**eAppendix A: ICD 10 codes used to define opioid overdoses (Cook County, Illinois residents who died from opioid overdoses between 2016-2019).**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Any Mention of Diagnosis or External Cause of Injury Fields** | **AND a 6th character of 1,2,3, or 4:** | **AND a 7th character of A or missing** |
| **Included** | | | |
| **Intoxication and Toxic Exposures (Overdoses)** | **F11.12:** Opioid abuse with intoxication  **F11.22:** Opioid dependence with intoxication  **F11.92:** Opioid use, unspecified with intoxication  **T40.0X:** Poisoning by opium  **T40.1X:** Poisoning by heroin  **T40.2X:** Poisoning by other opioids  **T40.3X:** Poisoning by methadone  **T40.4X:** Poisoning by synthetic narcotics  **T40.60:** Poisoning by unspecified narcotics  **T40.69:** Poisoning by other narcotics | **1:** Accidental (unintentional)  **2:** Intentional self-harm  **3:** Assault  **4:** Undetermined intent  *Does not include:*  **5**: Adverse effect  **6**: Underdosing | **A:** Initial encounter  Missing  *Does not include:*  **D**: Subsequent encounter  **S**: Sequela |
| **Excluded** | | | |
| **Non-toxic Exposures** | **T40.0X:** Poisoning by opium  **T40.1X:** Poisoning by heroin  **T40.2X:** Poisoning by other opioids  **T40.3X:** Poisoning by methadone  **T40.4X:** Poisoning by synthetic narcotics  **T40.60:** Poisoning by unspecified narcotics  **T40.69:** Poisoning by other narcotics | **5**: Adverse effect  *Does not include:*  **6**: Underdosing | **D**: Subsequent encounter  **S**: Sequela |
|  | **F11.XX:** All other ICD-10 codes not involving intoxication but indicating substance abuse or dependence |  | **A:** Initial encounter  Missing  **D:** Subsequent encounter  **S:** Sequela |

**eAppendix B:** **Summary of the data linkage steps used to link deaths identified in Illinois hospital data with deaths identified by the Cook County medical examiner (Cook County residents who died from opioid overdoses between 2016-2019).**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Linkage Pass** | **Residence ZIP** | **Race** | **Latino** | **Birth Year** | **Gender** | **Incident Date** | **Date of Death** | **Any Opioids** | **Heroin/Fentanyl** | **Methadone** | **All Other/Unspecified Opioids** | **Ethanol** | **Cocaine** | **Amphetamine** | **Benzodiazepines** | **Number Matches (Total=239)** |
| 1st pass | Exact | Exact | Exact | Exact | Exact | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 48 |
| 2nd pass | Exact | Exact | Exact | Exact | Exact | Omit | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 17 |
| 3rd pass | Exact | Exact | Exact | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Exact | Exact | Omit | Omit | 57 |
| 4th pass | Exact | Exact | Exact | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 56 |
| 5th pass | Exact | Exact | Exact | Exact | Exact | Omit | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 24 |
| 6th pass | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 2 |
| 7th pass | Exact | Omit | Exact | Exact | Exact | Omit | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 2 |
| 8th pass | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Exact | Exact | Omit | Omit | 12 |
| 9th pass | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 9 |
| 10th pass | Exact | Omit | Exact | Exact | Exact | Omit | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 1 |
| 11th pass | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 1 |
| 12th pass | Exact | Exact | Omit | Exact | Exact | Omit | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 0 |
| 13th pass | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Exact | Exact | Omit | Omit | 0 |
| 14th pass | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 2 |
| 15th pass | Exact | Exact | Omit | Exact | Exact | Omit | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 1 |
| 16th pass | Exact | Omit | Omit | Exact | Exact | Exact | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 4 |
| 17th pass | Exact | Omit | Omit | Exact | Exact | Omit | Exact | Omit | Exact | Exact | Exact | Exact | Exact | Exact | Exact | 0 |
| 18th pass | Exact | Omit | Omit | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Exact | Exact | Omit | Omit | 1 |
| 19th pass | Exact | Omit | Omit | Exact | Exact | Exact | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 2 |
| 20th pass | Exact | Omit | Omit | Exact | Exact | Omit | Exact | Exact | Omit | Omit | Omit | Omit | Omit | Omit | Omit | 0 |