

Utilizing the Michigan Syndromic Surveillance System (MSSS)

October 2023

Introduction

Introduction, Time, and Objectives

- The goal of this self-paced module is to introduce you to the Michigan Syndromic Surveillance System (MSSS).
- Completion of this training will take approximately 45-90 minutes. The training does not have to be completed in one sitting.
- Objectives – upon completion of this module, user will:
 1. Identify how the MSSS works
 2. Successfully register for and log into the MSSS
 3. Effectively utilize the MSSS





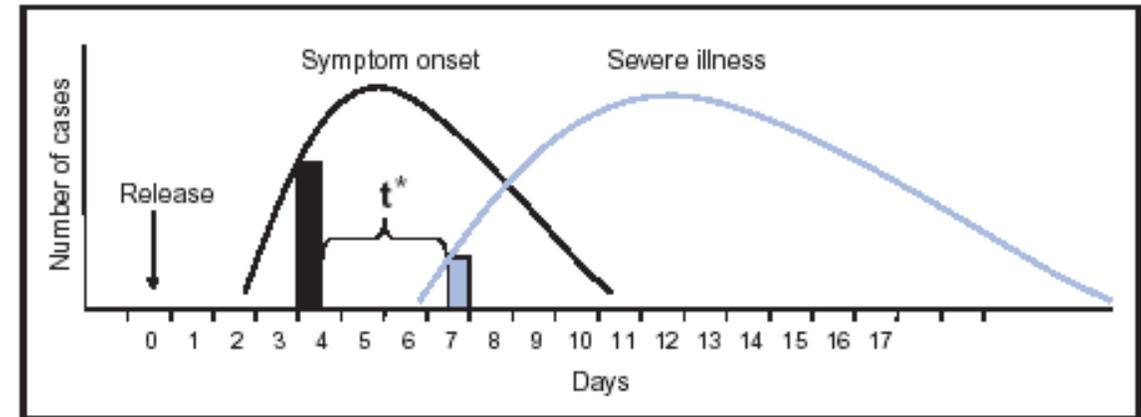
What is Syndromic Surveillance?

- Syndromic surveillance is the collection and monitoring of pre-diagnostic disease indicators allowing public health officials and providers to monitor trends and investigate unusual increases in symptom presentations at emergency departments (EDs) and urgent care facilities (UCs).
- The Michigan Syndromic Surveillance System (MSSS) provides the Michigan Department of Health and Human Services (MDHHS) with real-time situational awareness of potential public health threats and emergencies.
- More recently, new uses for syndromic surveillance data have been developed to monitor novel and non-reportable conditions of interest.

Origins/Background of Syndromic Surveillance

- In 2004 it was stated “Syndromic surveillance has been used for early detection of outbreaks, to follow the size, spread, and tempo of outbreaks, to monitor disease trends, and to provide reassurance that an outbreak has not occurred.”
- The figure to the right is an example of a bioterrorism event.
 - A few days after a release, exposed people start to experience symptoms.
 - As illnesses progress, individuals seek healthcare and further testing.
 - t indicates the lead time where syndromic surveillance data may inform the public health response.

FIGURE. Syndromic surveillance — rationale for early detection



* t = time between detection by syndromic (prediagnostic) surveillance and detection by traditional (diagnosis-based) surveillance.



Where did MSSS begin?

- In 1999, the University of Pittsburgh developed the Real-Time Outbreak and Disease Surveillance System (RODS) to respond to the threat of bioterrorism. The initial system collected patient chief complaint data from a small number of hospitals via Health Level 7 (HL7) messages in real time. Based on the chief complaints, visits were categorized into syndromes and the data were analyzed for aberrations that would indicate a possible disease outbreak.
 - Source: <https://www.cdc.gov/mmwr/preview/mmwrhtml/su5301a8.htm>
- MSSS is based on RODS, which was an open-source product.
- MSSS began in 2004 with 9 pilot sites and by 2023 it was receiving data from more than 240 facilities across Michigan. Unlike reportable disease surveillance, participation in syndromic surveillance is voluntary.
- On average, over 15,000 emergency care registrations enter the system each day from emergency departments and urgent care facilities in Michigan.

Stakeholders



- Participating facilities (hospitals, urgent care facilities)
- Michigan local health departments
- MDHHS
 - Bureau of Emergency Preparedness, EMS and Systems of Care (BEPESoC)
 - Bureau of Infectious Disease Prevention
- Michigan Department of Technology, Management and Budget (DTMB)
- Altarum Institute, a non-profit healthcare research institute

How Does It Work?

Patient registers with basic demographic info and a chief complaint – a short description of symptoms that led the person to visit the ED or UC



Registration triggers a message to send select information, such as the time of registration, age and gender of patient, patient's home zip code, and chief complaint, securely via HL7 messages through the statewide health information network - other data, including diagnoses, are sent later in updated messages



Chief complaint is classified into a one of several syndromic categories that can be aggregated for review and analysis



Data visualizations and raw data are available to users who have access to this secure system – A detection algorithm runs at set intervals for each syndrome and an alert is generated if an aberration is detected; alerts are monitored by MDHHS epidemiologists

Examples of Chief Complaints and their Syndrome Category

- “I have a bunch of bumps on my feet” (Rash)
- “I have a fever and the chills” (Constitutional)
- “My father seems to be getting confused” (Neurological)
- “I cut my finger while paring a potato” (Other)
- “My speech is slurred” (Botulinic)
- “I have a bloody nose” (Hemorrhagic)
- “My daughter is vomiting” (Gastrointestinal)
- “I can’t stop coughing” (Respiratory)
- “EMS administered Narcan” (Overdose)
- “Was working out in heat all day” (Heat)



Syndromic Surveillance: Complaint Coder (CoCo)

- Complaint Coder (CoCo) is a ‘simplified’ keyword classifier
- CoCo correctly classified 98% of complaints
 - CoCo was originally designed by the RODS team
 - Source: <https://www.cdc.gov/mmwr/preview/mmwrhtml/su5301a8.htm>
 - The MDHHS CoCo version was “trained” using Michigan ED chief complaints
 - CoCo has common misspellings programmed to capture more possible matches
- Each visit is categorized into only one syndrome (mutually exclusive)
- The system is trained to recognize terms and categorize complaints based on a predesignated weighting scale
 - “vomiting and fever” could be GI or constitutional, but “fever” is weighted higher; categorized as constitutional



MSSS Syndrome Categories

Syndrome	% of Visits	Example	Sample Text (not inclusive)
Gastrointestinal	9-13%	“Stomach Pain”	Abdominal, stomach, gastric, enteritis, diarrhea, vomiting, nausea, n, v, abdomen, abd, gastroenteritis, nvd
Respiratory	8-16%	“Difficulty Breathing”	Cough, sore throat, congestion, wheezing, asthma, croup, respiratory, strep, cold, bronchitis, pneumonia, asthma, sob, sinus, uri, dyspnea, dib
Constitutional	7-10%	“General weakness”	Fever, weakness, dizziness, dizzy, temp, temperature, flu, light-headed, chills, lethargy, fatigue, sweating, lethargic, febrile
Neurological	6%	“Confusion”	Migraine, headache, disoriented, syncope, fainted, paralysis, tingling, seizure, stroke, cva, convulsion, loc, mental, vertigo, meningitis, numb, confusion, dizzy, unconscious
Hemorrhagic	3%	“Nose bleed”	Epistaxis, bleeding, hemoptysis, hematuria, hematemesis, blood, bleed, hematochesia, hemorrhagic, hemorrhaging
Rash	1.5-2.5%	“Hives and itching”	Rash, hives, bumps, petechiae, purpura, ivy, dermatitis, pox, scabies, spots, shingles
Botulinic	<0.5%	“Slurred Speech”	Slurred, diplopia, dysphagia, photophobia, dysarthria, speaking, swallowing, blurred
Heat	<1%	“Heat Exhaustion”	Heat exposure, heat stroke, out in heat, too much sun, sun burn, dehydration
Overdose	<1%	“Overdose”	Overdose, OD, ingestion, drug abuse, Narcan, opiate
Default	40-44%	“Med Refill”	Everything else (default category) – if complaint contains none of the recognized keywords – e.g. “assault/neck”, “jumped from moving vehicle”
Other	12-19%	“Right foot injury”	Laceration, injury, mva, broken, sprain, bite, abrasion, wound, suture, concussion, pressure, fall, sugar, gsw, monoxide

“Other” and “Default” Categories

- The “Other” category is provided to contain commonly referenced complaints that are not associated with the rest of the syndromic categories
 - For example, “bleeding lacerations” could be Hemorrhagic or Other, but “lacerations” is weighted higher, so it is categorized as Other
- “Default” is the category assigned if the complaint contains none of the recognized keywords
 - Examples include “assault/neck and back pain” and “jumped from moving vehicle”

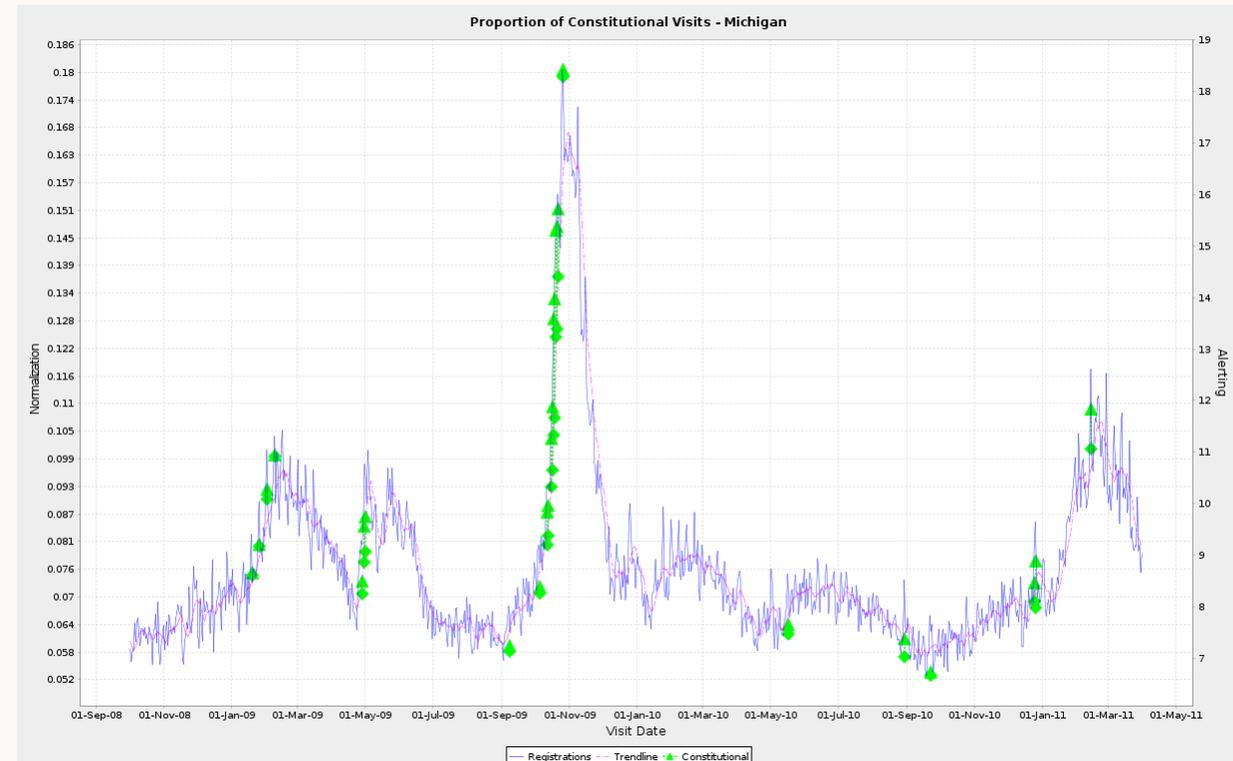
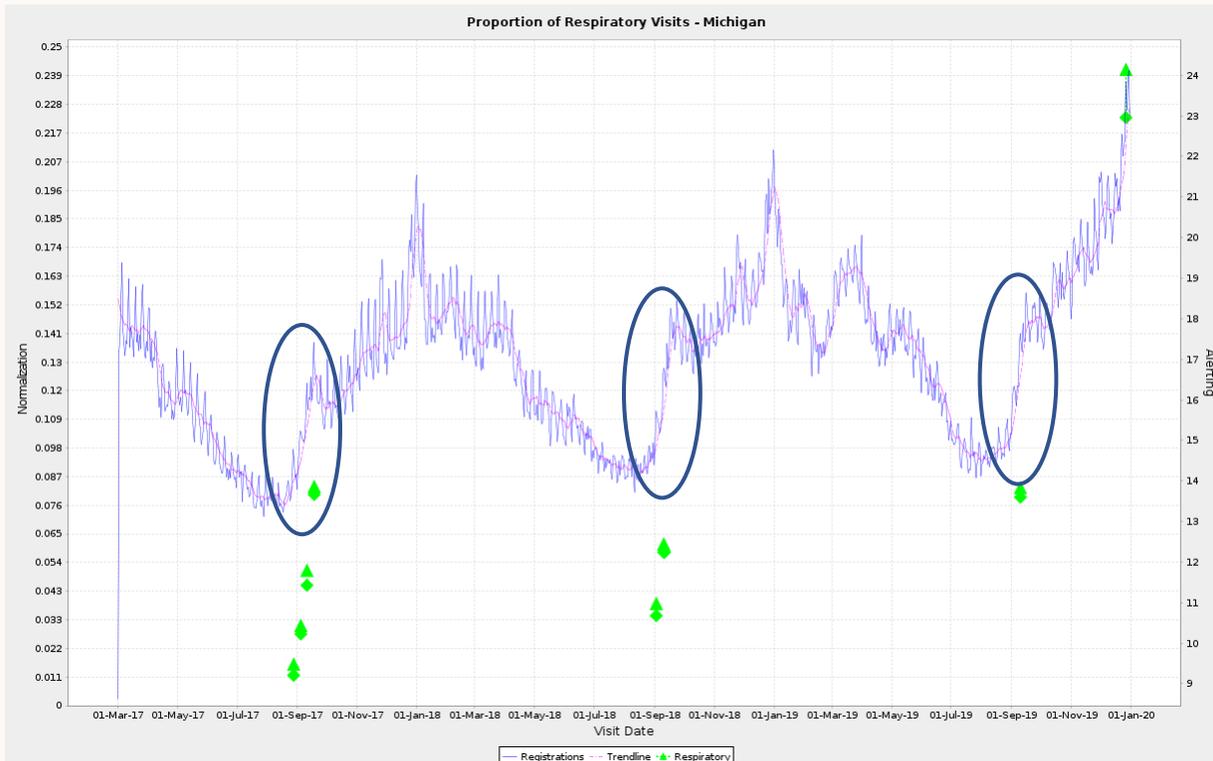
How are Data Presented?

