sample

File Responders Incidents Data Tools Help

Greensburg Tornado x

Details Assignment to Add

Notes Form

Roster Quick Filter

LAST NAME	FIRST NAME	EMAIL ADDRESS	CITY	STATE	ORGANIZATION	OCCUPATION
Adkins	Aubrey	arcu@semolesti	Vancouver	WA	Greensburg Fire	Firefighter
Bowen	Mercedes	odio.Aliquam.vulp	Erie	PA	Greensburg Fire	Firefighter
Byers	Alma	nulla.ante@interd	West Valley City	UT	EPA	Industrial hygienis

Forms

Templates Add Remove

Assignments Existing Assignments

Analyses Quick Filter

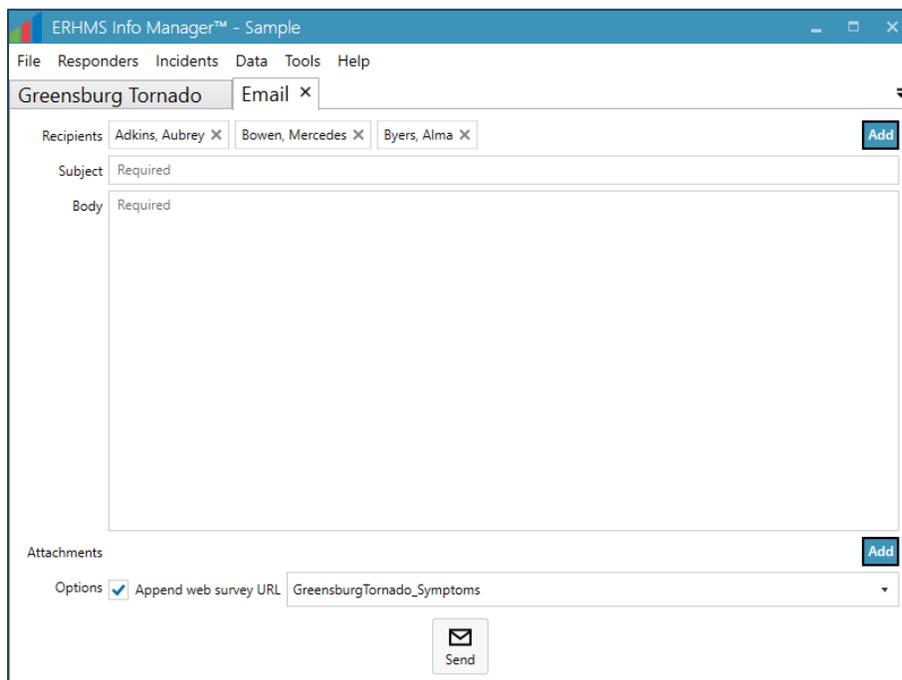
FORM	RESPONDER
GreensburgTornado_Symptoms	Adkins, Aubrey
GreensburgTornado_Symptoms	Bowen, Mercedes
GreensburgTornado_Symptoms	Byers, Alma

