Appendix 1. Data abstractor protocol for medical examiner data

ME Data Entry Manual

OVERVIEW OF ME DATA FILE:

ME Data Fields

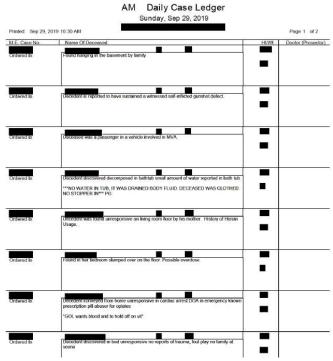
- Column A: Data abstractor initials
- · Column B: Death Date
- Column C: Case ID
- Column D: Full Name
- Column E: Date of Birth (DOB)
- Column F: Age
- Column G: Race
- Column H: Gender
- Column I: Incident Address
- Column J: Home Address
- Column K: Found-At Coding
- Column L: Notes for Found-At Coding
- Column M: Suspected Indicators

OVERVIEW OF STEPS FOR UPDATING THE DATA FILE:

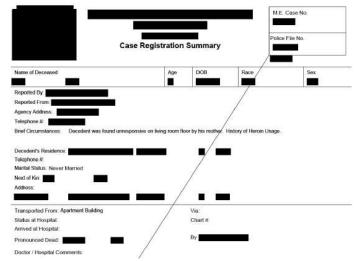
- 1. Download the ME file and "Save As" the ME file to the most updated date.
- 2. Open the ME Case File Log and identify the Daily Case Ledger PDF
- 3. Review the Daily Case Ledger for potential cases of drug overdoses
- 4. Review specific case files identified for potential drug overdose indicators
- 5. Input case files with suspected drug overdose indicators into the ME file
- 6. Once all cases have been documented in the ME file, save it and upload the file secure site

DETAILED STEP BY STEP PROCESS FOR ENTERING ME DATA:

- 1. Download SOS's ME Data excel file and immediately "Save As" as a new file.
 - a. The most updated version of the ME Data file will be in the "Updated ME Data Entry File" folder, which is located in the "SOS Project –ME Data" project on the drive.
- 2. Open a ME Case File Log in Box and identify the Daily Case Ledger PDF file.
 - a. Each ME Case File Log will include two different types of file attachments:
 - i. The Daily Case Ledger, which provides a brief overview of all attached case files.
 - 1. This file is usually titled as the date of death for all the attached case files, such as "10-03-2019.pdf".
 - 2. Example Daily Case Ledger:



- ii. The individual case files, which includes details about a specific case.
 - 1. The file is usually titled with the ME Case number, such as "19-11739.pdf".
 - 2. Example ME Case File:



- 3. Open the Daily Case Ledger file and read through the brief summaries of each case.
 - a. These brief summaries will help you determine which individual case files you should read through for potential opioid overdose indicators.

- b. Important factors to consider when deciding which specific case files to read (If it is not obvious there is another cause of death (i.e. Gunshot wound, car accident), read the case file):
 - i. Any mention of typical drug overdose indicators, such as:
 - 1. Suspected drug overdose
 - 2. Suspected paraphernalia found at scene
 - 3. Suspected illicit or prescription narcotics found at scene
 - 4. History of any drug use (outside of alcohol or cigarettes only)
 - ii. Case files that have vague summaries should be reviewed as well, even if they do not specifically mention any opioid overdose indicators.
 - 1. Sometimes they don't include drug overdose indicators in the brief summary and are only listed in the notes of the individual case files.
 - 2. Vague contextual factors that should be looked into can include (but not limited to):
 - a. Found unresponsive or dead at a location
 - b. Found in vacant dwelling, field, or street
 - c. Found in known drug location (i.e. known drug house, motels, etc.)
 - d. Suffered cardiac arrest
 - iii. Summaries with vague contextual factors and a notation of no narcotics or paraphernalia found should still be looked into.
 - Sometimes the summary will say that there was no paraphernalia or narcotics found at scene or no history of drug use, but the case file may contain different opioid overdose indicators within the notes sections. In addition, witnesses may provide indicator information that is not included in the brief summary. Therefore, check these files briefly even if the summary states that those two indicators were not present.
 - a. If in doubt, read the case file to see if there are any indicators
- 4. Once you identify a case file that may have drug overdose indicators, read through the corresponding case file attachment.
 - a. Potential indicators to consider when reviewing the case file:
 - i. An overview of key indicators are listed below as a reference:
 - 1. Drug overdose suspected
 - 2. Suspected narcotics found at scene
 - 3. Suspected paraphernalia found at scene
 - 4. Decedent has a history of drug abuse
 - 5. Witnesses or family reported decedent's recent drug use prior to death
 - 6. Witnesses or family reported decedent's purchases of drugs prior to death
 - 7. Decedent was or previously in drug rehabilitation
 - 8. Decedent had a reported drug relapse
 - 9. Decedent has history of previous overdoses
 - 10. Reportedly had recent interactions with acquaintances that use drugs
 - 11. Reported use of medication assisted treatment for substance use
 - 12. Injection marks are observed on the decedent
 - 13. EMS or witnesses administered naloxone to decedent