- The data are available in near real-time
- Users are able to:
 - Visualize the data
 - Define different plotting parameters
 - Download data for further analysis
 - Create custom syndrome definitions using chief complaint and diagnosis data elements
- Local Health User
 - Can see healthcare registrations with an assigned zip from their jurisdiction, regardless of where the patient was seen
 - Can also see all patient visits to facilities located within their jurisdiction
- Healthcare User
 - Can see healthcare registrations made at a facility or system, regardless of what jurisdiction the patient's assigned zip is located

Syndromic Surveillance: Use cases - Seasonality

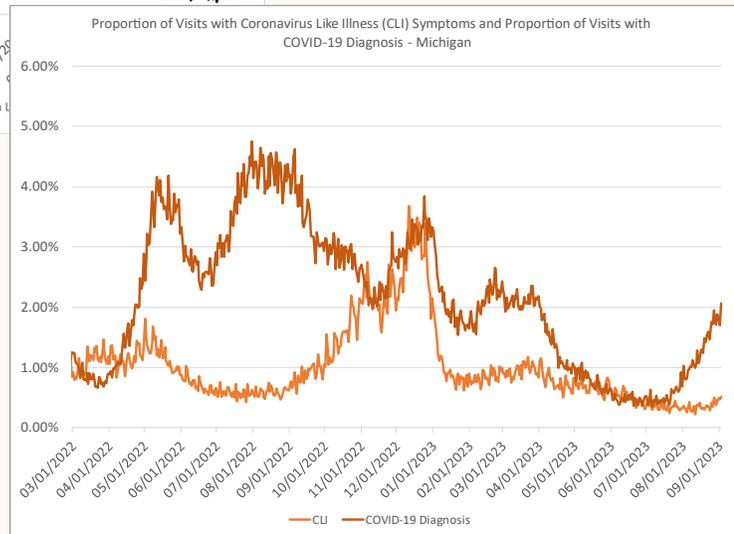
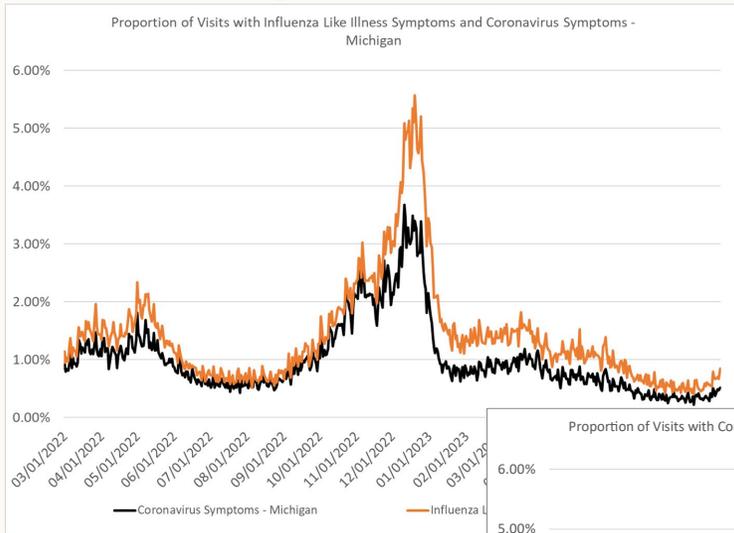
- Earlier detection of seasonal illnesses
 - Example: Respiratory visits
 - Sizable increases in visits that are categorized in the respiratory syndrome
 - State level alerts are triggered as season begins

- Ability to compare past seasons
 - Example: Constitutional visits during the 2009 Influenza Pandemic
 - Seasonal influenza season vs. pandemic influenza

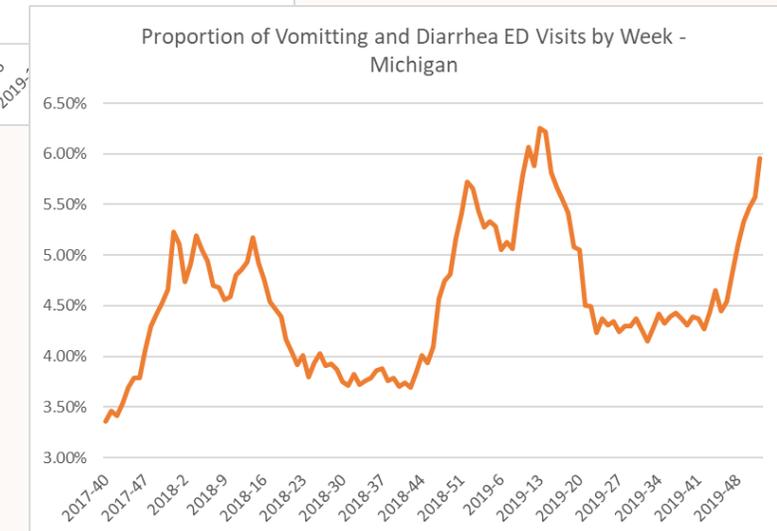
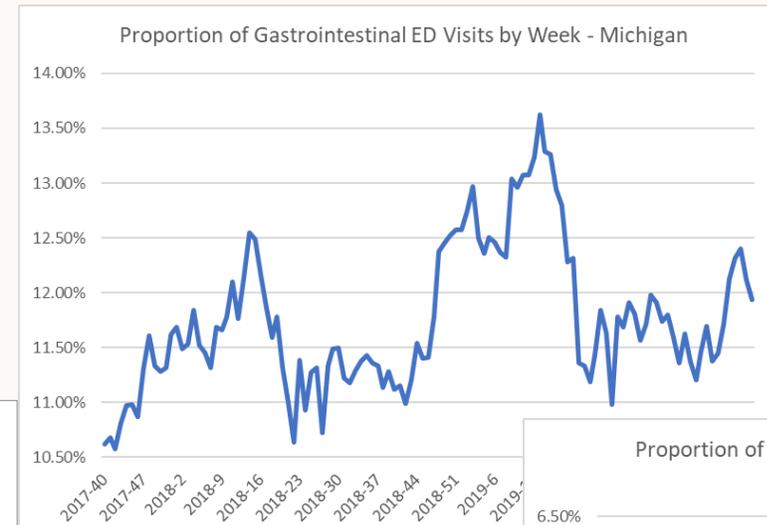


Use Cases – Syndrome Definitions

- COVID-19
 - COVID-like illness (CLI) alone may be similar to influenza-like illness (ILI)
 - Discharge diagnoses better indicate specific COVID-19 activity



- GI versus Vomiting and Diarrhea
 - Gastrointestinal (GI) syndrome visits experience seasonality
 - Monitoring vomiting and diarrhea chief complaints within the GI syndrome may give a better indication of norovirus activity as it eliminates background GI activity



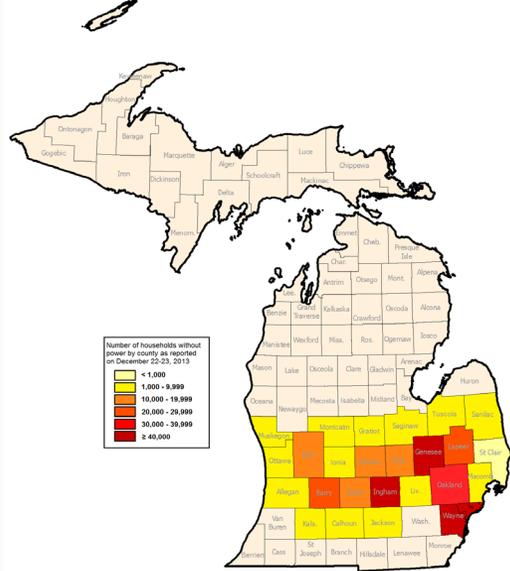
Note: Figures on this page were not created in the MSSS. Data was downloaded from the MSSS and imported into a different program for analysis.

Use Cases – Novel and Non-Reportable Conditions

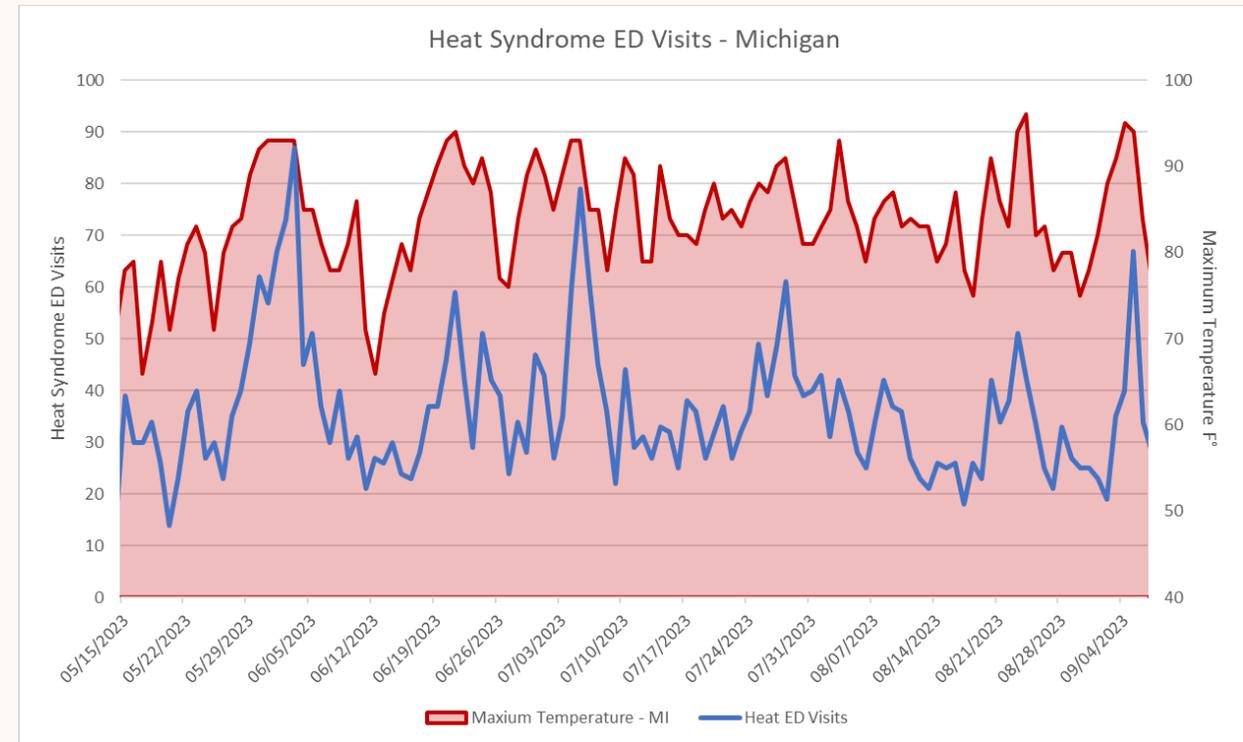
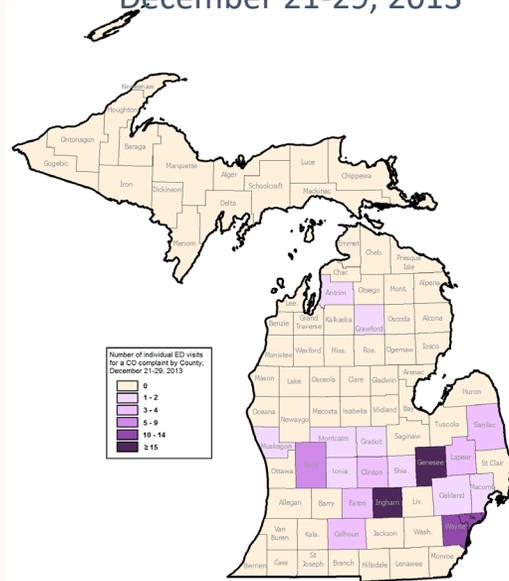
- Carbon Monoxide Exposure Surveillance
 - Following an ice storm counties with subsequent power outages were identified
 - CO poisoning/exposure visits were identified by county
 - Areas with high rates of power outages corresponded with CO exposure visits

- Heat-Related Illnesses
 - During extreme heat events and/or heat advisories the heat syndrome can be monitored for situational awareness
 - Increases in visits categorized in the heat syndrome correlate with temperature increases

Household power outages by county as reported on December 22-23, 2013



CO chief complaint ED visits by county of residence December 21-29, 2013



Note: Figures on this page were not created in the MSSS. Data was downloaded from the MSSS and imported into a different program for analysis.