Dashboards

Reports Email Refresh

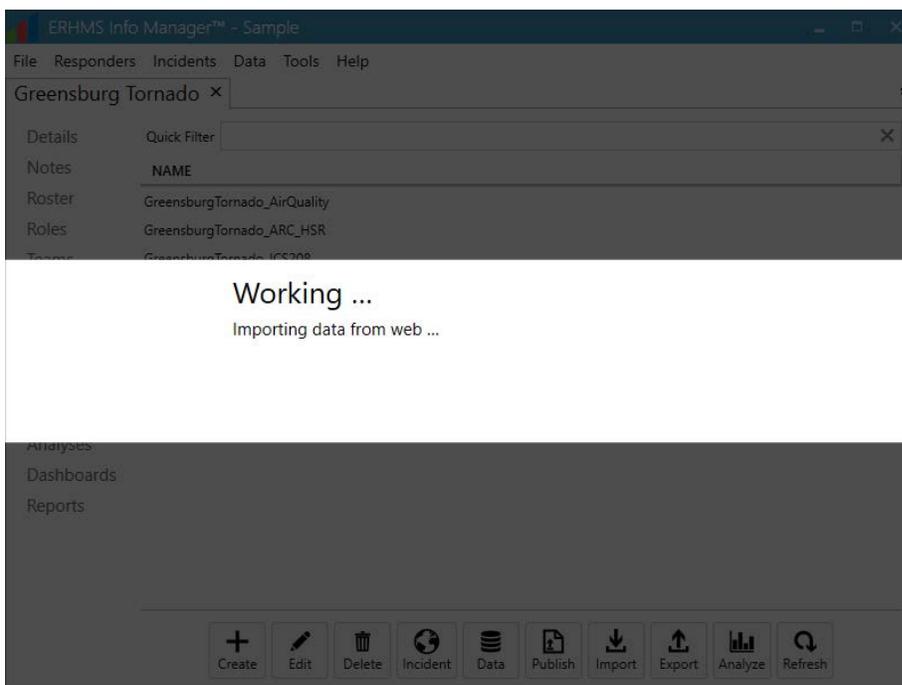
The email will display all of the selected recipients. To send a survey to individuals who are not in your list of responders, there is an option to add more email addresses manually. Click the **Add** button to the right and enter each of their email addresses manually by choosing the **Email address** option in the Add a Recipient pop-up window. Note: These individuals' survey responses will not be automatically linked back to a responder record. This option is therefore not recommended. It is best to add the individual to the list of responders and assign them to an incident first.

Enter the *Subject* and *Body* of your email. When sending an assignment email for a web survey, the box labeled **Append web survey URL** should be automatically checked, and the assigned form will already be selected. Only forms that have been published to the web will appear in this dropdown. You can also attach documents to the email if desired by using the **Add** button in the Attachments section. When you are finished, send the email by selecting **Send**.



DOWNLOADING FORMS FROM WEB SURVEY

As recipients complete the form, Epi Info™ Web Survey will automatically save responses to a separate database. To download Web Survey responses into the main ERHMS Info Manager™ database for a given form, navigate to Data- Forms from the ribbon, choose the form and select **Import – From Web**.



The Web Survey responses are downloaded to the ERHMS Info Manager™ database. As part of this process, if the form contains responder data fields, each response is linked back to the corresponding responder record based on the email address entered on the form. If no matching responder is found, you may manually link the response. To display all imported

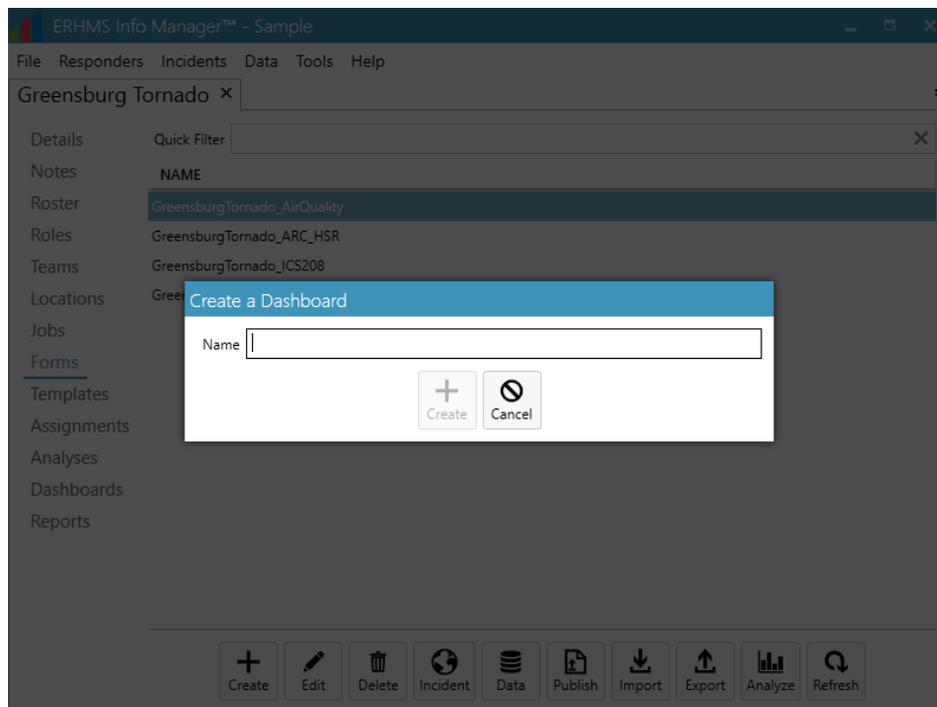
survey responses (including any data already in the selected form prior to the import procedure), select the form again, and select **Data – View**. If necessary, you may manually link responses to a corresponding responder by selecting the record, selecting **Responder**, choosing a responder from the list, and selecting **Link**.