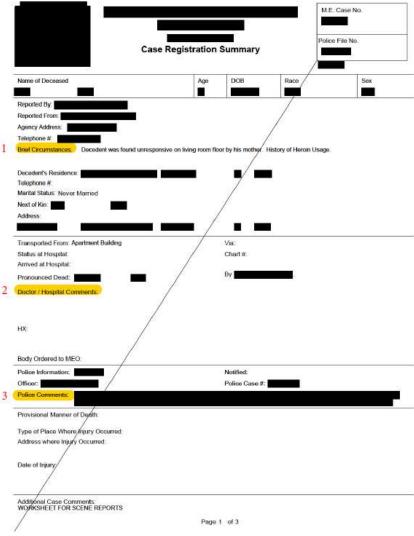
- 14. Hospital urine or blood drug tests are positive for narcotics
- 15. Found near or at a known drug location
- 16. Police suspect a drug overdose body dump
- 17. Police note that the decedent is a suspected drug user based on previous interactions
- 18. Noted suspicion of prescription misuse based on dosage/fill/instructions
 - a. NOTE: These indicators apply to all illicit and prescription narcotic drugs, not just opioids specifically. Because drugs, such as cocaine for example, have been found to be laced with opioids, we want to include files that have other drugs so that we can double check the toxicology.
- b. Standard case definition language used to abstract suspected overdose cases, as well as common examples of what may be listed in the report:
 - "Drug overdose suspected by EMS or other first responders"
 - o Illicit or other non-opioid drugs noted in file: "Suspected overdose"
 - Prescription pills noted in file: "Suspected prescription overdose"
 - Police indication: "Suspected drug user according to police"
 - Known drug location: "Found near/at known drug location"
 - "Suspected narcotics and/or suspected paraphernalia found at scene"
 - Paraphernalia: "Suspected paraphernalia found at scene/on decedent"
 - Illicit or other non-opioid drugs: "Suspected narcotics found at scene/on decedent"
 - o Prescription pills: "Prescription narcotic found at scene/on decedent"
 - Both illicit and prescription: "Suspected narcotics and prescriptions found at scene"
 - "Decedent has a history of substance use"
 - o Illicit or other non-opioid drugs: "History of drug use"
 - o Prescription pills: "History of prescription drug abuse"
 - o Both illicit and prescription: "History of prescription and illicit drug abuse"
 - Reported recent drug use by witnesses: "Reportedly used suspected narcotics (night before/that morning/prior to death/etc.)"
 - Reported opioid prescription/painkiller use: "Reportedly taking prescription narcotics"
 - Reported recent purchases of drugs by witnesses: "Reportedly purchased (prescription) narcotics the (previous evening/that morning/etc.)"
 - Recent interaction with old contacts that use drugs: "Reportedly started interacting with old acquaintance associated with drugs"
 - Reported drug relapse: "Reported recent drug relapse"
 - Recent drug overdoses: "Reported to have recently overdosed" OR "History of previous overdoses"
 - Recent rehab stay: "Recently in drug rehabilitation" or "Currently in drug rehabilitation"
 - Use of MAT for substance use: "Reportedly using medication assisted treatment to treat substance use"

Other indicators:

- o Hospital drug testing: "Hospital drug test positive for narcotics"
- o Drug-related body dumps: "Suspected (accidental) drug overdose body dump"
- Narcan used:
 - EMS administration: "EMS administered Narcan on the way to ER"
 - Other administration: "(family/friend/etc) administered Narcan to decedent"
- Presence of injection sites on decedent: "injection marks observed on decedent"

c. Key areas to check for drug overdose indicators:

i. First page of case file:



a. Area 1: Brief Circumstances

 This summary is the same one that's included in the Daily Case Ledger

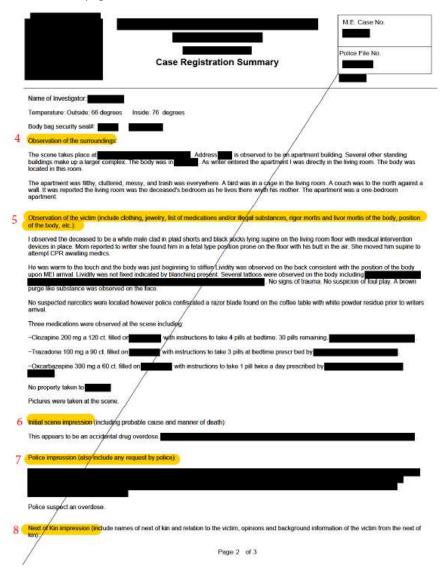
b. Area 2: Doctor/Hospital Comments

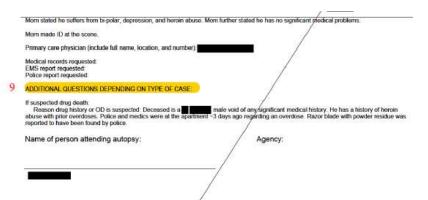
 This will only be completed if the decedent was admitted to the ER or hospital. Sometimes they indicate whether they conducted a blood or urine drug test and the results of that test.

c. Area 3: Police Comments

i. As seen in the example screenshot, they sometimes include opioid overdose indicators in this section.

ii. 2nd/3rd pages of case file:





a. Area 4: Observation of the surroundings

 Read through this section – usually it doesn't contain any indicators, but sometimes they note the presence of prescriptions or paraphernalia in this section.

b. Area 5: Observation of the victim

 This section will likely contain the most information around potential opioid overdose indicators.

c. Area 6: Initial scene impression

i. If they suspect a drug overdose, they will note that in this section.

d. Area 7: Police impression

 Sometimes this section contains additional information that was not included in the above sections, such as reports from witnesses about drug usage, previous interactions between the decedent and the police, or other indicators.

e. Area 8: Next of kin impression

 Sometimes this section contains additional information that was not included in the above sections, such as family reports of drug usage or other indicators.

f. Area 9: Additional questions depending on type of case

 Sometimes this section contains additional information that was not included in the above sections, such as the police's reasoning behind a suspected overdose.

5. If the case file includes opioid overdose indicators, enter the case file information into the ME Data excel file.

- a. Copy and paste the case file information directly into the ME Data excel file. Do not type any case file information except for the "found-at notes" and the "drug overdose indicators" to reduce human errors.
- b. The following case file information needs to be entered into the ME Data columns:

i. Column A: Your Initials

1. Please input your initials into Column A

ii. Column B: Death Date

- 1. The death date is labeled as "Pronounced Dead", which is located in the third section on the first page of the report
 - a. NOTE: If the decedent was taken to the hospital, you will see an "Arrived at Hospital" date and a "Pronounced Dead" date on the case file.

iii. Column C: Case ID

1. The ME Case ID number is located at the top right corner of the case file, under "M.E. Case No.".

iv. Column D: Name

- 1. The decedent's name and primary demographic information are located in the top section of the case file. Include the decedent's first and last name together in the same cell in the excel file.
 - a. NOTE: Sometimes the identity of the decedent may be unknown, and they will just put "Unknown-Person". Please make sure to include that label in the name column.

v. Column E: Date of Birth (DOB)

- 1. The decedent's date of birth (DOB) is located in the top section of the case file. Just copy and paste the date as-is.
 - a. NOTE: If the person is unknown, the DOB will be blank. In that case, input "Unknown" under the DOB column in the excel file.

vi. Column F: Age

- 1. The decedent's age is located in the top section of the case file. Please copy and paste the age as-is.
 - a. NOTE: If the person is unknown, the age might be blank. In that case, input "Unknown" under the age column in the excel file.

vii. Column G: Race

- 1. The decedent's race is located in the top section of the case file. Please copy and paste as-is.
 - a. NOTE: If the decedent's race isn't included in the case file, input "Unknown" under the race column in the excel file.

viii. Column H: Gender

- 1. The decedent's sex is located in the top section of the case file. Please copy and paste their gender as-is.
 - a. NOTE: If their sex is blank in the case file, input "Unknown" under the gender column in the excel file.

