The System for Opioid Overdose Surveillance (SOS) How-To Guide

UNIVERSITY OF MICHIGAN INJURY PREVENTION CENTER
# Table of Contents

Overview........................................................................................................................................................................1

Authorized User Home Page ..........................................................................................................................................1

Selecting Data ...............................................................................................................................................................2

Geographic area of interest..............................................................................................................................................3

Time period of interest..................................................................................................................................................3

Demographic sub-sets of interest...................................................................................................................................4

Data Display ..................................................................................................................................................................6

Total Cases..................................................................................................................................................................6

Map of suspected overdoses..........................................................................................................................................7

Time plot with 7-day moving average..............................................................................................................................7

Demographic visualizations...........................................................................................................................................8

Table.............................................................................................................................................................................9
Overview of Capabilities

The System for Opioid Overdose Surveillance (SOS) is an integrated data system that automatically takes in, cleans, and displays data on suspected fatal and non-fatal overdose locations in Michigan. Using data from MEs, and from EMS reports, the SOS web interface contains capabilities such as:

- Looking at county-level summaries of year-to-date suspected overdose counts and rates
- Displaying time trends in suspected overdoses within a given county
- Showing approximate spatial trends in suspected overdoses within a county
- Examining demographic breakdowns of suspected overdose victims within a given county and timeframe
- Analyzing temporal and spatial trends, restricted to a user-selected demographic, time period, and county.

1) Authorized User Home Page:

The SOS Authorized User Dashboard Homepage allows you to view data by source and a specific county or city. In order to view the data, select both your data source of interest and a specific location.

- First, select your data source by toggling between the following options on the left side of the screen:
  i. EMS – Emergency Medical Services
  ii. ME – Medical Examiner
     - Note: ME data is not currently available for all counties. Users are unable to select locations without ME data coverage.

- Then select the county or city of choice through one of the following methods:
  i. Click on your county or city of interest on the map to the right of the screen.
     - Counties are outlined in white on the map, while select cities are marked with...
purple dots on the map.
- As you hover over a specific county or city on the map, it will turn yellow and label which specific county or city it is.
- As soon as you click on a county or city, the Dashboard will immediately take you to that location’s data page.

ii. Search for your county or city in the search bar on the left side of the screen.
- As you type, all related options will appear as options below the search bar. For example, if you want to look at Wayne County, you can start to type “Wayne” into the search bar and it will appear in the options as seen below.

![Search Bar Example]
- Click on the county or city of choice from the search bar results and click the grey magnifying glass to go to that location’s data page.

**Note:** While all counties are included in the SOS Dashboard, not all cities are currently available. Available cities are limited to those marked on the map

2) Selecting Data

a) Geographic Area of Interest

In addition to selecting geographies from the landing page as described in Section 1, the user will find facilities for selecting areas within the data display page as follows.

- The dark blue navigational panel located on the left side of the webpage contains two key navigational elements:
  i. Switching data sources:
    - At the very top of the dark blue panel, you will see a section titled “Data Source” with the options of “EMS” and “ME” listed below. You can click on either “EMS” or “ME” to view the data for each associated data source.
  ii. Switching county or city of interest:
    - Below the data source section on the navigation panel, there is a section titled “County or City of Interest’. The letters listed below contain alphabetized counties and cities that contain SOS data available for viewing.
    - To switch to a new county or city, click on the letter that corresponds with the first letter of your desired county or city, and all available locations will be displayed underneath the letter. Click on your city or county of interest and the system will automatically upload that county or city.
Note: If you switch county or city locations through the navigational panel, the system will automatically display the data for your most recent data source selection.

- At the top of the data page, there is a map that visually displays the selected county or city.
  - Within the map, you have the ability to zoom in and out from the current view using the “+” or “-” white buttons on the upper left hand side of the map.
  - You can search for a specific location within the selected county or city by typing in the location name into the magnifying class white button on the upper left hand side.

Note: You can only search for specific locations within your selected county or city. If you enter in a location outside of your selected area, the data will not automatically update. Instead please navigate to the correct city or county that contains your location of interest.

b) Time period of interest

- All data visualizations and summaries update with the time window selected. The selected time period displayed in the map can be changed through two different methods:
  - Below the map, there are five blue buttons showing pre-set time periods. You can click each button to change the time period to display the most recent 7 days, 14 days, 30 days, 90 days, or 365 days.
  - Manually selecting a time period by stretching and/or dragging the grey bar in the second yellow bar chart located below the map. This function allows you to pick any time frame you want by dragging the bar over select times or by extending or decreasing the width of the grey bar over the bar chart, as seen in the images below. The time frame dates displayed above the map will change as the grey bar is manipulated.
c) Demographic sub-sets of interest

- The demographic bar and pie charts have interactive capabilities both within and across the demographic categories.
  
i. Within one demographic category, you can click on one or more of the sub-categories and the data will automatically update to reflect the selected categories. The sub-categories will turn green when they are selected.
  