The screenshot shows the ERHMS Info Manager interface. The window title is 'ERHMS Info Manager™ - Sample'. The menu bar includes 'File', 'Responders', 'Incidents', 'Data', 'Tools', and 'Help'. The current view is 'Greensburg Tornado' with a sub-view 'GreensburgTornado_Sy...'. Below the menu is a table with the following columns: UNIQUEKEY, GLOBALRECORDID, RESPONDERID, REPORTINGDATE, HEADACHE, and N. The table contains 9 rows of data. At the bottom of the window, there is a toolbar with icons for 'Create', 'Edit', 'Responder', 'Delete', 'Undelete', and 'Refresh'.

UNIQUEKEY	GLOBALRECORDID	RESPONDERID	REPORTINGDATE	HEADACHE	N
1	0a493e6e-d231-4543-b6f5-7d395baea541	5b76b569-cc55-41d5-8386-60e15f91e11c	5/15/2016 12:00:00 AM	True	Fal
2	c656d37a-f766-4909-8085-c2adb7a7f143	5b76b569-cc55-41d5-8386-60e15f91e11c	5/22/2016 12:00:00 AM	False	Fal
3	d8919010-4232-42ee-8a58-bc5ace414880	5b76b569-cc55-41d5-8386-60e15f91e11c	5/29/2016 12:00:00 AM	False	Fal
4	4c88c9e9-d422-40f5-bc38-48a8cb04f3ed	719a0a06-6ffb-47e8-b885-213ad64269c2	5/15/2016 12:00:00 AM	True	Tru
5	80e48223-a345-4432-898c-80b5848916d2	719a0a06-6ffb-47e8-b885-213ad64269c2	5/22/2016 12:00:00 AM	True	Tru
6	7bf85bb2-637d-4414-9967-dd8245a0f18f	719a0a06-6ffb-47e8-b885-213ad64269c2	5/29/2016 12:00:00 AM	False	Fal
7	e0874893-d0c7-4d9f-92c9-482550ec9d91	cb833cd8-c31b-4b8b-a47c-f44750823691	5/15/2016 12:00:00 AM	False	Fal
8	629ca866-51ab-49a1-ac4b-0800279b3eac	cb833cd8-c31b-4b8b-a47c-f44750823691	5/22/2016 12:00:00 AM	False	Fal
9	5d897101-79df-4e24-8cd3-6a727af1616d	cb833cd8-c31b-4b8b-a47c-f44750823691	5/29/2016 12:00:00 AM	False	Fal

ANALYSIS

Epi Info™'s Classic Analysis and Visual Dashboard screens may be used to analyze data collected through forms. To create a new analysis or dashboard, start by opening the list of forms either on the desired incident's **Forms** subsection or by selecting **Data – Forms** from the ribbon. You may also select **Forms** from the start screen. Select the form, then go to **Analyze – Classic** or **Analyze – Visual**. Provide a Name for the analysis or the dashboard in the resulting pop-up window and select **Create**.