ix. Column I: Incident Address

- The incident or event address is located in the section below the decedent's demographics, labeled as "Event Address". Please copy and paste the address as is.
 - a. NOTE: If a decedent was taken to a hospital, they may mark the incident address as the hospital they were taken to (example in screenshot below). However, we want the address of where the decedent was first found, which can usually be found in one of the

notes sections (usually in the "Doctor/Hospital Comments" or "Police Comments" sections). If they listed the incident address in the notes, copy and paste that address into the excel file. If they didn't include the original event address, input "Unknown" under the incident address in the excel file.

x. Column J: Home Address

- The decedent's home address is located in the section below the decedent's demographics, labeled as "Decedent's Residence". Please copy and paste the address as is.
 - a. NOTE: If the address for the decedent's residence is blank, please input "Unknown" under the home address column in the excel file.

xi. Column K: Found-At Coding

- This column denotes whether the decedent had a suspected drug overdose either at their home or outside of their home. Therefore, we code this information by inputting:
 - a. 1 = Found at home
 - b. 0 = Found at a location outside of their home

xii. Column L: Notes for Found-At Coding

- 1. These are notes are based on the code that was entered in Column K: Found-At Coding.
 - a. If Column K was coded as a "1", no notes are needed in Column L and can be left blank.
 - b. If Column K was coded as a "0", please provide a brief statement on where the decedent was found (i.e. at friend's house, in vacant dwelling, at motel, etc.) in Column L.

xiii. Column M: Suspected Indicators

- This is where you include all indicators that make this case a suspected drug overdose. Please list out all present indicators separated by a comma within Column M.
- 2. Please use the standardized phrasing created for each indicator as noted in the document "ME Language Standardization".
 - a. Do not include specific details (i.e. specific drug used, specific paraphernalia, etc.), just the standardized phrases that are listed in the document noted above.
- 3. Within the indicators, we should distinguish between suspected illicit drug use and prescription drug use. Please note for indicators such as suspected narcotics, suspected overdoses, and history of drug use or overdoses whether this involves illicit, prescription, or both.
 - a. See "ME Language Standardization" for specific wording.
- c. Columns N & O are related to the Toxicology report results. Do not input any ME case information into those columns.
- 6. Once all suspected drug overdose case files have been inputted into the ME Data excel file, save it and upload the updated file to the secure drive.

Appendix 2

Terms of Service

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IF YOU DON'T UNDERSTAND HOW THIS AGREEMENT APPLIES TO YOUR ACCESS TO OR USE OF THE SOS MATERIALS, OR YOU THINK THAT YOUR ACCESS TO OR USE OF THE SOS MATERIALS WOULD BE IN VIOLATION OF THIS AGREEMENT, YOU SHOULD CONTACT SOS (see section 11) BEFORE YOU ACCESS OR USE THE SOS MATERIALS. YOU MUST BE AUTHORIZED TO ACCEPT THESE TERMS AND CONDITIONS AS AN INDIVIDUAL. IF YOU DON'T OR CAN'T ACCEPT THESE TERMS AND CONDITIONS PLEASE STOP HERE AND DO NOT ACCESS OR USE SOS OR THE SOS MATERIALS. SOS IS NOT INTENTED FOR USE BY ANYONE UNDER THE AGE OF 13. IF YOU ARE UNDER 13, YOU ARE NOT PERMITTED TO USE SOS.

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2. Access

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You are responsible for all data and content that You access from SOS or create using the SOS Materials (collectively, "Data"). In addition to any other terms and conditions of this Agreement, YOU AGREE TO ABIDE BY THE FOLLOWING RULES:

- You will not share passwords or other access information or devices or otherwise authorize any third party to access or use SOS or the SOS Materials on Your behalf.
- You will not engage in unlawful, illegal, or fraudulent activity, including, without limitation, by engaging in unauthorized access or unauthorized use of SOS or the SOS Materials or any accounts, computers, or networks related to SOS.
- You will not damage, disrupt, interfere with, diminish, or render inaccessible or unusable SOS or the SOS Materials, SOS or others' equipment or software or others' data, or attempt to do so, or encourage or assist others to do so.
- You will not initiate a denial of service attack against SOS or the SOS Materials or release a virus, trojan horse, worms or other malware or spyware.
- You will not use the SOS Materials to perpetrate a hoax or engage in phishing schemes or forgery or other similar falsification or manipulation of data.
- You will not use the SOS Materials to abuse, harass, stalk, threaten, or otherwise violate the legal rights of others.
- You will not use the SOS Materials to libel or defame others.
- You will not resell or charge others for the SOS Materials, either directly or indirectly.
- You will abide by reasonable administrative directives issued from time to time concerning the access or use of SOS or the SOS Materials.

