

About the MIDAS Interpersonal Violence Data

Age-adjusted rate vs. Age-specific rate

Number

- If you want to understand what the magnitude or how big the overall burden is, then use the number.
- The number indicates the total number of deaths or hospitalizations/ED visits due to interpersonal violence.
- For hospital/ED visits, the number refers to the number of visits (individuals may be counted more than once).
- To protect an individual's privacy, counts from 1 to 5 are suppressed.

Age-adjusted Rate

- Age-adjusted rates are useful when comparing the rates of two population groups that have different age distributions.
- A weighted average, called the direct method, is used to adjust for age in this analysis. Age-specific rates in a given population are adjusted to the age distribution in a standard population by applying a weight. The U.S. 2000 Standard population is used as the basis for weight calculations.
- To limit the unreliability of rates, those based on counts < 6 are not calculated if the underlying population is less than or equal to 100,000.

Age-specific Rate

- A rate of an event (such as disease or death) measured within a particular age group. It is similar to a crude rate but is calculated within an age group (e.g. an age-specific rate of hospitalizations in adults 35-44 years of age).

Hospital Visit Case Definitions for Injuries due to Interpersonal Violence

The data provided here show the number of hospital and ED visits due to interpersonal violence. Because personal identifiers are removed from the hospital discharge data before analysis, individuals who have multiple hospitalizations or ED visits cannot be identified. Hospitalization and ED data are extracted from Minnesota Hospital Discharge Data (MNHDD), which is maintained by the Minnesota Hospital Association (MHA).

- MHA represents Minnesota's hospitals and health systems. Hospitals submit ED and inpatient discharge data to MHA using a standardized billing form. Submitting data to MHA is voluntary, but

ABOUT MIDAS INTERPERSONAL VIOLENCE DATA

the MNHDD typically represents data from more than 95% of hospitals (with some variation year to year).

- MHA began data-sharing agreements with several states in 2005. Minnesota residents receiving care from Emergency Departments and hospitals from the participating border states of North Dakota, South Dakota and Iowa are also included in hospitalization measures. MHA data are periodically revised by the MHA to reflect more complete and accurate discharge information.

Hospitalizations/ED visits due to interpersonal can be broken into three primary groups: assaultive violence, child abuse and maltreatment, and adult abuse and maltreatment.

Any hospital or ED visit is considered to be associated with **assaultive violence** when any of the following ICD 10-CM Codes are included in any diagnosis field:

- T36.XX3: Assaultive poisoning by, adverse effect of, and underdosing of systemic antibiotics
- T36.93:
- T37.XX3: Assaultive poisoning by, adverse effect of, and underdosing of other systemic anti-infectives and antiparasitics
- T37.93: Assaultive poisoning by unspecified systemic antibiotic
- T38.XX3: Assaultive poisoning by, adverse effect of, and underdosing of hormones and their synthetic substitutes and antagonists, not elsewhere classified
- T39.XX3: Assaultive poisoning by, adverse effect of, and underdosing of nonopioid analgesics, antipyretics, and antirheumatics
- T39.93: Assaultive poisoning by unspecified nonopioid analgesic, antipyretic and antirheumatic
- T40.XX3: Assaultive poisoning by, adverse effect of, and underdosing of narcotics and psychodysleptics (hallucinogens)
- T41.XX3: Assaultive poisoning by, adverse effect of, and underdosing of anesthetics and therapeutic gases
- T41.43: Assaultive poisoning by unspecified anesthetic
- T42.XX3: Assaultive poisoning by, adverse effect of, and underdosing of antiepileptic, sedative-hypnotic, and antiparkinsonism drugs
- T42.73: Assaultive poisoning by unspecified antiepileptic and sedative-hypnotic drugs
- T43.XX3: Assaultive poisoning by, adverse effect of, and underdosing of psychotropic drugs not elsewhere classified
- T43.93: Assaultive poisoning by unspecified psychotropic drug
- T44.XX3: Assaultive poisoning by, adverse effect of, and underdosing of drugs primarily affecting the autonomic nervous system