To open an existing analysis or dashboard, start by opening the corresponding list either on the desired incident's **Analyses** or **Dashboards** subsection or by selecting **Data – Analyses** or **Data – Dashboards** from the ribbon. You may also select **Analyses** or **Dashboards** from the start screen. Select the desired item and go to Open.

In Classic Analysis:

- Add commands by selecting from the Command Explorer on the left-hand side of the window.
- When prompted, specify the desired options, which vary depending on the selected command.
- Save the analysis using the **Save Pgm** button in the Program Editor on the bottom of the window.

In Visual Dashboard:

- Add text and images by right-clicking on the dashboard background and selecting an option under **Add Report gadget**.
- Conduct analyses and add tables, charts, and graphs by right-clicking on the dashboard background and selecting an option under **Add Analysis gadget**.
- Move existing gadgets around the dashboard by dragging them with the mouse.
- Save the analysis by clicking the **Save** or **Save as** button represented by an image of a floppy disk(s) on the top left of the dashboard window, or by right-clicking on the dashboard background and selecting **Save canvas**.

To see an existing analysis or dashboard, select **Data – Analysis** or **Data – Dashboards** from the ribbon or you can also use the **Analysis** or **Dashboard** buttons on the start screen.

For more information on data analysis in Epi Info™, visit the Classic Analysis and Visual Dashboard Sections of the Epi Info™'s User Guide available at

https://www.cdc.gov/epiinfo/pdfs/userguide/9_classicanalysis.pdf and
https://www.cdc.gov/epiinfo/pdfs/userguide/8_visualdashboard.pdf.

SECURITY

The following section describes how to configure your operating system and database server for data privacy and security. Each organization or end user must provide their own security environment and follow their policies and procedures to ensure data security. Additional information can be found in the [License Information](#). To take advantage of the full set of features and to ensure data security, it is recommended to use a recent version of Microsoft Windows® and an enterprise edition of Microsoft SQL Server® as the underlying database management system. Additional information on using Microsoft Access® and Microsoft SQL Server® can be found in the [Adding a New Data Source](#) section. Recommended controls you can use for both Microsoft Access® and Microsoft SQL Server®, include:

ADMINISTRATIVE SAFEGUARDS

- Designate a security official
- Identify and analyze potential risks to sensitive data
- Implement and periodically review policies and procedures that reduce these risks
 - Take into account the principle of least privilege (restrict user access to the minimum necessary information and resources)
 - Provide authorization, training, and supervision for users of sensitive data
 - Impose sanctions for users who violate these policies and procedures

PHYSICAL SAFEGUARDS

- Restrict physical access to the organization's facility
- Within the facility, restrict physical access to the computer workstation

BEST PRACTICES TO HELP SECURE YOUR MICROSOFT ACCESS® DATABASE

- Ensure that you have the latest Microsoft Access® security update installed
- Password-protect the system. For example, password-protect the system's screensaver feature. Microsoft Windows® screensaver kicks in when the system sits idle. If you password-protect the feature, the user must enter a login password to regain access to the system. Additional information can be found in the [Automatic Timeout](#) Section below.
- Store your Microsoft Access® database in secure folders, limited to qualified users. Using integrated Microsoft Windows® login authentication, to limit which users have access to files all over your network, is currently the industry standard.
- Distribute runtime versions to your end users and install full-time versions of Microsoft Access® only on application developer or administrator machines.
- Use the Trust Center Settings. Specifically, trust center settings allow Microsoft Access® application administrator to limit the file path a Microsoft Access® application can be used from.
- Hide objects — a subtle form of protection - It's a good idea to hide objects — tables, queries, forms, and so on — from users. Doing so won't protect these objects in the traditional sense, because if the user can find them, the user can alter them. To hide an object in the Database window (or Navigation pane), right-click it and choose Properties. Then, check the Hidden Attribute option.

The following technical controls are only recommended for Microsoft SQL Server®, because Microsoft Access® does not support many of the privacy and security capabilities discussed below. As always, it is important to keep all software fully patched for security purposes. If your organization is a covered entity under the Health Insurance Portability and Accountability Act (HIPAA) or requires higher levels of data security than what is provided by Microsoft Access®, we recommend you use Microsoft SQL Server® as the underlying database management system.