Characteristics of Syndromic Data

- Syndromic data are standardized using submission guides at the state and national level <https://phinvads.cdc.gov/vads/ViewView.action?name=Syndromic%20Surveillance>
 - There are still differences between facilities in the content and format of data elements, and in their underlying practices, both known and unknown to us
 - Making comparisons between small geographic areas should be avoided, as differences caused by facility practices could appear to be differences in outcomes of interest
- Over time, participating facilities have transitioned from sending limited data elements to an expanded data set that includes diagnosis and other data elements
 - Be especially cautious when analyzing data over a long time period, due to changes in the data set over time
 - Data quality and/or volume may vary over time

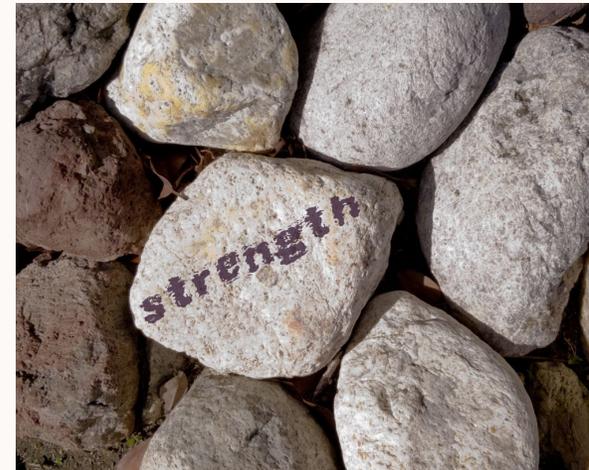
Best Practices for Syndromic Data



- Look at overall visit data totals
 - Be aware of facilities in your jurisdiction that send data in batches
 - Be aware of facility feed interruptions where data may be delayed or missing
- Be cautious of quantifying syndromic data
 - These are “visits” not “cases”
 - Visits represent only those who seek care at EDs and UCs
- When using filters that include a discharge diagnosis criteria data may not be complete for the most recent days
- Normalize data to reduce the effects of expected variation in the data
- Intended for use in public health practice
 - Use in research requires review and approval by MDHHS
 - Best used for situational awareness and for real-time descriptive trends rather than causal inference
 - One tool and best used in conjunction with other surveillance systems during an event
- Not intended to identify individuals or for individual case finding
- When planning a complex analysis or considering a new use for syndromic data, reach out to MDHHS for support

Strengths of Syndromic Data

- Data available in the system are in real- or near real-time
 - Allows earlier detection of unusual patterns of illness/exposure
 - Provides latest data for use by public health and response partners for situational awareness
 - Aids public health messaging in quickly changing scenarios
- Discharge diagnoses are available for most visits
- Maintains a picture of “normal”
 - Early indicators of “beginning of season” for seasonal illnesses
 - By knowing what is going on routinely, can better characterize abnormal when it happens
 - e.g., Is this flu season different than last year? The year before? Five years ago?
 - Can give assurance that an event is not occurring
- Excellent participation among Michigan emergency departments
 - 98% of EDs submitting data, which accounts for 99.9% of all ED visits throughout the state
- Growing participation among urgent care facilities



Limitations of Syndromic Data



- Lack of specificity
 - Chief complaints are often brief statements and may miss important keywords of interest
 - Patient self-reporting symptoms
 - Drop-down lists of chief complaints increasingly used by facilities which offers a “best fit” versus the entire patient report
 - Discharge diagnosis may differ from the chief complaint
- Data may not be representative of a whole population of interest
 - For example, by only collecting ED and UC data, information on patients seeking care by private physicians would be missed
 - Certain groups may be over-represented, such as those with limited access to primary healthcare and groups at higher risk of severe illness
 - Participation by facilities is voluntary

Limitations, continued

- Interpretations of data over long periods should be made with caution as MSSS is a voluntary system with facilities onboarding and experiencing occasional data feed interruptions
- May not detect smaller events, especially if baseline activity is high
 - For example, when baseline for GI illness is high a localized outbreak of norovirus may not result in a detectable increase in visits
- There is no universal health identifier and patients may move between institutions and therefore be double-counted
- Interpretations of analyses on new conditions or public health events without historic analytic context should be made with caution
 - Consultation with subject matter experts is encouraged

Let's See How You Are Doing So Far...



Question

What does CoCo stand for?

- Condition Correlation
- Complaint Coder
- Concept Collection

Answer

What does CoCo stand for?

- Condition Correlation
- Complaint Coder
- Concept Collection

Introduction Summary

- The Michigan Syndromic Surveillance System rapidly gathers and processes data for real-time presentation and analysis
- You should now have a basic understanding of how the MSSS System works

SYSTEM NAVIGATION

Michigan Syndromic Surveillance System (MSSS)

The Michigan Syndromic Surveillance System (MSSS) is a web-based application. In order to access it, you must:

1. Have a valid MILogin User ID and Password
2. Request permission for access to the Michigan Syndromic Surveillance System (MSSS), and
3. Receive approval from a system administrator

The MILogin Portal for Non-Michigan Employees (Third Party) provides access to MDHHS “web-based” applications, including the MSSS, and is maintained the State of Michigan Department Technology, Management, & Budget (DTMB).

MILogin Portal

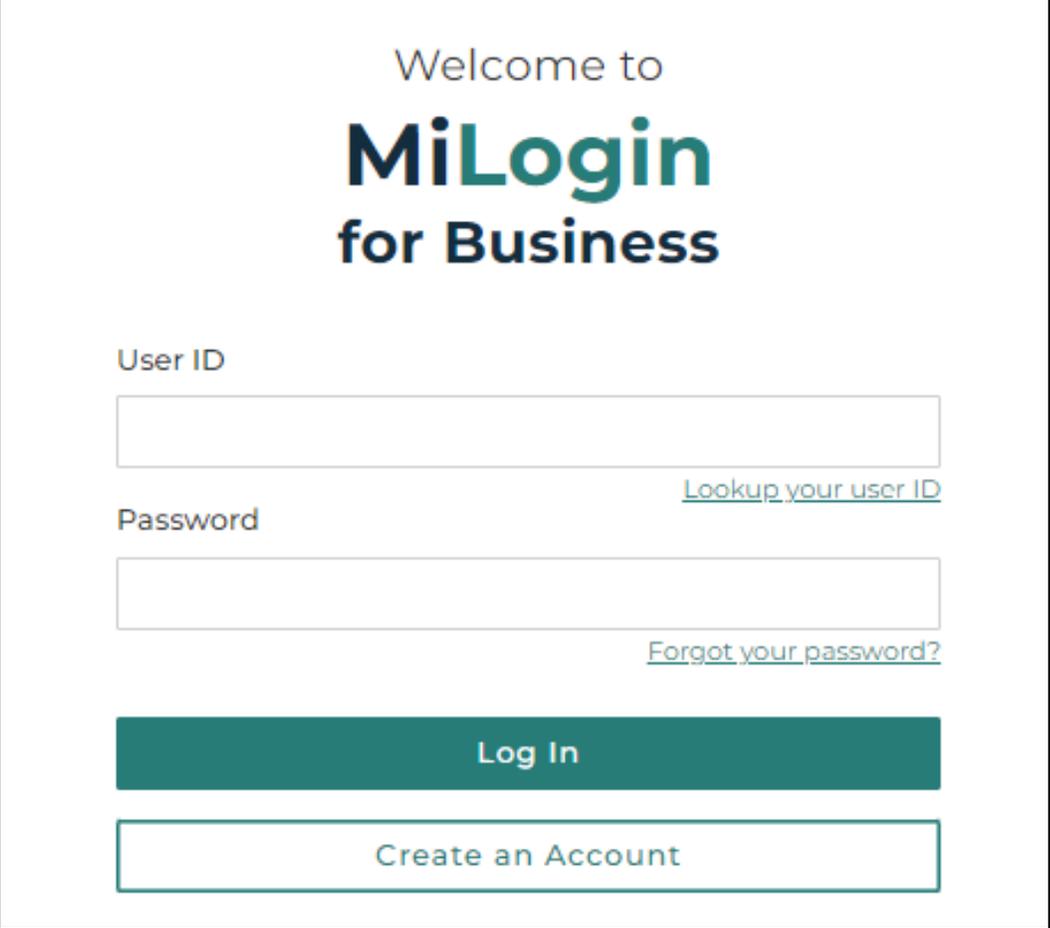
Please note that the preferred browser for optimum performance of the MSSS is Google Chrome

Using your internet browser, navigate to the following website:

- MILogin for **Non-Michigan.gov** emails - <https://milogintp.michigan.gov/>
- MILogin for **Michigan.gov** emails – <https://miloginworker.michigan.gov/>

All approved MSSS users will access the system using the MILogin portal. Fill in your username and password, then click on “LOGIN”.

If you do not have a valid MILogin click “SIGN UP” and follow the instructions.



Welcome to
MILogin
for Business

User ID

[Lookup your user ID](#)

Password

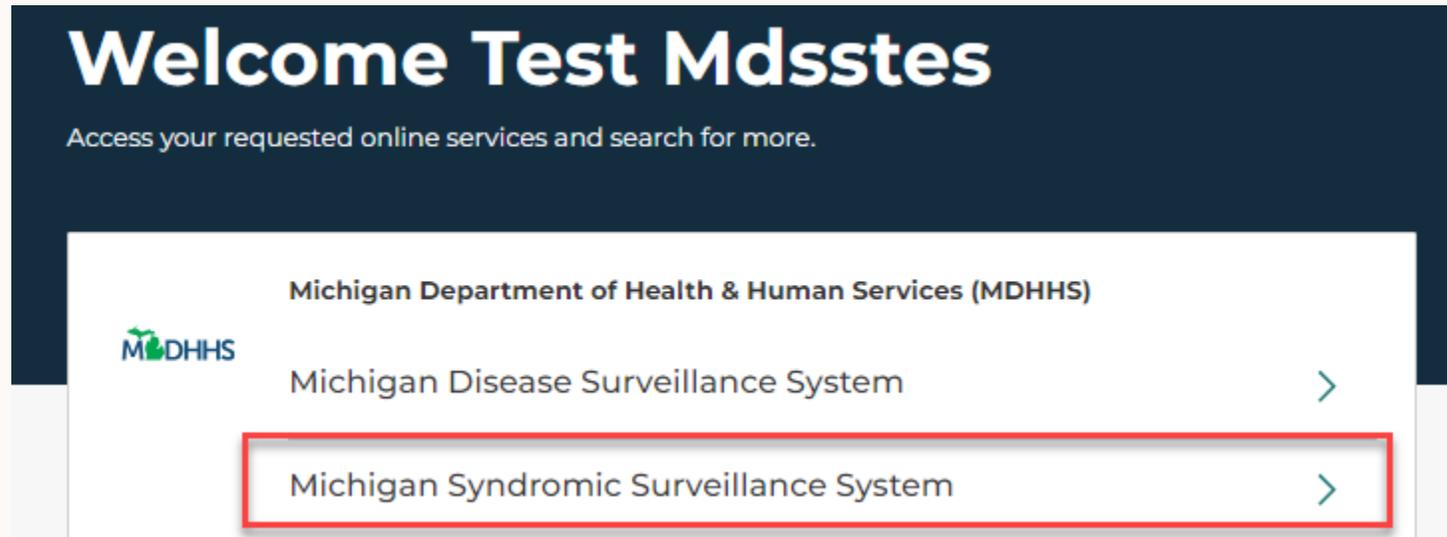
[Forgot your password?](#)

Log In

[Create an Account](#)

MILogin Portal

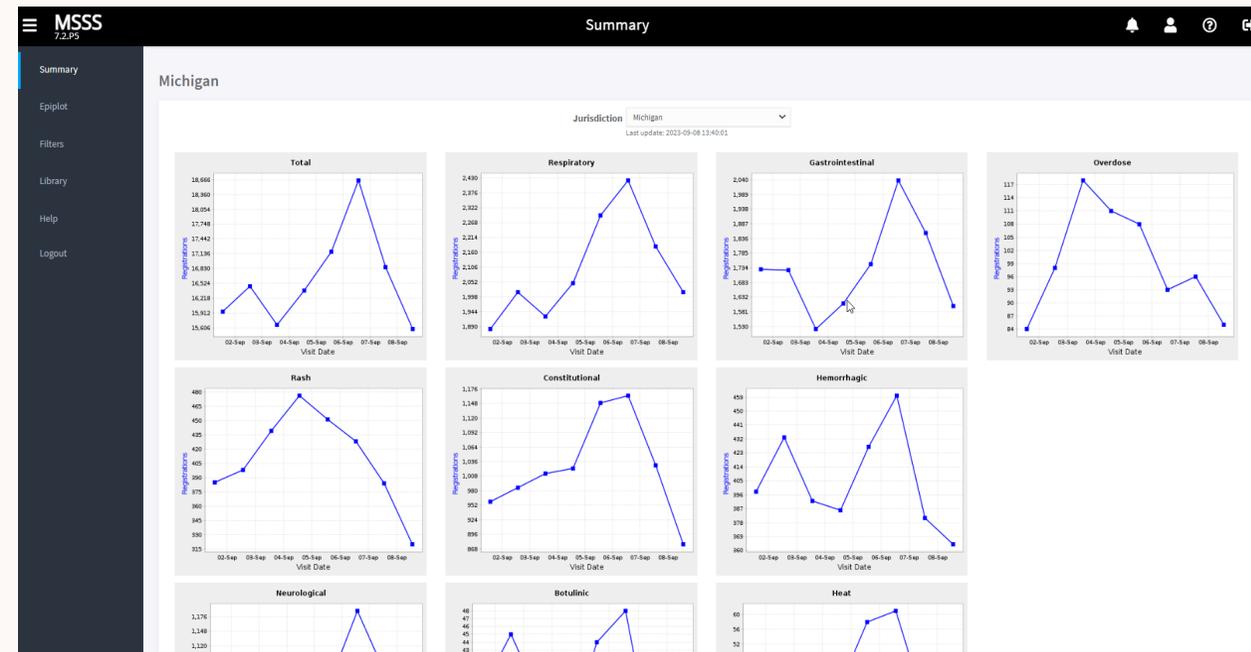
After logging in, the dashboard page for the MILogin Portal will show the Michigan Syndromic Surveillance System as part of a list of MDHHS Applications available to the user.



Click on the link to access the system. The application will open in a new page and the MILogin portal page will remain open.

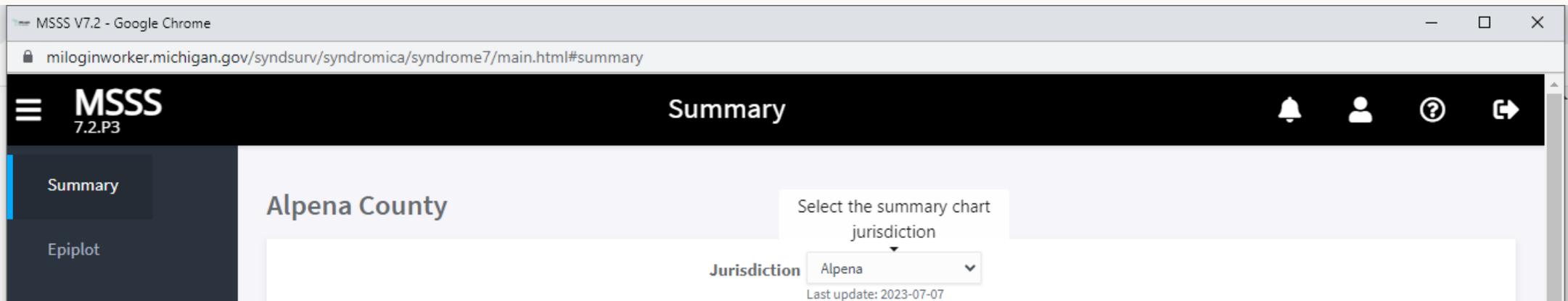
Summary Screen

- Opening the MSSS brings the user to the Summary page which has a chart for each syndrome plus a chart for total registrations.
- By default, charts are populated with data from ALL participating facilities.
 - The y-axis shows the number of registrations
 - The x-axis shows the date
 - IMPORTANT: Note that the y-axis is auto-scaled for each chart
- Each chart shows data from the past week's worth of activity.



Summary Screen – Changing Views

- By default, charts on the summary page are populated with data from ALL participating facilities.
- Users can filter the data to a local county or to statewide normalized data.
- To filter the data, use the Jurisdiction drop-down menu to select desired local county.



