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White Paper

Information Sharing Between Medicolegal Death Investigators and Toxicology Testing Services

Overview

From 1999 to 2021, more than 1 million people in the United States (U.S.) died from a drug-intoxication, with 106,699 occurring in 2021 alone.[a] Drug intoxication deaths—from pharmaceutical or illicit drugs—are the leading cause of unintentional injury deaths in the U.S.[b,c,d] Medicolegal death investigation offices[e] work with toxicology laboratories to identify substances that may be relevant in establishing a decedent's cause and manner of death. It is imperative to proactively establish cooperative relationships and information sharing to ensure the best possible outcome for families, health care organizations, toxicology testing services, MDIs, and other key data users.

Advantages/Benefits

Efficient communication and information sharing between medicolegal death investigators and toxicology laboratories is mutually beneficial. Interoperability between toxicology laboratory information management systems and coroner and medical examiner case management systems provides crucial automation and digitization of data.

Benefits of Information Sharing between Medicolegal Death Investigation Offices and Toxicology Laboratories

- Expediency (e.g., real-time data available with case progression)
- Searchability (e.g., search overdoses over a given period, search drug combinations)[f]
- Accuracy (e.g., one-time entry reduces transcription errors, standardized nomenclature)
- Efficiency and reduced redundancy (e.g., accessioning and ordering testing)
- Query capabilities (e.g., data mining, retrospective surveillance)[g]
- Auto-population of toxicology information into case management system tables

[a] Centers for Disease Control and Prevention. (2023, August 22). *Drug overdose deaths*. https://www.cdc.gov/drugoverdose/deaths/index.html.
[b] National Center for Health Statistics. (2018, October). *NCHS data on drug-poisoning deaths*. https://www.cdc.gov/nchs/data/factsheets/factsheet-drug-poisoning-H.pdf
[c] In this whitepaper the term "drug intoxication death" refers to any overdose, poisoning, or substance-related death.
[d] Centers for Disease Control and Prevention. (2021). *FastStats: Accidents or Unintentional Injuries.* https://www.cdc.gov/nchs/fastats/accidental-injury.htm
[e] Medicolegal death investigation offices include medical examiner, coroner, and justice of the peace offices.
[f] A search gathers inexact information and does not require strict adherence to a common data model.
[g] A query retrieves information, based on whether it exactly matches the terms provided.

Recommendations

Priority recommendations for medicolegal death investigators and toxicology laboratories to ensure the best possible U.S. death investigation outcomes are as follows:

- Ensure effective communication between medicolegal death investigators, toxicology laboratories, and other key data user entities (i.e., developing and keeping lines of communication open for discussions and consultations).
- Develop streamlined and efficient data interoperability between systems.
- Provide rapid access and coding of information.

Toxicology laboratories should take the following actions:

- Develop, validate, and promulgate accurate, up-to-date, and comprehensive scopes of testing for stakeholders.
- Be aware of local drug trends in respective jurisdiction(s) and update the scopes of testing as needed.
- Work to reduce turnaround time between sample receipt and issuance of final report.

Medicolegal Death Investigation offices should take the following steps:

- Ensure the scope of toxicology testing is adequate and appropriate for their jurisdiction(s).
- Provide relevant case information of the circumstances to the toxicologists (e.g., name of medications at scene).
- Provide timely, unambiguous, and consistent reporting of deaths, including relevant drugs and the preferred names for drugs/substances on death certificates.
- Avoid the use of street drug names, slang terms, and non-specific terms such as opioids (i.e., use the most specific information available).

Additional Resources

1. Davis, G. G., Cadwallader, A. B., Fligner, C. L., Gilson, T. P., Hall, E. R., Harshbarger, K. E., Kronstrand, R., Mallak, C. T., McLemore, J. L., Middleberg, R. A., Middleton, O. L., Nelson, L. S., Rogalska, A., Tonsfeldt, E., Walterscheid, J. P., & Winecker, R. E. (2020). Position paper: Recommendations for the investigation, diagnosis, and certification of deaths related to opioid and other drugs. *American Journal of Forensic Medicine and Pathology*, *41*(3), 152–159. https://doi.org/10.1097/PAF.0000000000000550.
2. Vernon, E., Sorrell, C., Shute, R., & Ropero-Miller, J. D. (2022). *A landscape study of electronic case management systems (CMS) for medical examiners and coroners*. Research Triangle Park, NC: RTI International. https://forensiccoe.org/electronic-case-management-system-mdi/.
3. Shute, R., Bollinger, K., Tucker, M., & Ropero-Miller, JD. (2021). Use of rapid toxicology screening tools in medical examiner/coroner offices. Research Triangle Park, NC: RTI International. https://forensiccoe.org/rapid-toxicology-screening-mdi/.

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