RECOMMENDED TECHNICAL CONTROLS

AUDITING

ERHMS Info Manager™ logs many activities performed by the user throughout the course of normal operation. Log files may be accessed by selecting **Tools – Logs** from the ribbon. Additionally, it is possible to configure Microsoft Windows® and Microsoft SQL Server® to track activities that fall outside the scope of the ERHMS Info Manager™ software itself.

Use [Group Policy](#) to perform [security auditing](#) in Microsoft Windows®. Review the following [security audit policies](#) to determine which ones are relevant for your organization:

- [System events](#) (including startup and shutdown)
- [Logon events](#) (including both successful and failed logon attempts, as well as logoffs)
- [Account management](#) (creating, changing, or deleting user accounts or groups)
- [Policy changes](#) (including changes to user rights)
- [Object access](#) (e.g., to files, directories, etc.)
- [Privilege use](#) (attempts to exercise user rights, whether successful or not)

Audited activities, along with other alerts and error messages, are logged to the [Event Viewer](#).

Use [SQL Server Audit](#) to perform security auditing in Microsoft SQL Server®. The following abbreviated list of [audit action groups](#) may be relevant for your organization:

Description	Audit action group
Instance start or stop	SERVER_STATE_CHANGE_GROUP
Logon to instance	*_LOGIN_GROUP (prefixed by SUCCESSFUL or FAILED)
Logon to database	*_DATABASE_AUTHENTICATION_GROUP (prefixed by SUCCESSFUL or FAILED)
Logout of instance	LOGOUT_GROUP
Logout of database	DATABASE_LOGOUT_GROUP
Instance configuration	SERVER_OPERATION_GROUP
User created, altered, or dropped	*_PRINCIPAL_CHANGE_GROUP (prefixed by scope)
User added to or removed from role	*_ROLE_MEMBER_CHANGE_GROUP (prefixed by scope)

Description	Audit action group
Object owner changed	*_OWNERSHIP_CHANGE_GROUP (prefixed by scope)
Access to object granted, revoked, or denied	*_PERMISSION_CHANGE_GROUP (prefixed by scope)
Object created, altered, or dropped	*_CHANGE_GROUP (prefixed by scope)
Object accessed	*_ACCESS_GROUP (prefixed by scope)

Note: Auditing based on SQL statement type (e.g., SELECT, UPDATE, INSERT, or DELETE) is also supported.

*A shortened version of the audit action group name is included.

Alerts and error messages may be logged to [the Event Viewer or the SQL Server Log](#).

ACCESS CONTROL

Access to ERHMS Info Manager™ data sources may be controlled by placing them in access-controlled directories (e.g., on a shared network drive). Individual users should have separate Microsoft Windows® accounts, allowing access to these directories to be managed using the standard Microsoft Windows® [access controls](#).

Access to underlying databases in Microsoft SQL Server® may be managed similarly, by [granting or revoking privileges](#) on these databases for the desired Microsoft Windows® accounts. Note that this requires the ERHMS Info Manager™ data sources to be set up to use integrated security (i.e., Microsoft Windows® authentication). To accomplish this, be sure to check the **Windows Authentication** box when creating the data source. Alternatively, password-protected logins that are not associated with Microsoft Windows® accounts may be created directly in Microsoft SQL Server®. Provide the **User Name** and **Password** in ERHMS Info Manager™ to connect using these logins.

When performing access control, it is recommended to exercise the principle of least privilege, meaning that user accounts are only granted the privileges necessary to perform their intended function. In general, application of this principle will result in enhanced security and stability.