Epiplot

The screenshot displays the Epiplot interface within the MSSS 7.2.P3 application. The top navigation bar includes the MSSS logo, version number, the application name 'Epiplot', and utility icons for notifications, user profile, help, and sharing. A dark sidebar on the left contains navigation links: Summary, Epiplot (highlighted with a blue arrow), Filters, Help, and Logout. The main content area is titled 'Create resources or load from library' and features a form with several sections: 'Resource Type' (set to 'Chart'), 'Title (optional)' (with an 'Optional Title' input), 'Resource ID' (with a 'Resource ID' input), and a set of action buttons (Create, Reset, Update, Revise, Refresh, Cancel). Below these are filter and selection options: 'Period' (Last Week, Daily Aggrega), 'Normalize' (None), 'Filter' (No Filter, Gender: All, Male, Female, Other; Age (Calculated): All Ages), 'Syndrome' (All Healthcare Vis, Botulinic, Constitutional, Gastrointestinal, Heat, Hemorrhagic, Neurological), 'Facility Types' (All Facility Types, Emergency Care, Urgent Care), 'Jurisdiction' (Michigan, Entire City, Entire County, Alcona County, Alger County, Allegan Count, Alpena County, Antrim County, Arenac County, Baraga County, Barry County), and 'Facility' (All Facilities).

Using the left side navigation bar, click on Epiplot to access the Epiplot functionality. The Epiplot screen allows the user to filter, plot, and download data. Multiple charts can be created and compared at the same time.

Plotting Data

The screenshot displays the Epiplot interface with the following default selections:

- Resource Type:** Chart
- Title (optional):** Optional Title
- Buttons:** Create, Reset, Update, Revise, Refresh, Cancel
- Resource ID:** Resource ID
- Selection Tab:** Active
- Period:** Last Week
- Daily Aggrega:** Daily Aggrega
- Normalize:** None
- Filter:** No Filter
- Gender:** All
- Age (Calculated):** All Ages
- Syndrome:** All Healthcare Vis
- Facility Types:** All Facility Types
- Jurisdiction:** Michigan
- Facility:** All Facilities

The Epiplot screen is not loaded with any charts for a new user, but some default selections have been made.

Plotting Data Step 1

1. Select Resource Type from drop down

- Chart: A graph will be displayed as the end product
- Map: A map will be displayed as the end product
- Download: A chart will be created with ability to download a compressed file containing individual visits, point/registration data, and copies of the charts
- Title: A title may be added to the resource, but is not required

The screenshot shows a web application interface for plotting data. The interface is divided into several sections:

- Resource Type:** A dropdown menu is set to "Chart". A red box highlights this section with a red "1" next to it.
- Title (optional):** A text input field for an optional title.
- Buttons:** "Create", "Update", "Refresh", "Reset", "Revise", and "Cancel" buttons are visible.
- Resource ID:** A text input field for the resource ID.
- Period:** A dropdown menu is set to "Last Week". A red box highlights this section with a red "2" next to it.
- Filter:** A dropdown menu is set to "No Filter".
- Gender:** A dropdown menu is set to "All".
- Age (Calculated):** A dropdown menu is set to "All Ages".
- Syndrome:** A dropdown menu is set to "All Healthcare Visits".
- Facility Types:** A dropdown menu is set to "All Facility Types".
- Jurisdiction:** A dropdown menu is set to "Michigan".
- Facility:** A dropdown menu is set to "All Facilities".

Plotting Data – Step 2

2. Select Period and Normalize options

- Time Interval: Last week/month/year or custom date interval
- Type of Data: Daily Aggregation, 24-Hour rolling Aggregation, Weekly Aggregation
- Normalize: None (raw count data/registrations), Classic, All Visits, Custom (*more on next slides*)

The screenshot shows a web-based data plotting interface with several tabs: Selection, Presentation, Advanced, Sharing, and User Notes. The 'Selection' tab is active. On the left, there is a 'Resource Type' section with a dropdown menu set to 'Chart' (marked with a red '1'), a 'Title (optional)' field, and buttons for 'Create', 'Update', 'Refresh', 'Reset', 'Revise', and 'Cancel'. Below this is a 'Resource ID' field. The main interface is divided into several columns: 'Period' (marked with a red '2'), 'Filter', 'Gender', 'Age (Calculated)', 'Syndrome', 'Facility Types', 'Jurisdiction', and 'Facility'. The 'Period' section has dropdowns for 'Last Week', 'Daily Aggregation', and 'Normalize' (set to 'None'). The 'Filter' section has a 'No Filter' dropdown. The 'Gender' section has a dropdown set to 'All'. The 'Age (Calculated)' section has a dropdown set to 'All Ages'. The 'Syndrome' section has a list of options with 'All Healthcare Visits' selected. The 'Facility Types' section has a list of options with 'All Facility Types' selected. The 'Jurisdiction' section has a list of options with 'Michigan' selected. The 'Facility' section has a dropdown set to 'All Facilities'.

Plotting Data – Notes on Aggregation Level

- Allows the user to select the aggregation level of data
- Common aggregation levels:
 - Daily Aggregation – Aggregates the data on a daily basis
 - This aggregates by admission date, without respect to time. It is based on the selected end date moving backward.
 - Weekly Aggregation - Aggregates the data on a weekly basis
 - This creates a rolling seven-day aggregation, without respect to time. It is based on the selected end date, moving backward.
 - Rolling 24-Hour Aggregation - Aggregates the data on a rolling 24-hour window
 - This is based on the specified interval. Intervals have a granularity of thirty minutes. The default interval is the current time when the graph is displayed or refreshed. Each point on the graph represents the total number of admissions received (with respect to all other graphing parameters) in the 24-hour period.

Plotting Data – Notes on Normalizing

- **None** is used to get the number or count of visits
- **Classic** is available when you select one or more—but not all—syndromes
 - Numerator: Exactly as defined by the Selection tab settings
 - Denominator: Eliminates only the syndrome and/or filter setting(s) so the denominator will be all visits for all syndromes within the selected jurisdiction, facility type, and facility selections
- **All Visits** lets you compare your selections against all visits and defines the two sets as:
 - Numerator: Exactly as defined by the Selection tab settings
 - Denominator: Eliminates all the Selection tab settings except period and aggregation, so the values will include every visit statewide
- **Custom** lets you define the settings to be included in the creation of the denominator
 - Numerator: Exactly as defined by the Selection tab settings
 - Denominator: Gives check box options to include selections in the creation of the denominator
 - Options include: Filter, Gender, Age, Syndrome, Facility Type, Jurisdictions, and Facilities

Plotting Data Steps 3-4

3. Select Filter: To apply a filter, select a saved filter or create a new one

4. Select Gender and Age:

- Gender: All, Male, Female, Other or Unknown
- Age: Youth (0-17 years) or Adult (18-200 years) or All Ages (default) or Custom (able to enter minimum and maximum age)

The screenshot displays a software interface for plotting data. On the left, a sidebar contains a 'Resource Type' dropdown set to 'Chart', a 'Title (optional)' field, and several action buttons: 'Create', 'Update', 'Refresh', 'Reset', 'Revise', and 'Cancel'. A tooltip labeled 'Plotting Data' is positioned over the 'Create' button. The main area features a horizontal menu with tabs for 'Selection', 'Presentation', 'Advanced', 'Sharing', and 'User Notes'. Below this, several panels are visible: 'Period' (Last Week, Daily Aggregation), 'Normalize' (None), 'Filter' (No Filter, highlighted with a red box and a red '3'), 'Gender' (All, Male, Female, Other, highlighted with a red box and a red '4'), 'Age (Calculated)' (All Ages), 'Syndrome' (All Healthcare Visits, Botulinic, Constitutional, Gastrointestinal, Heat, Hemorrhagic, Neurological), 'Facility Types' (All Facility Types, Emergency Care, Urgent Care), 'Jurisdiction' (Michigan, Entire City, Entire County, Alcona County, Alger County, Allegan County, Alpena County, Antrim County, Arenac County, Baraga County, Barry County), and 'Facility' (All Facilities).

Plotting Data Steps 5-6

5. Select Syndrome Category:

- Syndrome Categories: All Healthcare Visits, Botulinic, Constitutional, Gastrointestinal, Heat, Hemorrhagic, Neurological, Overdose, Rash, Respiratory, Default, and Other
- To select multiple syndromes, hold the Ctrl while selecting categories with the mouse

6. Select Facility Types

- All facility types includes both Emergency Care and Urgent Care visits

The screenshot displays a software interface for configuring data plots. On the left, a 'Resource Type' panel shows a dropdown set to 'Chart', a 'Title (optional)' field, and buttons for 'Create', 'Update', 'Refresh', 'Reset', 'Revise', and 'Cancel'. A tooltip labeled 'Plotting Data' is visible over the 'Create' button. The main interface has tabs for 'Selection', 'Presentation', 'Advanced', 'Sharing', and 'User Notes'. The 'Selection' tab is active and contains several filter panels: 'Period' (Last Week, Daily Aggregation), 'Filter' (No Filter), 'Gender' (All, Male, Female, Other), 'Age (Calculated)' (All Ages), 'Normalize' (None), 'Syndrome' (5), 'Jurisdiction' (Michigan, Entire City, Entire County, and various counties), and 'Facility' (All Facilities). The 'Syndrome' and 'Facility Types' (6) panels are highlighted with red boxes. The 'Syndrome' list includes: All Healthcare Visits, Botulinic, Constitutional, Gastrointestinal, Heat, Hemorrhagic, and Neurological. The 'Facility Types' list includes: All Facility Types, Emergency Care, and Urgent Care.

Plotting Data Step 7

7. Select Jurisdiction: Based on level of access, users may be able to select Michigan, a specific jurisdiction, or region

- Michigan – All Michigan Counties
- City – City of Detroit
- County – Individual County
- Region – Public Health Preparedness Regions
- Other Jurisdictions – this includes district health jurisdictions
- To select multiple jurisdictions, hold the Ctrl while selecting categories with the mouse

The screenshot displays a software interface for plotting data. On the left, a 'Resource Type' panel shows 'Chart' selected. The main interface has tabs for 'Selection', 'Presentation', 'Advanced', 'Sharing', and 'User Notes'. The 'Selection' tab is active, showing several filter panels: 'Period' (Last Week), 'Filter' (No Filter), 'Gender' (All), 'Age (Calculated)' (All Ages), 'Syndrome' (All Healthcare Visits), and 'Facility Types' (All Facility Types). The 'Jurisdiction' panel is highlighted with a red box and shows a red '7' next to the title. It contains a list of options: Michigan, Entire City, Entire County, and a list of Michigan counties (Alcona, Alger, Allegan, Alpena, Antrim, Arenac, Baraga, Barry). The 'Facility' panel shows 'All Facilities' selected.

Plotting Data Step 8

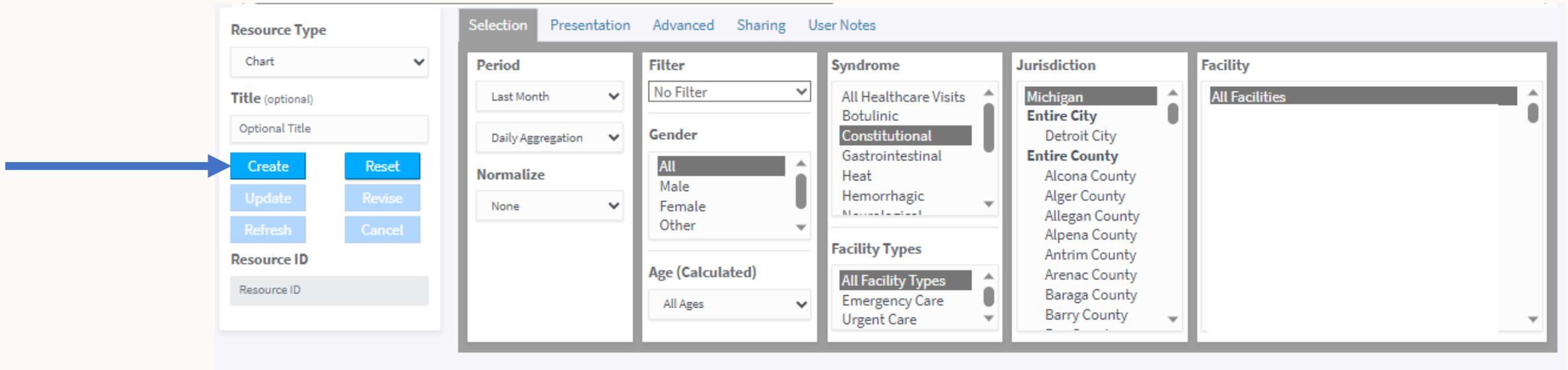
8. Select Facility:

- All Facilities (default)
- To select multiple facilities, hold the Ctrl while selecting facility names with the mouse
- Note: When a jurisdiction is selected the facilities within that jurisdiction move to the top of the Facility list

The screenshot displays a web-based interface for data visualization. On the left, there is a 'Resource Type' panel with a dropdown menu set to 'Chart', a 'Title (optional)' field, and several action buttons: 'Create', 'Update', 'Refresh', 'Reset', 'Revise', and 'Cancel'. A tooltip labeled 'Plotting Data' is visible over the 'Create' button. The main interface is divided into several filter panels: 'Period' (Last Week, Daily Aggregation, Normalize: None), 'Filter' (No Filter, Gender: All, Female, Other, Age (Calculated): All Ages), 'Syndrome' (All Healthcare Visits, Botulinic, Constitutional, Gastrointestinal, Heat, Hemorrhagic, Musculoskeletal), 'Jurisdiction' (Michigan, Entire City, Entire County, Alcona County, Alger County, Allegan County, Alpena County, Antrim County, Arenac County, Baraga County, Barry County), and 'Facility' (All Facilities). The 'Facility' panel is highlighted with a red border and shows 'All Facilities' selected, with a red '8' next to the 'Facility' label. The top navigation bar includes tabs for 'Selection', 'Presentation', 'Advanced', 'Sharing', and 'User Notes'.

Plotting Data - Create

Once all options have been selected, click on “create” to submit the selections to generate the resource.



The screenshot shows a web-based interface for creating a data plot. On the left, a sidebar contains the following elements:

- Resource Type:** A dropdown menu set to "Chart".
- Title (optional):** A text input field with the placeholder "Optional Title".
- Buttons:** A vertical stack of buttons: "Create" (highlighted with a blue arrow), "Update", "Refresh", "Reset", "Revise", and "Cancel".
- Resource ID:** A text input field with the placeholder "Resource ID".