  - For example—in the screenshot above, the user has selected Males age 25-34 and 55+.
  
  ii. Across demographic categories, you can select multiple sub-categories from each demographic and the data will automatically update to reflect the selected categories. The sub-categories will turn green when they are selected.

  iii. You can reset the demographics back to their original formatting through two different ways:

  - Click on the selected green demographics again to unselect them
  - Click one of the “reset age”, “reset gender”, “reset race” or “reset demographics” buttons.
3) Data Display

a) Total Cases

- The top right corner contains the total number of suspected overdoses that have occurred in the selected time period. Displayed directly next to the total is the number of cases that are unmappable due to missing address information.

b) Map of suspected overdoses

i. The white button that depicts three black layers on the upper right hand side of the map allows you to change the background color of the map. You can change the background color between the “Main” default option (Image 1), the “Dark” option (Image 2), or the “Light” option (Image 3).

ii. Green dots found within the map denote suspected overdoses that occurred during the current time period, which is displayed above the map.
   - The dots are colored in different shades of green depending on when the suspected overdose occurred during the selected time period.
     - The darker green pins denote that the suspected overdose occurred more recently.
     - The lighter green pins denote that the suspected overdoses occurred longer ago (i.e., closer to the beginning of the time period).

iii. If you click on one of the pins, a label with details on the suspected overdose incident will be displayed in a label.
   - The date of the suspected overdose is displayed on the first line, and the relevant age range and gender of the individual is displayed on the second line.

c) Time plot with 7-day moving average
Below the interactive map, two yellow bar graphs are displayed with the following information:

i. Suspected overdose incidents by day in selected time period
   - The top bar graph displays the number of overdoses that occurred in each day within the selected time period in yellow. The X axis denotes the specific date associated with each bar of data. The Y axis denotes the number of overdoses.
   - Within the bar graph, there is a blue line that runs over the yellow bar graph. This displays the 7 day moving average.

ii. Suspected overdose incidents by day for year-to-date
   - The bottom bar graph displays the number of suspected overdoses that have occurred from January 1, 2018 up through the most updated date, and also provides a basis for manipulating the time window (see section 2b).

*Note: Counts of zero appear in time periods from before data became available.*

d) Demographic visualizations

- The demographic data is displayed below the bar charts of suspected overdoses, and includes visual depictions of age, gender, and race, as outlined below:
  
  i. Age
     - The left demographic bar chart in pink displays the ages of the individuals that had a suspected overdose during that time period.
     - The X axis denotes the number of suspected overdoses that occurred within each age group.
     - The Y axis displays the following age groups:
       - 0-24 years’ old
       - 25-34 years’ old
       - 35-44 years’ old
       - 45-54 years’ old
ii. Gender

- 55 years and older

ii. Gender
- The middle pie chart in blue displays the gender distribution among individuals that had a suspected overdose during that time period.
  - Individuals identified as Male are in the dark blue section of the pie chart.
  - Individuals identified as Female are in the light blue section of the pie chart.

iii. Race
- The right demographic bar chart in purple displays the race of the individuals that had a suspected overdose during that time period.
  - The X axis denotes the number of suspected overdoses that occurred within each race category.
  - The Y axis displays the following race categories:
    - White
    - Black
    - Hispanic or Latino
    - American Indian or Alaska Native
    - Native Hawaiian or Other Pacific Islander
    - Other
    - Unknown

**Note:** Demographic counts may not total incident counts due to missing demographic information.

e) Table

- The table located below the demographic visualizations contains relevant location and demographic information about each suspected overdose for the selected time period. Each row includes the following information for each suspected overdose:
  - The date of when the suspected overdose occurred
  - The city where the suspected overdose occurred
  - The county where the suspected overdose occurred
  - The age group of the individual that had a suspected overdose
  - The identified gender of the individual that had an overdose
  - The race of the individual that had an overdose
Note: At default, the table displays 10 rows of suspected overdoses. If you wish to view additional suspected overdoses within the same table view, you can click the “20 rows” or “50 rows” buttons above the table to display additional rows.

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>County</th>
<th>Age</th>
<th>Gender</th>
<th>Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 26, 2019</td>
<td>Unknown</td>
<td>Washtenaw</td>
<td>55+</td>
<td>Male</td>
<td>White</td>
</tr>
<tr>
<td>Sep 29, 2019</td>
<td>Ypsilanti</td>
<td>Washtenaw</td>
<td>0-25</td>
<td>Female</td>
<td>Black</td>
</tr>
<tr>
<td>Oct 01, 2019</td>
<td>Ann Arbor</td>
<td>Washtenaw</td>
<td>23-34</td>
<td>Male</td>
<td>Black</td>
</tr>
<tr>
<td>Oct 01, 2019</td>
<td>Unknown</td>
<td>Washtenaw</td>
<td>45-54</td>
<td>Female</td>
<td>White</td>
</tr>
<tr>
<td>Oct 01, 2019</td>
<td>Unknown</td>
<td>Washtenaw</td>
<td>35-44</td>
<td>Female</td>
<td>Black</td>
</tr>
<tr>
<td>Oct 03, 2019</td>
<td>Ypsilanti</td>
<td>Washtenaw</td>
<td>55+</td>
<td>Male</td>
<td>White</td>
</tr>
<tr>
<td>Oct 05, 2019</td>
<td>Ypsilanti</td>
<td>Washtenaw</td>
<td>25-34</td>
<td>Male</td>
<td>Black</td>
</tr>
<tr>
<td>Oct 06, 2019</td>
<td>Unknown</td>
<td>Washtenaw</td>
<td>25-34</td>
<td>Female</td>
<td>Unknown</td>
</tr>
<tr>
<td>Oct 07, 2019</td>
<td>Unknown</td>
<td>Washtenaw</td>
<td>0-25</td>
<td>Male</td>
<td>Hispanic Or Latino</td>
</tr>
<tr>
<td>Oct 08, 2019</td>
<td>Unknown</td>
<td>Washtenaw</td>
<td>25-34</td>
<td>Male</td>
<td>Asian</td>
</tr>
</tbody>
</table>