INTEGRITY

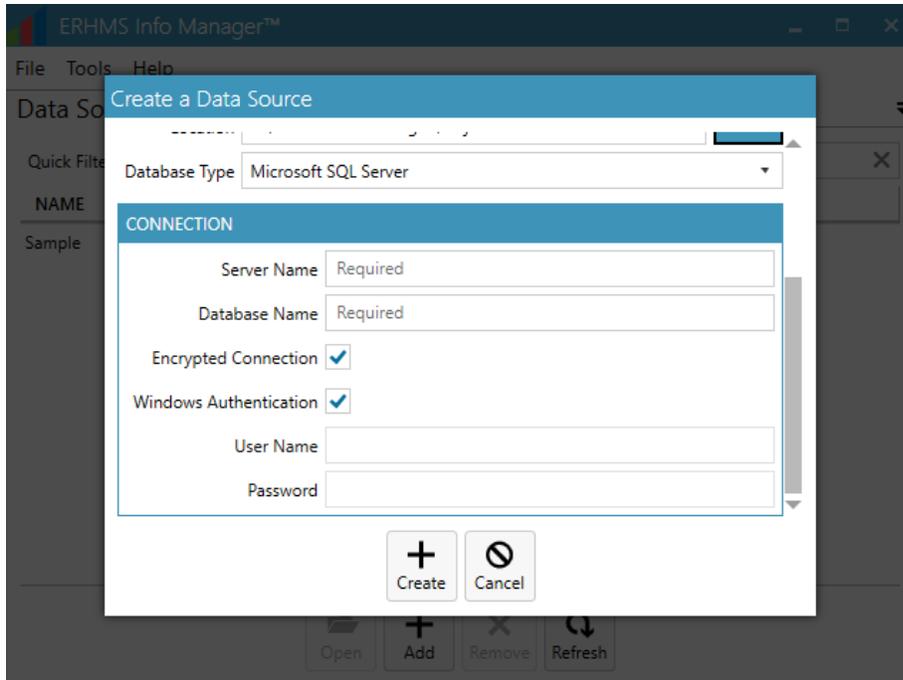
Recent versions of Microsoft Windows® include preinstalled utilities for file integrity checking. Use [CertUtil](#) with the -hashfile option to generate a cryptographic hash for a desired file. This hash may be compared to a previously generated hash (calculated over the file in a known good state) to verify file integrity. Additionally, third-party applications may be used to perform file integrity checking at scheduled intervals or in real time.

ENCRYPTION

Data “at rest” may be encrypted via [Transparent Data Encryption](#) (TDE). This ensures data security even in a scenario where the physical media containing the data (e.g., disk drives) are compromised. Note that TDE must be applied on the underlying database after it has been created as a data source in ERHMS Info Manager™.

Data “in motion” may be protected by encrypting the connection between ERHMS Info Manager™ and Microsoft SQL Server® using [Secure Sockets Layer](#) (SSL). First, SSL must be enabled in Microsoft SQL Server®. Then, when creating a data source in ERHMS Info Manager™, be sure to check the **Encrypted Connection** box.

The [Epi Info™ data packager](#) may also be used to create password-protected, encrypted packages that store form data. However, it is not recommended to reimport such packages if they are from an unknown source.



AUTOMATIC TIMEOUT

Workstations running ERHMS Info Manager™ should be configured to automatically lock after a period of inactivity. This may be achieved by enabling three settings in [Group Policy](#) under **User Configuration\Administrative Templates\Control Panel\Personalization**:

- **Enable screen saver:** Enables desktop screen savers.
- **Screen saver timeout:** Specifies how much user idle time (in seconds) must elapse before the screen saver is launched. The recommended setting is 900 seconds (15 minutes).
- **Password protect the screen saver:** Determines whether screen savers used on the computer are password protected.