The main content area is titled "Selection" and contains several filter panels:

- Period:** A dropdown menu set to "Last Month".
- Daily Aggregation:** A dropdown menu set to "Daily Aggregation".
- Normalize:** A dropdown menu set to "None".
- Filter:** A dropdown menu set to "No Filter".
- Gender:** A list with "All" selected, and other options "Male", "Female", and "Other".
- Age (Calculated):** A dropdown menu set to "All Ages".
- Syndrome:** A list with "All Healthcare Visits" selected, and other options "Botulinic", "Constitutional", "Gastrointestinal", "Heat", and "Hemorrhagic".
- Facility Types:** A list with "All Facility Types" selected, and other options "Emergency Care" and "Urgent Care".
- Jurisdiction:** A list with "Michigan" selected, and other options "Entire City", "Detroit City", "Entire County", "Alcona County", "Alger County", "Allegan County", "Alpena County", "Antrim County", "Arenac County", "Baraga County", and "Barry County".
- Facility:** A list with "All Facilities" selected.

Plotting Data – Additional Tabs

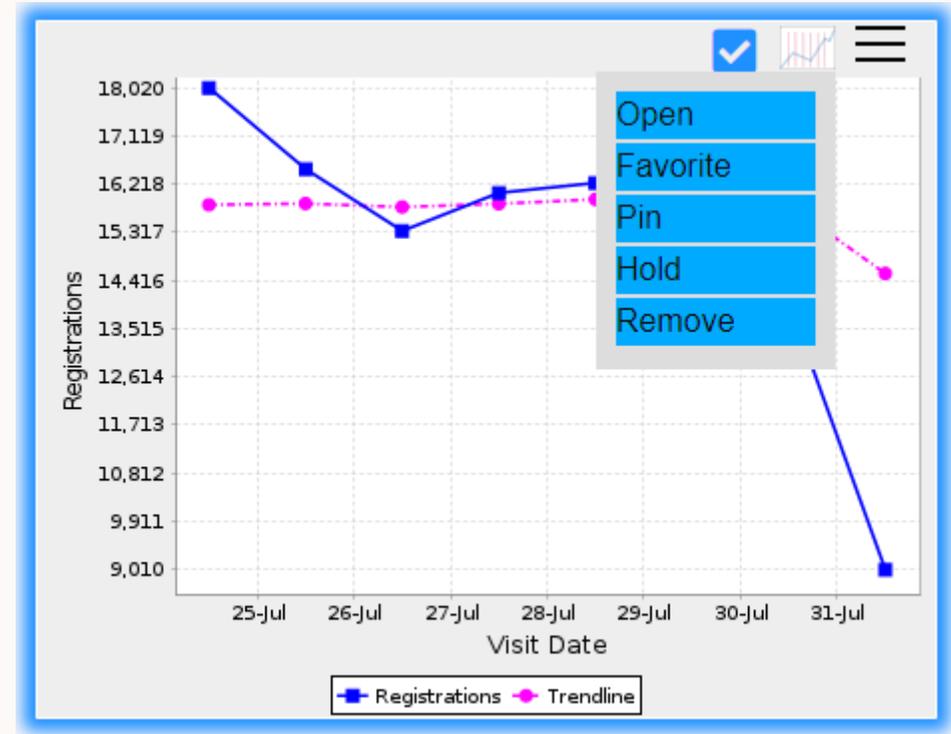
- Presentation
 - Customizes how the data results are presented in your completed resource.
 - Ability to add a series to your chart and download resources, define mapping displays, and customize your axis and scaling for charts.
 - Selections in this tab are not required
- Advanced
 - Provides additional settings that may not be needed for most resource development, but offer different views of data and ways to possibly improve your workflow
- Sharing
 - Resources can be shared so that other users can see and use them in MSSS
 - Rights within shared resources can be from limited control (view only) to more powerful control including the ability to remove them

Plotting Data – Additional Tabs

- Download
 - This tab appears when Download is selected as Resource Type at the Selection tab
 - You can choose which files and data elements are included in the download
 - A basic set of data elements are selected by default and others can be selected as needed
 - Note that some extended data elements can increase processing time significantly if added
- User Notes
 - Provides an area where comments or notes about a resource can be added
 - No saving is required at this tab so text entered will be saved when Create is clicked

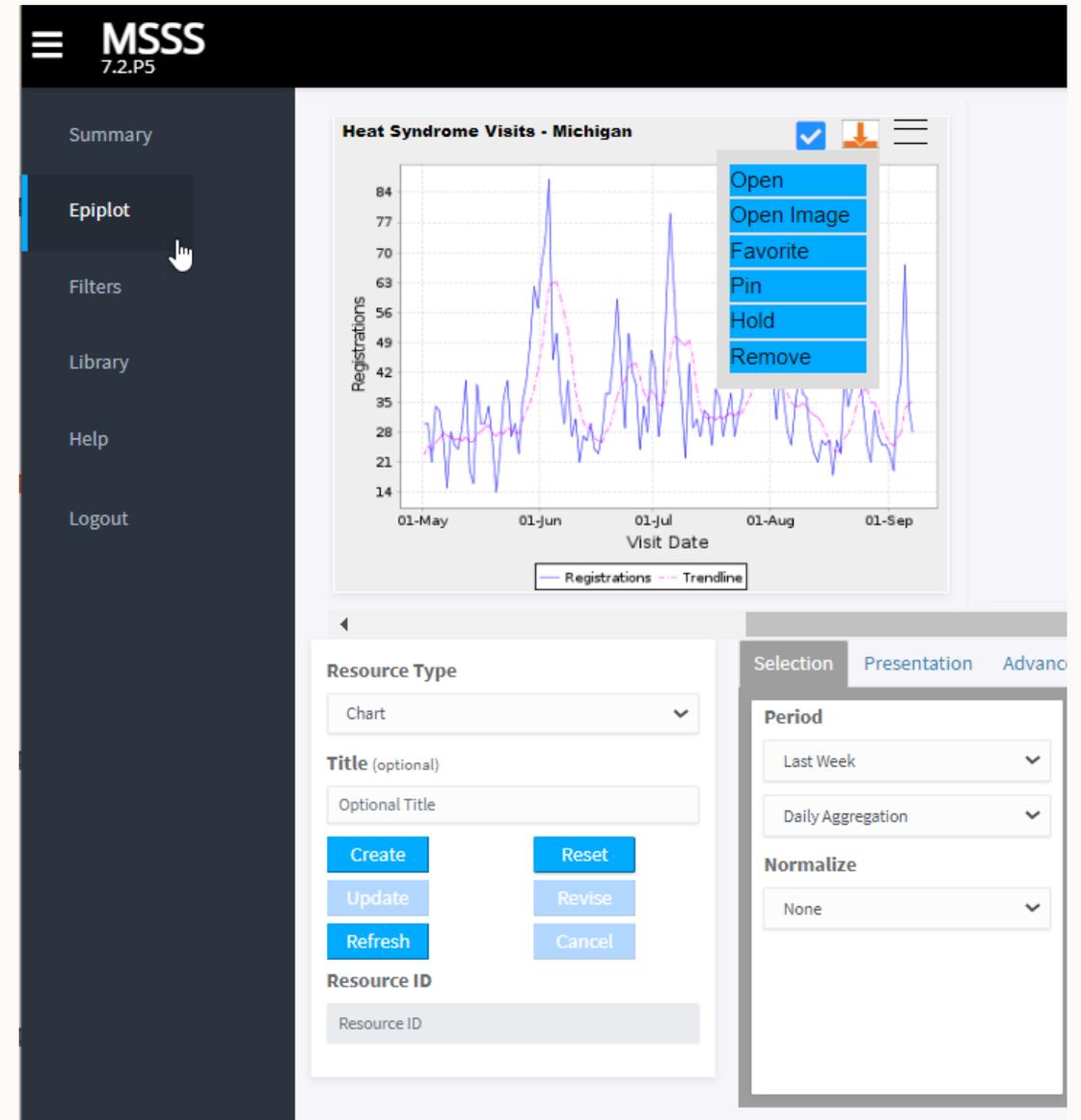
Accessing Resources

- There are three bars (“Hamburger Menu”) and an icon that corresponds to the resource type in the upper right corner of the created resource
 - Chart  
 - Download  
 - Map  
- Clicking the three bars will open the access menu for the resource
- Clicking on Open in the menu will do the following
 - Chart: Open the chart in a new browser page
 - Map: Open the map in a new browser page
 - Download: Downloads a compressed folder with the files that were selected to be included



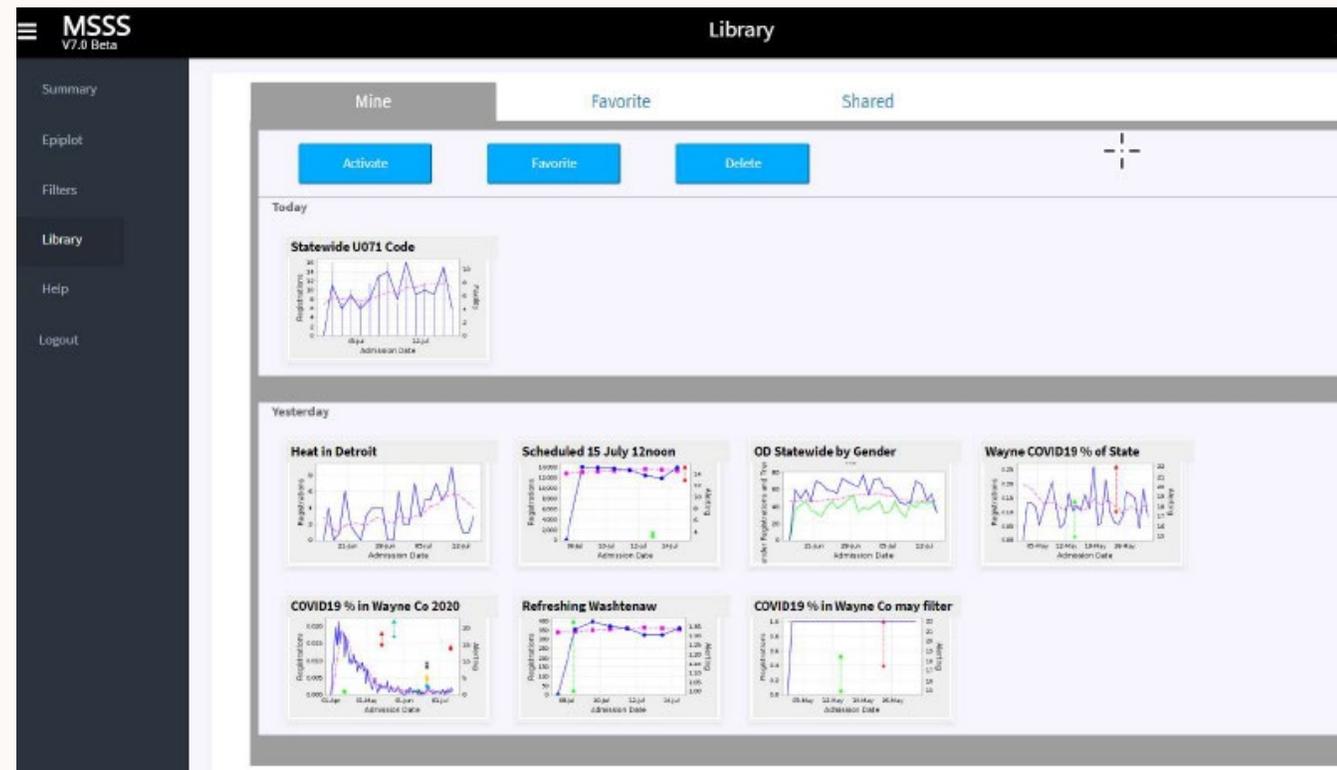
Epiplot Display Panel

- As the Epiplot Display Panel fills up, users may want to remove resources that are not needed
 - Select “Remove” from the resource menu icon
- MSSS will also automatically remove old resources from the display panel
- Users can pin resources to the display by selecting “Pin” from the resource menu
- Pinned resources will remain on the display until manually removed
- Clicking on resources in the Epiplot Display Panel will allow users to review, update, or refresh the resource



Library and Activating Resources

- Resources, including those recently removed by the user or automatically removed by the MSSS, can be found in the library
- Resources can be activated to put them back in the Epiplot display
- There are three tabs on the Library page
 - **Mine:** Resources created by the user
 - **Favorite:**
 - Resources users mark as favorites using the resource menu
 - Resources marked as favorites are indicated by a yellow star icon at the top of each resource
 - Unlike non-favorites, favorited resources have no expiration date and thus do not get purged automatically from MSSS
 - **Shared:** Resources that were created by others and shared with the user



Sharing a Plot



- After creating a chart/map/download, select the Sharing tab
- Components to select:
 - Share With – Group, Everyone or Users
 - Rights – View, Refresh, Update or Remove
 - Users – If selected Group
 - Facility Users
 - Local Health Department Users
 - MDHHS
 - Administrators
 - Users – If selected User
 - Can Select Specific User(s)

Filtering in the MSSS

- Filtering allows the user to limit the registrations included in the resource by specific words, phrases, and/or discharge diagnosis codes
- By default, the Epiplot screen does not have any filters applied
- The filter drop-down menu supplies personal filters which were previously saved by the user as well as shared filters that have been previously saved by other users and shared

Steps to Create a Filter

1. To create a filter, navigate to the Filters page from the left menu
2. Enter a unique filter name and choose whether the filter will be “shared” and available to other users
3. Filter criteria are defined in rows that can then be used in formulas
4. Click the green + button to add criteria rows
5. Each row is assigned a letter by which the row is known (for use in the formula box)
6. Click on Validate Button to make sure the filter selections work correctly

The screenshot displays the MSSS 7.2.P4 interface. On the left, a dark sidebar menu contains 'Summary', 'Epiplot', 'Filters' (highlighted), 'Library', 'Help', and 'Logout'. A blue arrow points from the first step of the list to the 'Filters' menu item. The main content area is titled 'Filters' and is divided into two panels: 'Lookup' and 'Definition'.

The 'Lookup' panel features a search bar, a 'Load' button, and a 'Delete' button. Below the search bar is a list of criteria with a dropdown menu set to 'Personal'. The list includes: Asthma Chief Complaint, Bath Salts, Carbon Monoxide, Carbon Monoxide 2, CDC Coronavirus-DD v1, CLI, Cold Injury, Cold Injury 2, Cold Injury 3, COVID-Like Illness, and Drowning. Each item has an eye icon to its right. At the bottom of the 'Lookup' panel are 'Import' and 'Export' buttons.