ABOUT MIDAS INTERPERSONAL VIOLENCE DATA

- T45.XX3: Assaultive poisoning by, adverse effect of, and underdosing of primarily systemic and hematological agents not elsewhere classified
- T45.93: Assaultive poisoning by unspecified primarily systemic and hematological agent
- T46.XX3: Assaultive poisoning by, adverse effect of, and underdosing of agents primarily affecting the cardiovascular system
- T47.XX3: Assaultive poisoning by, adverse effect of, and underdosing of agents primarily affecting the gastrointestinal system
- T47.93: Assaultive poisoning by unspecified agents primarily affecting the gastrointestinal system
- T48.XX3: Assaultive poisoning by, adverse effect of, and underdosing of agents primarily acting on smooth and skeletal muscles and the respiratory system
- T49.XX3: Assaultive poisoning by, adverse effect of, and underdosing of topical agents primarily affecting skin and mucous membrane and by ophthalmological, otorhinolaryngological and dental drugs
- T49.93: Assaultive poisoning by unspecified topical agent
- T50.XX3: Assaultive poisoning by, adverse effect of, and underdosing of diuretics and other and unspecified drugs, medicaments, and biological substances
- T51.XX3: Toxic effect of alcohol, assault
- T51.93: Toxic effect of unspecified alcohol, assault
- T52.XX3: Toxic effect of organic solvents, assault
- T52.93: Toxic effect of unspecified organic solvent, assault
- T53.XX3: Toxic effect of halogen derivatives of aliphatic and aromatic hydrocarbons, assault
- T53.93: Toxic effect of unspecified halogen derivatives of aliphatic and aromatic hydrocarbons, assault
- T54.XX3: Toxic effect of corrosive substances, assault
- T54.93: Toxic effect of unspecified corrosive substance, assault
- T55.XX3: Toxic effect of soaps and detergents, assault
- T56.XX3: Toxic effect of metals, assault
- T56.93: Toxic effect of unspecified metal, assault
- T57.XX3: Toxic effect of other inorganic substance, assault
- T57.93: Toxic effect of unspecified inorganic substance, assault
- T58.XX3: Toxic effect of carbon monoxide, assault

ABOUT MIDAS INTERPERSONAL VIOLENCE DATA

- T58.03: Toxic effect of carbon monoxide from motor vehicle exhaust, assault
- T58.13: Toxic effect of carbon monoxide from utility gas, assault
- T58.93: Toxic effect of carbon monoxide from unspecified source, assault
- T59.XX3: Toxic effect of other gases, fumes, and vapors, assault
- T59.93: Toxic effect of unspecified gases, fumes, and vapors, assault
- T60.XX3: Toxic effect of pesticides, assault
- T60.93: Toxic effect of unspecified pesticide, assault
- T61.XX3: Toxic effect of noxious substances eaten as seafood, assault
- T61.03: Toxic effect of ciguatera fish poisoning, assault
- T61.13: Toxic effect of scombroid fish poisoning, assault
- T62.XX3: Toxic effect of other noxious substances eaten as food, assault
- T62.93: Toxic effect of unspecified noxious substance eaten as food, assault
- T63.XX3: Toxic effect of contact with venomous animals and plants, assault
- T63.93: Toxic effect of unspecified venomous animal, assault
- T64.XX3: Toxic effect of aflatoxin and other mycotoxin food contaminants, assault
- T64.03: Toxic effect of aflatoxin, assault
- T64.83: Toxic effect of other mycotoxin food contaminants, assault
- T65.XX3: Toxic effect of other and unspecified, assault
- T71.XX3: Assault by asphyxiation
- X92: Assault by drowning or submersion
- X93: Assault by handgun discharge
- X94: Assault by rifle, shotgun, and larger firearm discharge
- X95: Assault by other and unspecified firearm and gun discharge
- X96: Assault by explosive material
- X97: Assault by smoke, fire, and flames
- X98: Assault by steam, hot vapors, and hot objects
- X99: Assault by sharp object
- Y00: Assault by blunt object
- Y01: Assault by pushing from a high place

ABOUT MIDAS INTERPERSONAL VIOLENCE DATA

- Y02: Assault by pushing or placing in front of a moving object
- Y03: Assault by crashing of motor vehicle
- Y04: Assault by bodily force
- Y08: Assault by other specified means
- Y09: Assault by unspecified means

Any hospital or ED visit is considered to be associated with **child abuse or maltreatment** when any of the following ICD 10-CM Codes are included in any diagnosis field and patient age is less than 20 years:

- T74.02 – Confirmed child neglect
- T76.02 – Suspected child neglect
- T74.12 – Confirmed child physical abuse
- T76.12 – Suspected child physical abuse
- T74.22 – Confirmed child sexual abuse
- T76.22 – Suspected child sexual abuse
- T74.32 – Confirmed child psychological abuse
- T76.32 – Suspected child psychological abuse
- T74.42 – Shaken infant syndrome
- T74.52 – Confirmed forced child sexual exploitation (Added 10/01/2018)
- T76.52 – Suspected forced child sexual exploitation (Added 10/01/2018)
- T74.62 – Confirmed forced child labor exploitation (Added 10/01/2018)
- T76.62 – Suspected forced child labor exploitation (Added 10/01/2018)
- T74.92 – Confirmed unspecified child maltreatment
- T76.92 – Suspected unspecified child maltreatment
- Z04.81 – Encounter for examination and observation of victim following forced sexual exploitation (Added 10/01/2018)
- Z04.82 – Encounter for examination and observation of victim following forced labor exploitation (Added 10/01/2018)
- Z62.813 – Personal history of forced labor or sexual exploitation in childhood (Added 10/01/2018)
- Z91.42 – Personal history of forced labor or sexual exploitation (Added 10/01/2018)