HELP

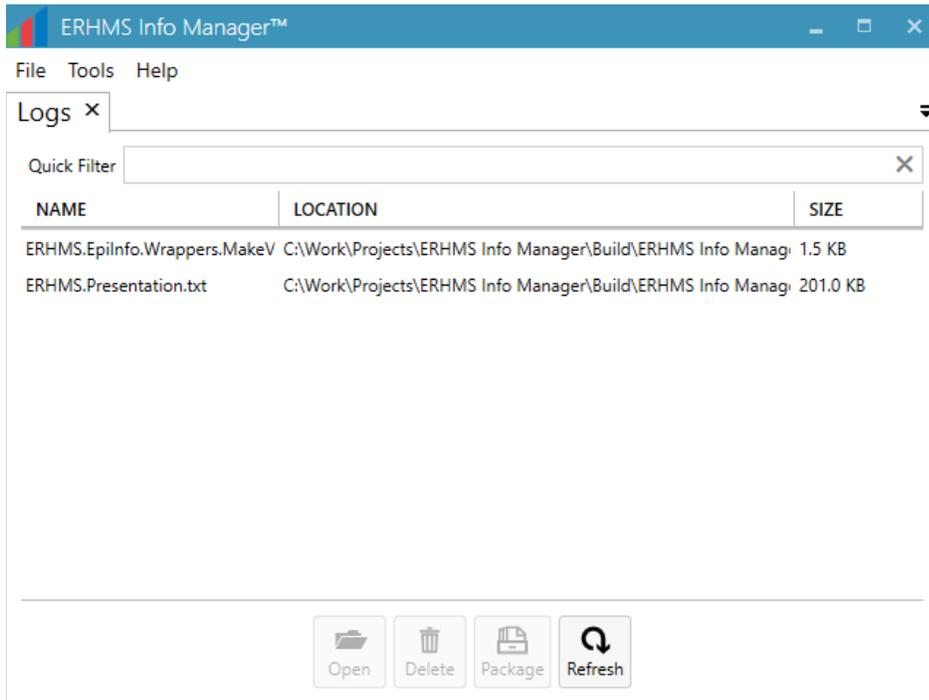
ERHMS INFO MANAGER™ SUPPORT

Submit all questions and comments about ERHMS Info Manager™ to the Epi Info™ Help Desk at <http://www.cdc.gov/epiinfo/support/helpdesk.htm>. The Epi Info™ Help Desk is monitored from 8:00 a.m. until 5:00 p.m. EST. Monday through Friday and is not available on

weekends or federal holidays. Users should expect to receive a response back to their inquiries within 48 hours.

LOGS

During the course of normal operation, ERHMS Info Manager™ creates log files that track user activity and record debugging information. To manage these files, select **Tools – Logs** from the screens ribbon.



VIEWING LOGS

To view a log file, select it from the list of available files within the Logs screen (**Tools – Logs**) in the Logs tab and go to **Open**. The file will open in your default text editor.

DELETING LOGS

If you would like to reclaim the hard drive space used by a log file, you may delete it by selecting it from the list of available files and going to **Delete**. The file will be recreated the next time ERHMS Info Manager™ attempts to write logging information.

PACKAGING LOGS

Logging information may be easily shared with software support staff by packaging log files into a zip file. To package one or more log files, select them from the list of available files and go to **Package**. ERHMS Info Manager™ will create a zip file that contains all the selected log files. You may then save this file to its default location (usually the desktop) or another location of your choice.

ERHMS INFO MANAGER™ UNINSTALL

To uninstall ERHMS Info Manager™, follow the steps below:

- Go to the Control Panel of your computer.
- Open Programs and Features in the Control Panel.

- Select ERHMS Info Manager™ from the list of installed software.
- Select **Uninstall/Change** from the ribbon above the list of installed software.
- In the popup that appears, select **Remove the application from this computer**.
- Select **OK**.

ABOUT

LICENSE INFORMATION

ERHMS Info Manager™ and Epi Info™ tools are in the public domain and free to download and use. ERHMS Info Manger™ is licensed under the Apache License Version 2.0, January 2004 at <http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

1. You must give any other recipients of the Work or Derivative Works a copy of this License; and
2. You must cause any modified files to carry prominent notices stating that You changed the files; and
3. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
4. If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do

not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

NOTICE

The end-user documentation included with the redistribution, if any, must include the following acknowledgment: "This derivative product includes ERHMS Info Manager™ and Epi Info™"

software developed by NIOSH and CDC, which can be found at <http://www.cdc.gov/niosh/topics/erhms/> and <http://www.cdc.gov/epiinfo/index.html>.”