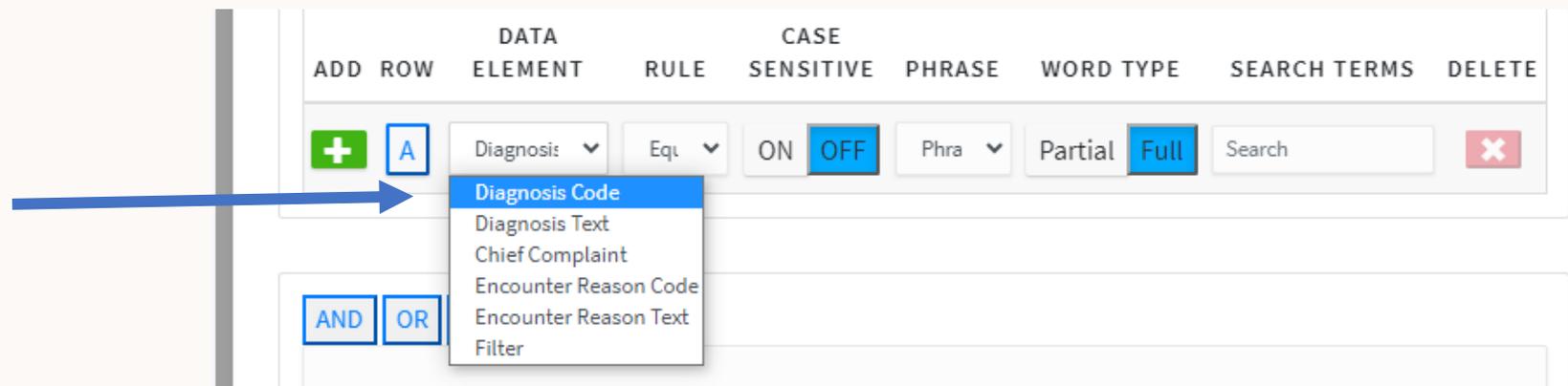
The 'Definition' panel is titled 'Definition' and 'Validation'. It includes a 'Filter Name' field, a 'Group' dropdown set to 'Shared', and 'Validate' and 'Create' buttons. Below this is a table for defining filter criteria:

ADD	ROW	DATA ELEMENT	RULE	CASE SENSITIVE	PHRASE	WORD TYPE			
<input type="checkbox"/>	A	Diagnosis Code	Equals	ON	OFF	Phrase	Partial	Full	Search

Below the table is a formula box containing 'AND OR NOT () A A'. At the bottom of the 'Definition' panel is the 'Validation Settings' section, which includes fields for 'Start Date' (7/18/2023), 'Days' (14), and 'Max Records' (10).

Filtering – Data Elements

- Filters can query the following syndromic data elements
 - Chief Complaint
 - Diagnosis Code
 - Diagnosis Text
 - Encounter Reason Code
 - Encounter Reason Text
- A previously saved filter can be used as criteria for the new filter query



Filtering – Defining a Criteria Row

- Available rules or operators include
 - Equals
 - Contains
 - Matches
 - Does Not Equal
 - Does Not Contain
- The phrase option has three values which include *Phrase*, *Any Of*, or *All Of*
- Additional criteria include *on* or *off* for Case Sensitive and *partial* or *full* for Word Type
- Strings, words, and/or phrases can be entered in the Search Terms for each criteria row

A screenshot of a web-based filtering interface. The interface has a header with columns: ADD ROW, DATA ELEMENT, RULE, CASE SENSITIVE, PHRASE, WORD TYPE, and SEARCH TERMS. Below the header, there is a row of controls: a green plus sign in a box, a blue box with 'A', a dropdown menu with 'Diagnosis', a dropdown menu with 'Eq', a dropdown menu with 'ON' and 'OFF' (where 'OFF' is selected), a dropdown menu with 'Phra', a dropdown menu with 'Partial' and 'Full' (where 'Full' is selected), and a search input field with 'Sea'. A dropdown menu is open under the 'Eq' dropdown, showing options: Equals, Contains, Matches, Does Not Equal, and Does Not Contain. Below the row of controls, there are buttons for 'AND', 'OR', 'NOT', '(', and ')'. The 'AND' button is highlighted.

A screenshot of a web-based filtering interface, similar to the one above. The header has columns: ADD ROW, DATA ELEMENT, RULE, CASE SENSITIVE, PHRASE, WORD TYPE, SEARCH TERMS, and DELETE. Below the header, there is a row of controls: a green plus sign in a box, a blue box with 'A', a dropdown menu with 'Diagnosis', a dropdown menu with 'Eq', a dropdown menu with 'ON' and 'OFF' (where 'OFF' is selected), a dropdown menu with 'Phra', a dropdown menu with 'Partial' and 'Full' (where 'Full' is selected), a search input field with 'Search', and a red 'X' button. A dropdown menu is open under the 'Phra' dropdown, showing options: Phrase, Any Of, and All Of. Below the row of controls, there are buttons for 'AND', 'OR', 'NOT', '(', ')', and 'A'. The 'AND' button is highlighted.

Filtering – Creating a Formula and Validating

1. Enter the formula in the formula box once criterion rows are defined
 - Note that you can type to enter the formula manually or click the corresponding buttons to create a formula
 - Reference the rows by their assigned letters
 - The formula should include each criterion and should use AND, OR, or NOT and parenthesis to specific the search criteria
2. Validation will check to make sure that the conditions specified in the newly created filter will properly query the data
 - Once all the parts of the filter have been chosen, select the date range where the validations will be performed or leave the default
 - Click on the “Validate” button after filter is completed

Filtering – Example

- Example: Filter Called “Fireworks”
 - This filter is intended to query firework-related injuries
 - Examples of chief complaints would include “burned with fireworks”, “firecracker went off in hand”
- Criteria
 - Row A:
 - Data Element: Chief Complaint
 - Rule: Contains
 - Case Sensitive: Off
 - Phrase: Phrase
 - Word Type: Partial
 - Search Terms: Fire
 - Row B:
 - Data Element: Chief Complaint
 - Rule: Any of
 - Case Sensitive: Off
 - Phrase: Any Of
 - Word Type: Partial
 - Search Terms: crack work rocket
- Formula: A AND B

The screenshot shows a web interface for defining a filter. At the top, there are tabs for 'Definition' and 'Validation'. The 'Definition' tab is active. Below the tabs, there are fields for 'Filter Name' (set to 'Firework') and 'Group' (set to 'Shared'). To the right of these fields are buttons for 'Validate', 'Create', 'Update', and 'Reset'. Below this is a table with columns: 'ADD ROW', 'DATA ELEMENT', 'FILTER', 'CASE SENSITIVE', 'PHRASE', 'WORD TYPE', 'SEARCH TERMS', and 'DELETE'. There are two rows in the table. Row A: Data Element is 'Chief Complaint', Filter is 'Contains', Case Sensitive is 'OFF', Phrase is 'Phrase', Word Type is 'Partial', Search Terms is 'fire', and there is a red 'X' delete button. Row B: Data Element is 'Chief Complaint', Filter is 'Contains', Case Sensitive is 'OFF', Phrase is 'Any Of', Word Type is 'Partial', Search Terms is 'crack work rocket', and there is a red 'X' delete button. Below the table is a logic builder section with buttons for 'AND', 'OR', 'NOT', '(', ')', 'A', 'A B'. The text 'A AND B' is displayed below these buttons. At the bottom, there is a 'Validation Settings' section with fields for 'Start Date' (8/25/2023), 'Days' (14), and 'Max Records' (10).

Let's See How You Are Doing Now...



Question

Why is it important to normalize your data?

- Abnormal=bad.
- You cannot review any MSSS data that is not normalized.
- Normalization is used to minimize the effects of expected daily variation in the data.

Answer

Why is it important to normalize your data?

- Abnormal=bad.
- You cannot review any MSSS data that is not normalized.
- Normalization is used to minimize the effects of expected daily variation in the data.

Question

Where can resources that were recently removed be found?

- They are gone forever.
- The Library.
- In the trash.

Answer

Where can resources that were recently removed be found?

They are gone forever.

The Library.

In the trash.

System Navigation Summary

- The Michigan Syndromic Surveillance System has many features available including plotting, filtering, and downloading data
- You should now be able to effectively navigate the MSSS and utilize these analysis tools

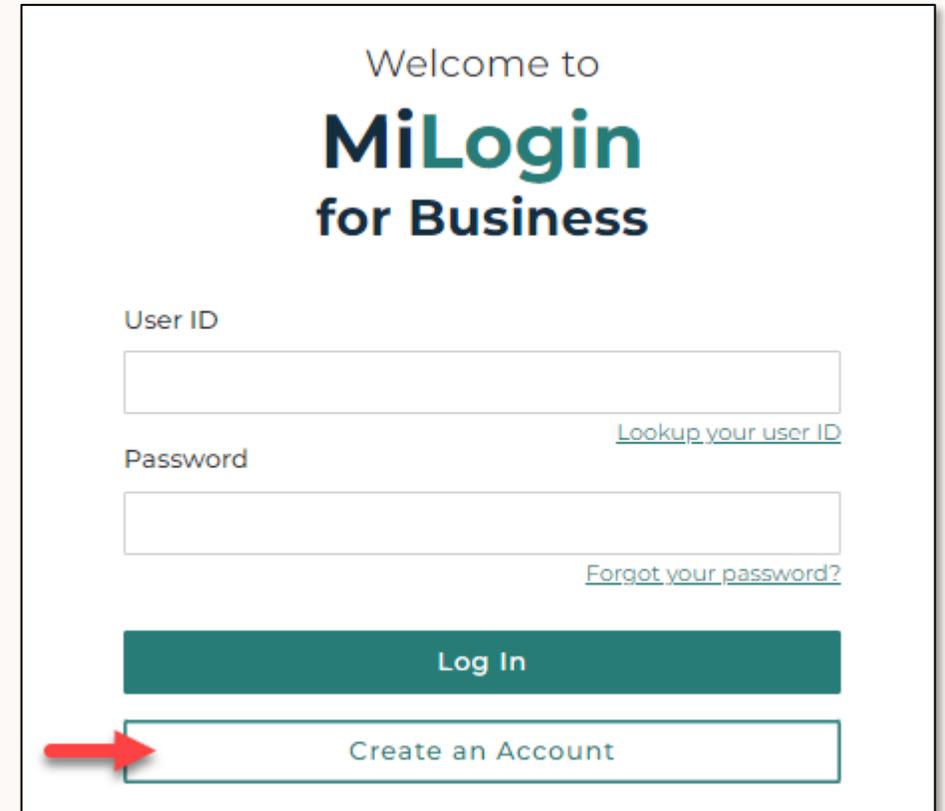
MSSS Registration

MSSS Registration

- Due to the confidentiality of data entered and stored in the MSSS, there are several steps that must be completed to register for the application.
- The MILogin and MSSS registration processes will only need to be completed once per user.
- *Note: Users who are already registered with MILogin (e.g., MCIR users or MDSS Users) may [CLICK HERE](#) to skip this section and go forward to “Logging into MILogin.”*
- Everyone else, click the NEXT button.

MILogin Registration

- Using your internet browser (Chrome is preferred), navigate to the following website:
 - MILogin for **Non-Michigan.gov** emails:
<https://milogintp.michigan.gov/>
 - MILogin for **Michigan.gov** emails:
<https://miloginworker.michigan.gov/>
- The “MILogin” page will display
- Click the **Create an Account** button



Welcome to
MILogin
for Business

User ID

[Lookup your user ID](#)

Password

[Forgot your password?](#)

Log In

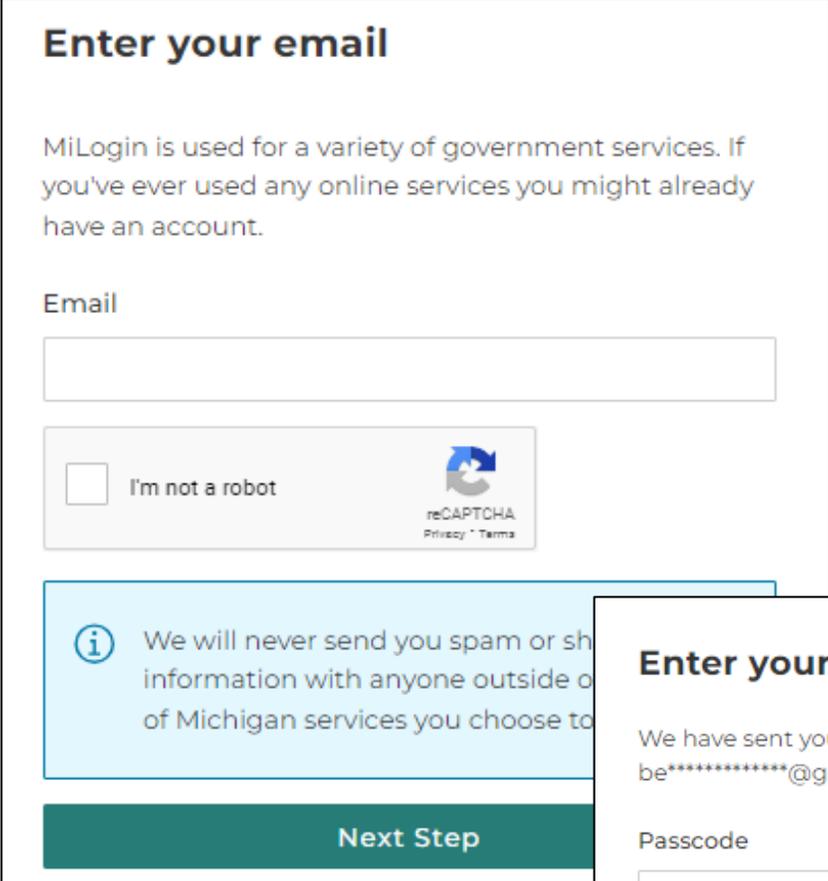
Create an Account

MILogin Registration – Email Verification

- Enter your email address
- Check the **I'm not a robot** box
- Click **Next Step**

A verification email will be sent to the address provided – go to your email to find your passcode

- Enter the passcode into the MILogin verification screen
- Click **Next Step**



Enter your email

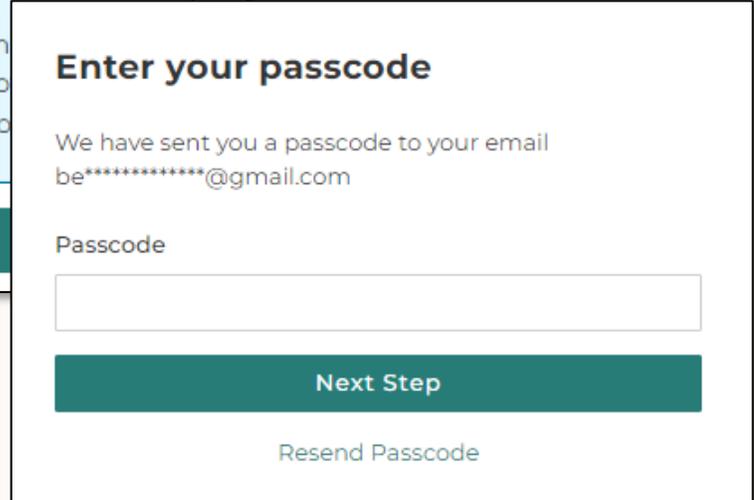
MILogin is used for a variety of government services. If you've ever used any online services you might already have an account.

