

Overview & Limitations of NFLIS-Drug Estimates

OVERVIEW

The National Forensic Laboratory Information System (NFLIS-Drug) is a Drug Enforcement Administration (DEA), Diversion Control Division program that systematically collects drug identification results and associated information from drug cases submitted to and analyzed by Federal, State, and local forensic laboratories.¹ NFLIS-Drug provides timely and detailed analytical results of drugs seized in law enforcement operations across the country and serves as an important resource for monitoring and understanding drug abuse and trafficking, including the diversion of legally manufactured drugs into illegal markets.¹ According to the *NFLIS-Drug 2018 Annual Report*, “the NFLIS-Drug participation rate, defined as the percentage of the national drug caseload represented by laboratories that have joined NFLIS, is currently over 98%. NFLIS-Drug includes 50 State systems and 104 local or municipal laboratories/laboratory systems, representing a total of 282 individual laboratories. The NFLIS-Drug database also includes Federal data from DEA and U.S. Customs and Border Protection (CBP) laboratories.”¹ (See [NFLIS-Drug Participating and Reporting Forensic Laboratories](#) for the list of participating labs as of July 29, 2019.)

In 2018, the DEA expanded the NFLIS program to include two additional drug surveillance components. *NFLIS-MEC* collects drug-related mortality data from medical examiner and coroner offices and *NFLIS-Tox* collects drug testing results from toxicology laboratories.² The data presented in the *NDEWS National-Level Data Indicators* visualizations are based on the original NFLIS-Drug data collection system and represent estimates of drugs seized by law enforcement and identified from cases analyzed by State and local forensic laboratories.

National and Regional Drug Estimates: NFLIS-Drug estimates are based on the National Estimates Based on All Reports (NEAR) approach, which adjusts the number of reports of drugs recorded and submitted by NFLIS-Drug laboratories by accounting for nonreporting and nonsampled laboratories. These weighted and imputed data allow for “inferences to be made of the total number of analyzed drug reports in the entire NFLIS-Drug ‘universe’ of State and local forensic drug laboratories.”² (See the [National Forensic Laboratory Information System \(NFLIS\): Statistical Methodology](#) report for more information about how the national estimates are derived.)

The annual estimates are based on results of drug cases submitted to State and local laboratories from January through December of a given year and analyzed by March 31 of the following year.¹ The midyear estimates are based on results of drug cases submitted to State and local laboratories from January 1 through June 30 and analyzed by September 30 of the given year.³

In 2017, an enhancement to the NEAR methodology was introduced to account for **all** drugs reported in an item submission. Prior to that, for each drug item (exhibit) analyzed by a laboratory in the NFLIS program, only up to three drugs were reported to NFLIS and counted in the estimation process. Starting with the *NFLIS-Drug 2016 Annual Report*, all drugs reported in an item are now counted in the estimation process.⁴ “This change ensures that the estimates will take into consideration all reported substances, including emerging drugs of interest, that may typically be reported as the fourth or fifth drug within an item. . . . Although this change could not be applied to reporting periods before 2016, the 2016 data showed that 99.97% of drug reports are captured in the first, second, or third drug report for any item; therefore, no statistical adjustments were deemed necessary to maintain the trend with prior years.”⁴

Rates (per 100, 000 population aged 15 or older) were calculated using population estimates for persons aged 15 years or older queried via CDC WONDER’s bridged-race population estimates.

The population data are bridged-race derived from U.S. Census Bureau files. Please see https://www.cdc.gov/nchs/nvss/bridged_race.htm for more information about how population (used as denominator for rates) data were prepared by the National Center for Health Statistics (NCHS).

LIMITATIONS

- “*NFLIS-Drug* includes drug chemistry results from completed analyses only. Drug evidence secured by law enforcement but not analyzed by laboratories is not included in the database.”¹
- “National and regional estimates may be subject to variation associated with sample estimates, including nonresponse bias.”¹
- “State and local policies related to the enforcement and prosecution of specific drugs may affect drug evidence submissions to laboratories for analysis.”¹
- “Laboratory policies and procedures for handling drug evidence vary. Some laboratories analyze all evidence submitted to them, whereas others analyze only selected case items. Many laboratories do not analyze drug evidence if the criminal case was dismissed from court or if no defendant could be linked to the case.”¹
- “Laboratories vary with respect to the records they maintain. For example, some laboratories’ automated records include the weight of the sample selected for analysis (e.g., the weight of one of five bags of powder), whereas others record total weight.”¹
- Laboratories may also have “different criteria for detecting drugs in their samples; thus, they will vary in the way in which these drugs are identified and therefore reported to the NFLIS-Drug database.”²

- Annual estimates for 2007-2015 and midyear estimates for 2007-2016 are based on the top three drugs reported for each drug item (exhibit) analyzed by a laboratory in the NFLIS program. Data for 2016 and 2017 and midyear 2017 are based on **all** drugs reported in an item submission. “[T]he 2016 data showed that 99.97% of drug reports are captured in the first, second, or third drug report for any item; therefore, no statistical adjustments were deemed necessary to maintain the trend with prior years.”⁴

SOURCES

¹U.S. Drug Enforcement Administration (DEA), Diversion Control Division. (2019). *National Forensic Laboratory Information System: NFLIS-Drug 2018 Annual Report*. Springfield, VA: U.S. Drug Enforcement Administration. Retrieved from: <https://www.nflis.deadiversion.usdoj.gov/Reports.aspx>

²U.S. Drug Enforcement Administration (DEA), Diversion Control Division. (undated). *National Forensic Laboratory Information System: NFLIS Public Resources Library, NFLIS Questions and Answers (Q&A)*. Retrieved from: <https://www.nflis.deadiversion.usdoj.gov/Resources/NFLISPublicResourceLibrary.aspx>

³U.S. Drug Enforcement Administration (DEA), Diversion Control Division. (2019). *National Forensic Laboratory Information System: NFLIS-Drug 2018 Midyear Report*. Springfield, VA: U.S. Drug Enforcement Administration. Retrieved from: <https://www.nflis.deadiversion.usdoj.gov/Reports.aspx>

⁴U.S. Drug Enforcement Administration, Diversion Control Division. (2017). *National Forensic Laboratory Information System: Statistical Methodology (Revised September 2017)*. Springfield, VA: U.S. Drug Enforcement Administration. Retrieved from: <https://www.nflis.deadiversion.usdoj.gov/Reports.aspx>

U.S. Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). *Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin*. Compiled from revised bridged-race 2000-2009 intercensal population estimates (released by NCHS on 10/26/2012); and bridged-race Vintage 2017 (2010-2017) postcensal population estimates (released by NCHS on 6/27/2018). Available on CDC WONDER Online Database. Accessed at <http://wonder.cdc.gov/bridged-race-v2017.html> on Oct 16, 2018.