Any hospital or ED visit is considered to be associated with **adult abuse or maltreatment** when any of the following ICD 10-CM Codes are included in any diagnosis field and patient age is 20 or older:

- T74.01 – Confirmed adult neglect
- T76.01 – Suspected adult neglect
- T74.11 – Confirmed adult physical abuse
- T76.11 – Suspected adult physical abuse
- T74.21 – Confirmed adult sexual abuse
- T76.21 – Suspected adult sexual abuse
- T74.31 – Confirmed adult psychological abuse
- T76.31 – Suspected adult psychological abuse
- T74.51 – Confirmed forced adult sexual exploitation (Added 10/01/2018)
- T76.51 – Suspected forced adult sexual exploitation (Added 10/01/2018)
- T74.61 – Confirmed forced adult labor exploitation (Added 10/01/2018)
- T76.61 – Suspected forced adult labor exploitation (Added 10/01/2018)
- T74.91 – Confirmed unspecified adult maltreatment
- T76.91 – Suspected unspecified adult maltreatment
- Z04.81 – Encounter for examination and observation of victim following forced sexual exploitation (Added 10/01/2018)
- Z04.82 – Encounter for examination and observation of victim following forced labor exploitation (Added 10/01/2018)
- Z62.813 – Personal history of forced labor or sexual exploitation in childhood (Added 10/01/2018)
- Z91.42 – Personal history of forced labor or sexual exploitation (Added 10/01/2018)

Death Case Definitions for Deaths due to Interpersonal Violence

Deaths due to interpersonal violence data are extracted from the Minnesota Death Certificate data. A death is considered a result of interpersonal if the underlying cause of death is one of the following ICD-10 codes OR if the death is ruled as a homicide:

- O9A[3-5]: Abuse or maltreatment during pregnancy
- X[85-90]: Assault (poisoning) by drugs, biological substances, and other and unspecified noxious substances

ABOUT MIDAS INTERPERSONAL VIOLENCE DATA

- X91: Assault by asphyxiation
- X92: Assault by drowning or submersion
- X93: Assault by handgun discharge
- X94: Assault by rifle, shotgun, and larger firearm discharge
- X95: Assault by other and unspecified firearm and gun discharge
- X96: Assault by explosive material
- X97: Assault by smoke, fire, and flames
- X98: Assault by steam, hot vapors, and hot objects
- X99: Assault by sharp object
- Y00: Assault by blunt object
- Y01: Assault by pushing from a high place
- Y02: Assault by pushing or placing in front of a moving object
- Y03: Assault by crashing of motor vehicle
- Y04: Assault by bodily force
- Y05: Rape
- Y06: Neglect
- Y07: Other maltreatment
- Y08: Assault by other specified means
- Y09: Assault by unspecified means
- Y87.1: Remote effects of assault <1 year ago

Data Limitations

Hospital Discharge Data Limitations

- Hospital Discharge Data includes data for hospital visits rather than for individual people. To the extent possible, the data are not duplicated. However, multiple hospital visits by the same patient for the same condition/injury may be included.
- We are only able to capture the burden of conditions that are 100% attributable to alcohol for hospitalization and ED data. This leads to an underestimate of the overall burden of excessive alcohol use on the health care system because alcohol contributes to a wide variety of chronic and acute conditions that are not captured in these data.

ABOUT MIDAS INTERPERSONAL VIOLENCE DATA

- Minnesota residents discharged from Wisconsin hospitals are not included, so hospitalization and ED visit rates for counties in which residents are likely to receive care from Wisconsin may be underestimated. Rates for counties in which residents are likely to visit hospitals that do not submit data to the Minnesota Hospital Association (e.g., Veteran's Administration or Indian Health Services hospitals) may also be artificially low.

Death Certificate Data Limitations

- Beginning in 2017, we do not have the death records for those Minnesota residents who died in another state.
- There may be cases where the underlying cause of death does not fall within the case definition for deaths due to interpersonal violence, but in fact are attributable to interpersonal violence.