APPENDIX A: KEY TERMS

Term	Definition
Epi Info™	A software application created by CDC and available to the public via the internet. It is used by physicians, nurses, epidemiologists, and other public health workers who might lack a background in information technology who often have a need for simple tools that allow the rapid creation of data collection instruments and data analysis, visualization, and reporting using epidemiologic methods. Epi Info™, a suite of easy to use software tools, delivers epidemiologic functionality without the complexity or expense of large, enterprise applications.
Emergency Responder Health Monitoring and Surveillance™ (ERHMS™)	A framework of activities designed to allow for the monitoring and surveillance of emergency response and recovery safety and health during all phases of emergency response: pre-deployment, deployment, and post-deployment.
Incident Command System (ICS)	A standardized on-scene incident management construct specifically designed to provide an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procurements, and communications operating within a common organizational structure and designed to aid in the management of resources during incidents. It is used for all kinds of emergencies and is applicable to small, as well as large and complex, incidents. ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations. For more information visit https://training.fema.gov/EMIWeb/IS/ICSResource/index.htm
Medical Monitoring	Ongoing clinical assessment of physical and behavioral health in an individual worker to detect emerging health and injury effects that may be work-related (e.g., physiological, psychological), and to inform needs for medical treatment or other services and/or worker exposure control(s). Once the baseline clinical status has been established, participants in the program are periodically assessed for changes in their clinical status.

Term	Definition
Medical Screening	Medically assessing individual workers for the presence (or absence) of specific physical or mental health conditions at a specific time, with the express purpose of early diagnosis and, if appropriate, treatment. Medical screening focuses on assessment of fitness and ability to safely and effectively deploy on a response and may entail history taking, examination, and/or testing procedures.
Medical Surveillance	Systematic and ongoing collection and evaluation of population- level clinical data (e.g., physical and mental health, work histories, medical/psychiatric examination, laboratory and imaging studies or other clinical testing) that are used to identify hazards, to eliminate ongoing hazardous exposure, and to evaluate exposure–health outcome relationships.
Responders	Includes paid affiliated personnel, contractors, subcontractors, and volunteer workers involved in incident operations. Responders include police, fire, and emergency medical personnel, as well as other responder groups such as public health personnel, cleanup, and repair/restoration workers.
Response	Immediate actions to save lives, protect property and the environment, and meet basic human needs. Response also includes the execution of emergency plans and actions to support short-term recovery.
Roster	A roster is a list of response workers who have been or continue to be participating in any capacity during a response event, or who are available and ready to respond before an event. The purpose of maintaining such a roster is to provide a formal record of all those who have participated in response and cleanup activities. It functions as a mechanism to contact workers about possible work-related symptoms of illness or injury, as needed, and serves as the basis for determining which workers may require post-event tracking of their health.

APPENDIX B: REFERENCES

NIOSH Emergency Responder Health Monitoring and Surveillance™ topic page:

<https://www.cdc.gov/niosh/erhms/>

**Emergency Responder Health Monitoring and Surveillance™ National Response Team
Technical Assistance Document (TAD):**

https://www.nrt.org/sites/2/files/ERHMS_Final_060512.pdf

Epi Info™

<https://www.cdc.gov/epiinfo/index.html>

PAGE LEFT INTENTIONALLY BLANK



Delivering on the Nation's promise:
safety and health at work for all people
through research and prevention

To receive NIOSH documents or more
information about occupational safety and
health topics, contact NIOSH at

1-800-CDC-INFO (1-800-232-4636)

TTY: 1-888-232-6348

CDC INFO: www.cdc.gov/info

or visit the NIOSH website at www.cdc.gov/niosh.

For a monthly update on news at NIOSH, subscribe to
NIOSH eNews by visiting www.cdc.gov/niosh/eNews.

DHHS (NIOSH) Publication No. 2018-115