5. Suspension and Termination of Your Use of SOS

If You breach or violate the terms and conditions of this Agreement, Your access to SOS and use of the SOS Materials may be suspended or terminated without prior notice to You. You acknowledge that if Your access to and/or use of SOS and the SOS Materials is suspended or terminated, it is possible that You may no longer have access to the Data that You created.

You agree that if You breach this Agreement, Michigan may take any available legal actions.

6. Changes to Agreement

Michigan reserves the right to update and revise this Agreement at any time. Michigan will change the "Effective Date" at the top of this page so You can determine if the terms of this Agreement have changed since Your last visit. You should routinely check the web page to find out if any changes have been made that affect Your use of the SOS Materials. Unless otherwise specified, changes made to this Agreement will be effective when they are posted to the web page. IF YOU DO NOT AGREE WITH ANY CHANGES THAT HAVE BEEN MADE, YOU MUST TERMINATE YOUR USE OF SOS ANDTHE SOS MATERIALS.

7. Monitoring

Michigan may monitor Your use of SOS and the SOS Materials to assess compliance with the terms of this Agreement.

8. Disclaimer and Limitation of Liability

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TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, WHATEVER THE LEGAL BASIS FOR THE CLAIM, NEITHER MICHIGAN, NOR ANY OF ITS RESPECTIVE AFFILIATES, AGENTS, EMPLOYEES OR CONTRACTORS, WILL BE LIABLE TO YOU FOR ANY INDIRECT, CONSEQUENTIAL, EXEMPLARY, PUNITIVE, SPECIAL, OR INCIDENTAL DAMAGES ARISING IN CONNECTION WITH THIS AGREEMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR IF SUCH POSSIBILITY WAS REASONABLY FORESEEABLE.

IF YOU ARE DISSATISFIED WITH SOS AND/OR THE SOS MATERIALS FOR ANY REASON, OR WITH ANY OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, YOUR SOLE AND EXCLUSIVE REMEDY IS TO DISCONTINUE ACCESSING AND USING SOS AND THE SOS MATERIALS.

THE SOS MATERIALS HAVE NOT BEEN EVALUATED BY THE FEDERAL DRUG ADMINISTRATION NOR APPROVED BY ANY OTHER GOVERNMENT OR OFFICIAL BODY. NOTHING IN THE SOS MATERIALS IS INTENDED TO BE A SUBSTITUTE FOR PROFESSIONAL MEDICAL ADVICE, DIAGNOSIS, OR TREATMENT. IF YOU

HAVE CONCERNS ABOUT YOUR HEALTH, YOU SHOULD TALK TO YOUR DOCTOR. IF YOU THINK YOU ARE HAVING A MEDICAL EMERGENCY, CALL YOUR HEALTH CARE PROFESSIONAL, OR 911, IMMEDIATELY.

9. Governing Law

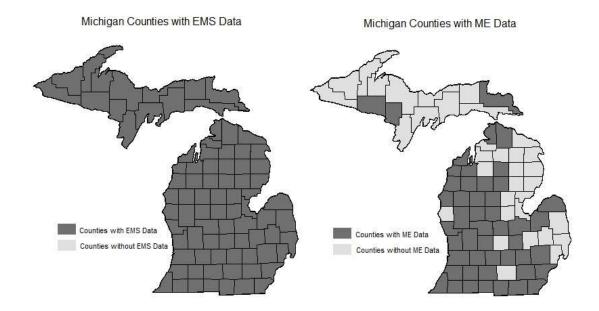
This Agreement will be governed by and construed in accordance with the laws of the State of Michigan.

10. General

Your access to and use of SOS and SOS Materials are governed by this Agreement and any other terms agreed to in writing. In the event You have any questions about this Agreement, You should contact sos.reports@umich.edu.

If any part of this Agreement is determined to be invalid or unenforceable then the invalid or unenforceable provision will be deemed superseded by a valid enforceable provision that most closely matches the intent of the original provision, and the remainder of this Agreement will continue in effect. The failure of Michigan to exercise or enforce any right or provision of this Agreement will not constitute a waiver of such right or provision. You are prohibited from assigning this Agreement or transferring Your rights under this Agreement to anyone else.

Appendix Figure 1. Map of EMS and ME data coverage by county in the Michigan System for Opioid Overdose Surveillance



Appendix Figure 2. Cumulative number of SOS log-ins granted since dashboard launch