Email

I'm not a robot  reCAPTCHA
[Privacy](#) [Terms](#)

 We will never send you spam or share your information with anyone outside of Michigan services you choose to use.

Next Step



Enter your passcode

We have sent you a passcode to your email
be*****@gmail.com

Passcode

Next Step

[Resend Passcode](#)

MILogin Registration – Profile Information

- Enter your First and Last Name
- Check the box to agree to Terms & Conditions
- Click **Next Step**

Enter your information

First Name

Middle Initial (Optional)

Last Name Suffix (Optional)

I agree to the [Terms & Conditions](#).

Next Step

MILogin Registration – Work Phone Verification

- Enter your work phone number
- Click **Next Step**

*You will receive a voice call to the number provided with a passcode. The number provided should be a **direct line to you** so that you receive the passcode*

- Enter the passcode into the MILogin verification screen
- Click **Confirm Passcode**

Enter your work phone number

Your **work phone** number is required for many State of Michigan services and can help us identify you and recover your account if you get locked out.

Work Phone

 You will receive a passcode via a voice call to your phone to confirm your identity.

Next Step

Enter your passcode

We have sent you a passcode via a voice call to your **work phone** ending with **0407**

Passcode

0075 -

Confirm Passcode

[Resend Passcode](#)

MILogin Registration – Mobile Phone (*optional*)

- *Entering your mobile phone number is optional but can help to recover a locked account*
- Enter your mobile phone number and click **Next Step**
- Select a verification method – text message or voice call
- Enter your passcode and click **Confirm Passcode**

Enter your mobile phone number

Your **mobile phone** number is optional but can help us identify you and recover your account if you get locked out. We recommend adding it for account security.

Mobile Phone

 If your work phone can receive text messages, enter the phone number again to enable text message verification option.

Next Step

[Skip this for now](#)

Select a verification method

We need to make sure you're really you. Please select a verification method below to confirm your identity.

 **Text Message**
You will receive a passcode via a text message to your **mobile phone** ending with **9325**

 **Voice Call**
You will receive a passcode via a voice call to your **mobile phone** ending with **9325**

Enter your passcode

We have sent you a passcode via a text message to your **mobile phone** ending with **9325**

Passcode

1034 -

Confirm Passcode

[Resend Passcode](#)

MILogin Registration – User ID and Password

- Create a User ID

The User ID must be last name, first initial, and any 4 numbers with no space between them

- Click **Next Step**

- Create a qualifying password

- Click **Create Account**

Create your user ID

The User ID is required to sign in, so choose something that you will remember and also follow our ID guidelines.

ID Guidelines

- ⚠ Must start with your last name and first initial
- ⚠ Must end with 4 numbers
- ✓ Must not contain special characters or spaces

User ID

Info Your user ID should be **MILOGINTXXXX** where XXXX is four numbers of your choosing.

Next Step

Create your password

Choose something secure, but also something you can remember.

Password Guidelines

- ⚠ Must be at least 8 characters in length
- ⚠ Should not be based on your User ID
- ⚠ Must contain at least one upper and lower case letters, a number, and a symbol (@#\$!~&)
- ⚠ Confirm password must match new password

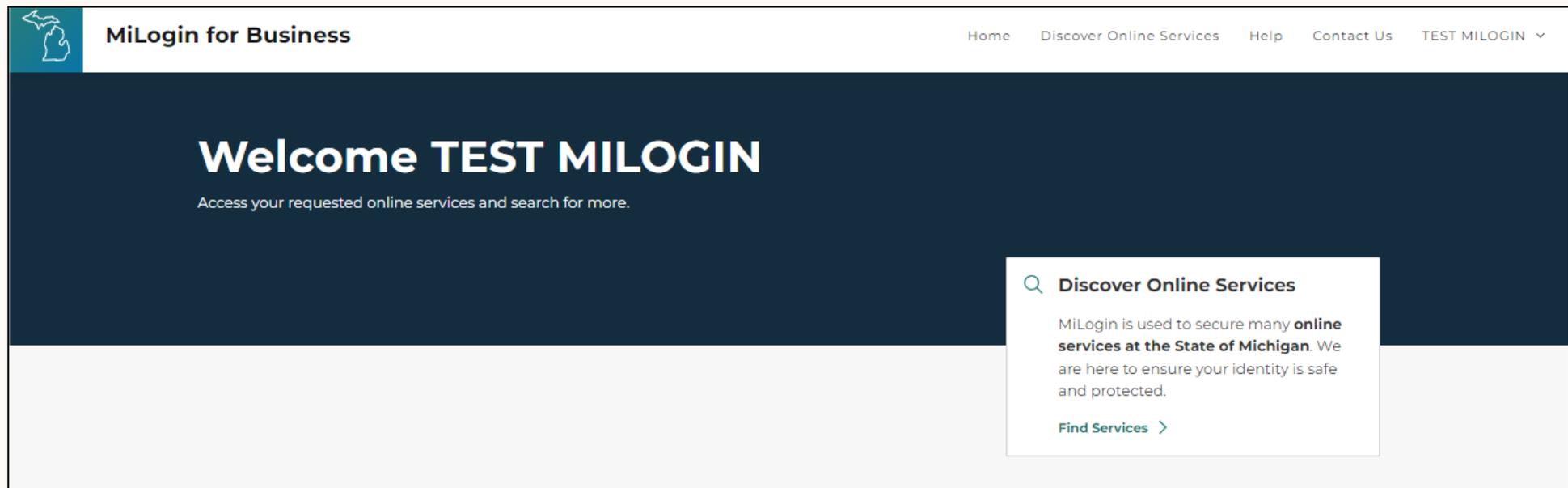
Password

Confirm Password

Create Account

MILogin Home Page

Once your account is created successfully, the MILogin Home Page will appear

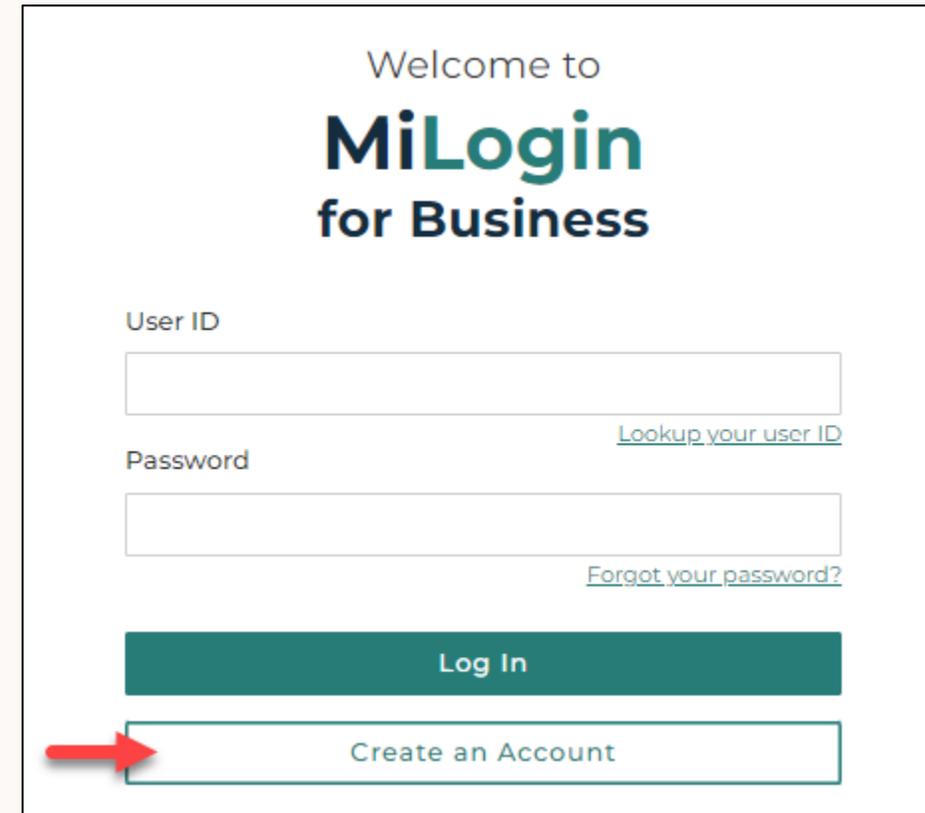


If the Home Page does not appear, you can navigate to the MILogin website and enter your new User ID and password

Requesting Access to MSSS

Once you are a registered user of MiLogin, you will need to request access to the MSSS application

- Using your internet browser, navigate to MiLogin:
 - MiLogin for **Non-Michigan.gov** emails:
<https://milogintp.michigan.gov/>
 - MiLogin for **Michigan.gov** emails:
<https://miloginworker.michigan.gov/>
- Enter your MiLogin User ID and Password
- Click **Log In**



Welcome to
MiLogin
for Business

User ID

[Lookup your user ID](#)

Password

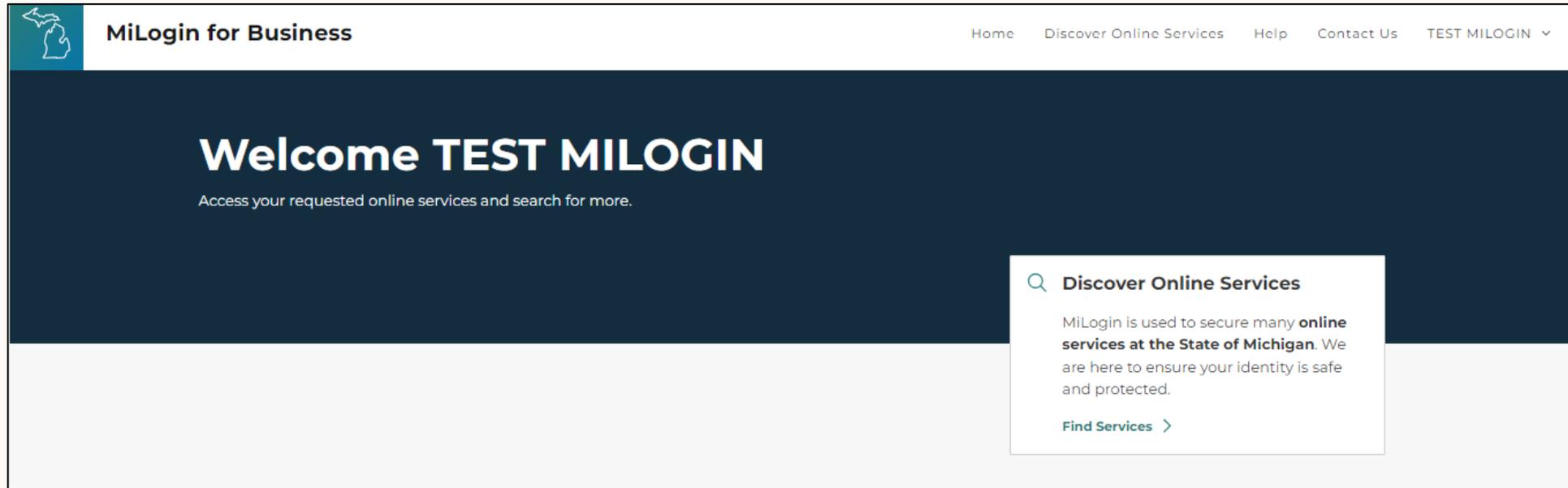
[Forgot your password?](#)

Log In

Create an Account

Requesting Access to MSSS

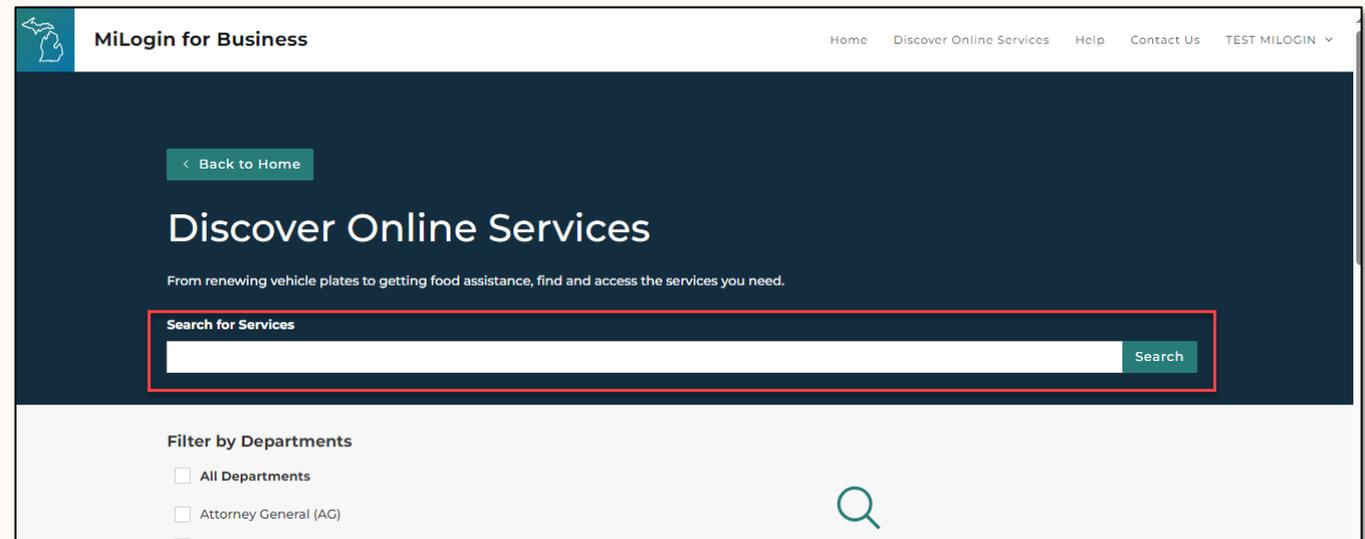
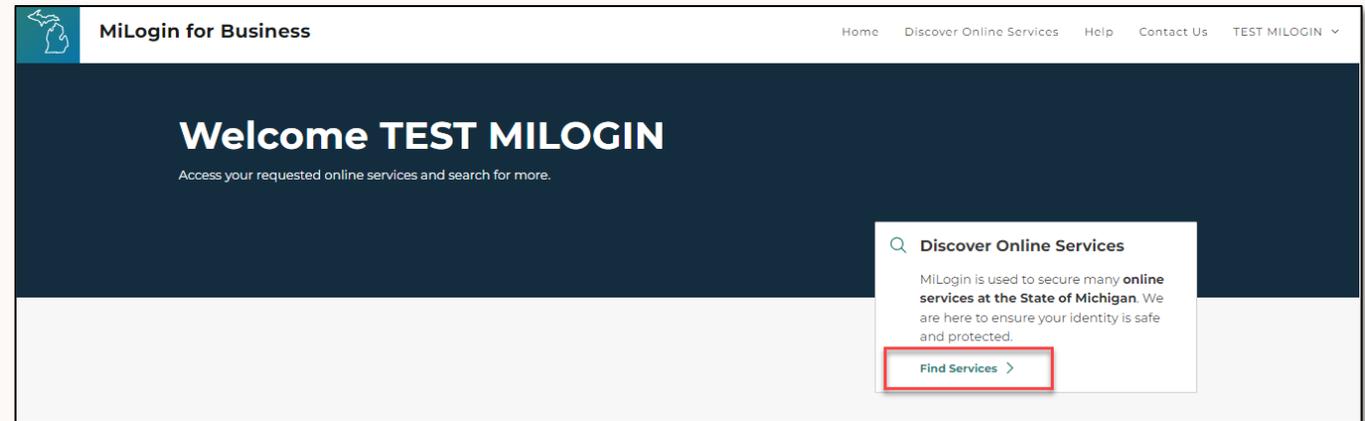
The MILogin Home Page will display:



If you see the Michigan Syndromic Surveillance System link on the Home Page, you already have permission to access MSSS. Proceed to the next section, **Registering with MSSS**

Requesting Access to MSSS

- Click **Find Services** in the Discover Online Services Box to open a search page
- Type **Michigan Syndromic Surveillance System** into the search box and click Search



Requesting Access to MSSSS

- Find the Michigan Syndromic Surveillance System and click on the box/link
- Check the box to agree to the Terms & Conditions and Click **Request Service**
- A message will appear that the request is being processed. Click **Continue** to return to MILogin Home Page

Michigan Syndromic Surveillance System

Michigan Syndromic Surveillance System (MSSSS) is designed and implemented to facilitate public health rapid detecting and response to unusual outbreaks of illness that may be the result of bioterrorism, outbreaks of infectious disease or other public health threats and emergencies. Real time detection of a notable increase in patients presenting for care with similar symptoms could allow early and appropriate public health intervention and minimize negative impact. The system provides tools that include automatic data collection, automatic aberration detection algorithms and tools that support temporal and spatial data analysis and visualization.

MDHHS

Michigan Syndromic Surveillance System

Michigan Syndromic Surveillance System (MSSSS) is designed and implemented to facilitate public health rapid detecting and response to unusual outbreaks of illness that may be the result of bioterrorism, outbreaks of infectious disease or other public health threats and emergencies. Real time detection of a notable increase in patients presenting for care with similar symptoms could allow early and appropriate public health intervention and minimize negative impact. The system provides tools that include automatic data collection, automatic aberration detection algorithms and tools that support temporal and spatial data analysis and visualization.

Please accept the Terms and Conditions to continue:

Terms & Conditions

The Michigan Department of Health & Human Services (MDHHS) computer information system (systems) are the property of the State Of Michigan and subject to state and federal laws, rules and regulations. The systems are intended for use only by authorized persons and only for official state business. Systems users are prohibited from using any assigned or entrusted access control mechanisms for any purposes other than those required to perform authorized data exchange with MDHHS. Logon IDs and passwords are never to be shared. Systems users must not disclose any confidential, restricted or sensitive data to unauthorized persons. Systems users will only access information on the systems for which they have authorization. Systems users will not use MDHHS systems for commercial or partisan political purposes. Following industry standards, systems users must securely maintain any

I agree to the Terms & Conditions

Request Service

⚠ Your request is being processed

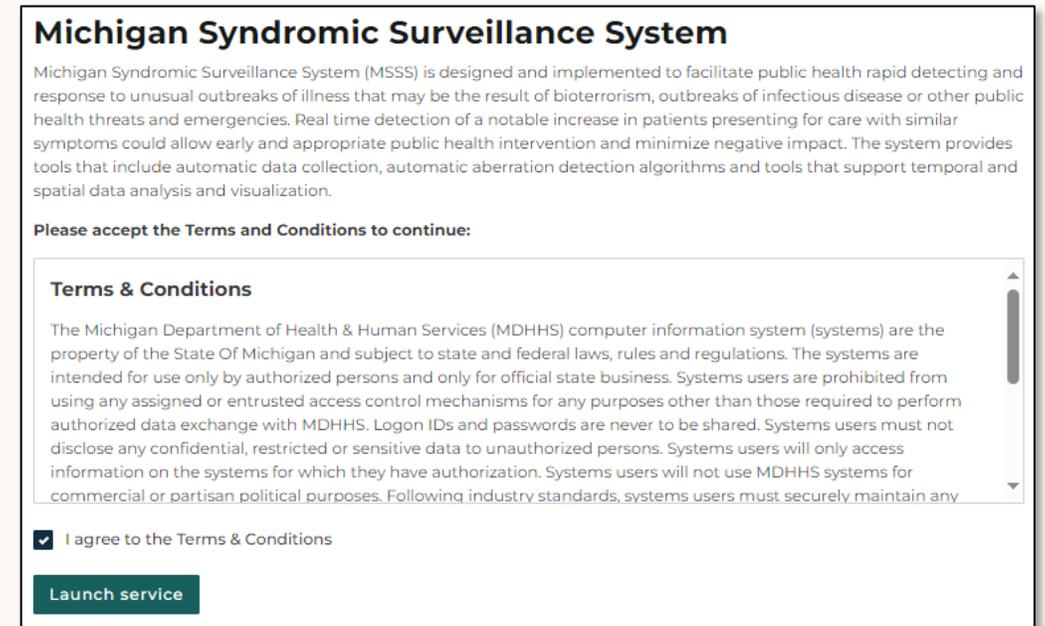
We have received your request and it is under review. **You will be notified via email when access is granted. You will be able to launch the service, once the access is granted.**

Continue

Registering with MSSS

The final step is to register with MSSS

- Log into MILogin
 - MILogin for **Non-Michigan.gov** emails:
<https://milogintp.michigan.gov/>
 - MILogin for **Michigan.gov** emails:
<https://miloginworker.michigan.gov/>
- Click the **Michigan Syndromic Surveillance System** link
- Check box to agree to Terms & Conditions
- Click **Launch service**



Registering with MSSS

The MSSS User Registration Form will display

- Enter the values for the fields
- User Types:
 - For **Healthcare-Facility Based**, enter your *Facility Name*
 - For **Local Health Department Based**, enter your *Jurisdiction*
- Click Register

The screenshot displays the 'MSSS v7 Registration' form. It is divided into several sections:

- Contact (Work):** Includes fields for First name, Last name, Job Title, Phone, Ext, Email, Street, County, City, State, and Zip.
- Supervisor:** Includes fields for First name, Last name, Phone, Ext, and Email.
- Access Requested:** Includes a dropdown for User Type (currently set to 'Healthcare-Facility Based') and a text field for Facility Name.

A blue 'Register' button is located at the bottom center of the form.

Maintain an Active Account

- Users will be automatically deactivated if they do not log into the MSSS at least every 60 days.
 - A warning email will be sent to users after 45 days of inactivity
- To reactivate your account, click the 'Reactivate Account' link in the webpage that is displayed

Access Denied

You have been denied access to this page.

If you recently registered an account, it may not be activated yet.

- Your activation request has been sent for approval and no additional action is required by you.

If you have an account that is not new, it may be deactivated due to inactivity (for security reasons).

- To reactivate your account, click [Reactivate Account](#). This will generate an approval request and you will be notified by email when your account is activated.

To keep your user account active, please log in before 60 days of Inactivity. The system will email reminders.

For more information or assistance, click [Help](#).

Let's See How You Are Keeping Up...



Question

How do you maintain an active account?

- Log into the MSSS at least every 60 days.
- Email your supervisor.
- Exercise regularly.

Answer

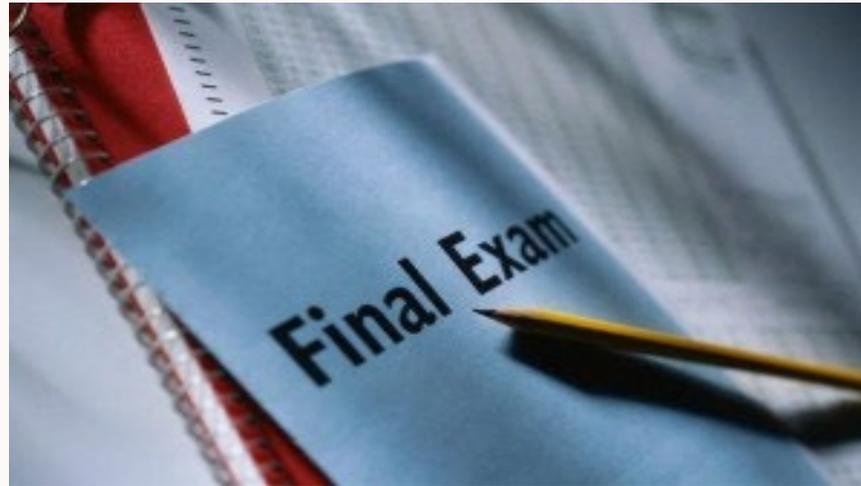
How do you maintain an active account?

- Log into the MSSS at least every 60 days.
- Email your supervisor.
- Exercise regularly.

Summary

- You have done very well learning about syndromic surveillance and the MSSS
- Let's wrap this up with a final assessment

Final Assessment



Question #1

What does CoCo stand for?

- Condition Correlation
- Complaint Coder
- Concept Collection

Answer #1

What does CoCo stand for?

- Condition Correlation
- Complaint Coder
- Concept Collection

Question #2

What type of data does syndromic surveillance collect?

- De-identified information on patients from their visit to an Emergency Department or Urgent Care
- Reportable disease counts, verified to have met case definition criteria
- Summary data on select outbreaks

Answer #2

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Question #3

Why is it important to normalize your data?

- Abnormal=bad.
- You cannot review any MSSS data that is not normalized.
- Normalization is used to minimize the effects of expected daily variation in the data.

Answer #3

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Question #4

When creating a filter, the name of the filter must be unique.

True

False

Answer #4

When creating a filter, the name of the filter must be unique.

True

False

Question #5

Facility participation in the MSSS is both voluntary and confidential; therefore, LHD users should not identify the facilities involved or their specific contributions to the system outside of the public health community

True

False

Answer #5

Facility participation in the MSSS is both voluntary and confidential; therefore, LHD users should not identify the facilities involved or their specific contributions to the system outside of the public health community

True

False

Question #6

Please match the following complaints to the appropriate syndrome.

rib pain mva (motor vehicle accident)

Double vision

Flu

Possible seizure

Vomiting

Gastrointestinal

Constitutional

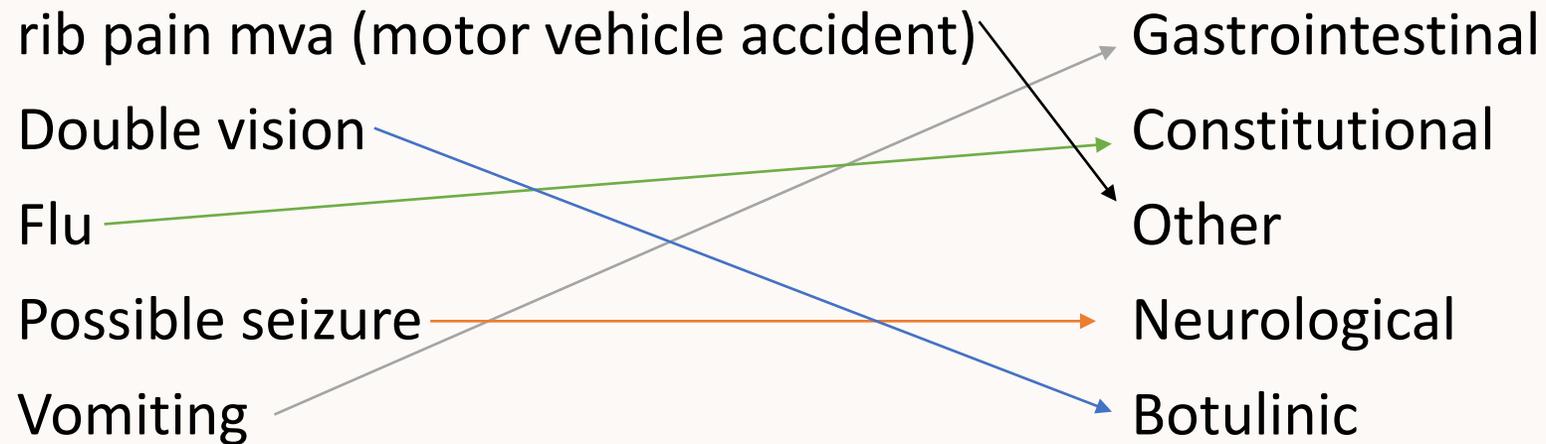
Other

Neurological

Botulinic

Answer #6

Please match the following complaints to the appropriate syndrome.



Question #7

Where can a local health department user find a snapshot of syndromic activity in a county outside his or her jurisdiction?

- Log out and re-register
- Contact MDHHS
- On the Summary page click on the jurisdiction dropdown menu and select the county

Answer #7

Where can a local health department user find a snapshot of syndromic activity in a county outside his or her jurisdiction?

Log out and re-register

Contact MDHHS

On the Summary page click on the jurisdiction dropdown menu and select the county

You have successfully
completed this training
module

Certificate of Completion

Type your name and date below, then print your certificate

Name:

has successfully completed the Michigan Department of Health and Human Services' Michigan Syndromic Surveillance System training module

Date:

Thank you!

For taking the time to learn more about syndromic surveillance in Michigan
If you have further questions, please contact your [Regional Epidemiologist](#) or
the MDHHS Communicable Disease Division

www.michigan.gov/mdss

