

## Injury and Violence Technical Notes

### Mortality Indicators

**All-Cause Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: V01-Y36, Y85-Y87, Y89, U01-U03. These reflect injury deaths of any intent or mechanism and include all injury deaths recorded to Virginia residents in a given year.

**Homicide Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: X85-Y09, Y87.1, U01, U02. These reflect intentional injury deaths that were the result of assault or where the injury was determined to have been caused by another person. These cases may or may not meet the criminal justice definition of homicide.

**Suicide Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: X60-X84, Y87.0, U03. These reflect injury deaths that were the result of intentional self-harm.

**Unintentional Fall Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: W00-W19. These reflect injury deaths that were the result of unintentional falls of any type.

**TBI Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was injury-related (ICD 10 codes: V01-Y36, Y85-Y87, Y89, U01-U03) and where any of 20 contributing causes of death included any of the following ICD 10 codes that are consistent with a traumatic brain injury: S01.0-S01.9, S02.0, S02.1, S02.3, S02.7-S02.9, S04.0, S06.0-S06.9, S07.0, S07.1, S07.8, S07.9, S09.7, S09.9, T01.0, T02.0, T04.0, T06.0, T90.1, T90.2, T90.4, T90.5, T90.8, T90.9. These reflect injury deaths of any intent (i.e. unintentional, homicide, suicide, undetermined or other) that were determined to be a result of a traumatic brain injury.

**Poisoning Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2, U01 (.6-.7). These reflect injury deaths where the mechanism of injury was related to a drug or non-drug poisoning of any intent category (i.e. unintentional, homicide, suicide, undetermined or other).

**Drug Overdose Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: X40-X44, X60-X64, X85, Y10-Y14. These reflect injury deaths that were attributable to poisonings involving drugs of any kind (licit or illicit). These cases are a subset of all poisoning deaths and include drug overdoses attributable to unintentional or intentional (i.e. homicide, suicide) causes or causes of undetermined or other intent.

**Motor Vehicle Traffic Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: V02-V04 (.1, .9), V09.2, V12-V14 (.3-.9), V19 (.4-.6), V20-V28 (.3-.9), V29 (.4-.9), V30-V39 (.4-.9), V40-V49 (.4-.9), V50-V59 (.4-.9), V60-V69 (.4-.9), V70-V79 (.4-.9), V80 (.3-.5), V81.1, V82.1, V83-V86 (.0-.3), V87 (.0-.8), V89.2. These reflect injury deaths where the mechanism of death was related to a motor vehicle traffic injury involving occupants, motorcyclists, pedestrians, bicyclists or others operating, or being injured by someone operating, a motor vehicle.

**Firearms Injury:** Defined as a Virginia resident death case where the underlying cause of death (ACME) was among the following ICD 10 codes: W32-W34, X72-X75, X93-X95, Y22-Y24, Y35.0, U01.4. These reflect injury deaths where the mechanism of death was a firearm, of any intent category (i.e. unintentional, homicide, suicide, undetermined or other).

### **Morbidity Indicators**

**All-Cause Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was among the following ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85. These reflect discharges related to injuries of any intent or mechanism, including poisonings.

**Assault Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where the first-listed, valid external cause code was among the following: E880–E886, E888, E960–E969, E979, E999.1. These reflect intentional injury hospitalizations that were the result of assault or where the injury was determined to have been caused by another person. These cases may or may not meet the criminal justice definition of assault.

**Self-Harm Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where the first-listed, valid external cause code was among the following: E950–E959. These reflect injury hospitalizations that were the result of intentional self-harm, such as suicide attempts.

**Unintentional Fall Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where the first-listed, valid external cause code was among the following: E880–E886, E888. These reflect injury hospitalizations related to unintentional falls of any type.

**TBI Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where any of 18 diagnosis codes on the record included one of the following ICD 9 CM codes related to traumatic brain injuries: 800.00–801.99, 803.00–804.99, 850.0–850.9, 851.00–854.19, 950.1–950.3, 959.01, 995.55. These reflect injury hospitalizations of any intent (i.e. unintentional, homicide, suicide, undetermined or other) that were determined to be a result of a traumatic brain injury.

**Poisoning Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where the first-listed, valid external cause code was among the following: E850–E858, E860–E869, E950–E952, E962, E972, E980–E982, E979 (.6–.7). These reflect injury hospitalizations where the mechanism of injury was related to a drug or non-drug poisoning of any intent category (i.e. unintentional, homicide, suicide, undetermined or other).

**Motor Vehicle Traffic Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where the first-listed, valid external cause code was among the following: E810–E819. These reflect injury hospitalizations where the mechanism of injury was related to a motor vehicle traffic injury involving occupants, motorcyclists, pedestrians, bicyclists or others operating, or being injured by someone operating, a motor vehicle.

**Firearms Injury:** Defined as an inpatient, acute care hospitalization discharge of a Virginia resident where the primary diagnosis was injury-related (ICD 9 CM codes: 800–909.2, 909.4, 909.9–994.9, 995.5–995.59, 995.80–995.85) and where the first-listed, valid external cause code was among the following: E922.0–E922.3, E922.8, E922.9, E955.0–E955.4, E965.0–E965.4, E985.0–E985.4, E970, E979.4. These reflect injury hospitalizations where the mechanism of injury was a firearm, of any intent category (i.e. unintentional, homicide, suicide, undetermined or other).

## **Data Source Descriptions for Injury and Violence**

### ***Morbidity Data***

The morbidity injury indicator data are drawn from the inpatient discharge dataset provided to Virginia Department of Health (VDH) by Virginia Health Information (VHI). These data represent all in-state, acute care, inpatient discharges occurring to Virginia residents. Virginia residents hospitalized out of state would not be included, and non-acute hospitalizations have been excluded from the indicator calculations, in keeping with practices outlined by Safe States and the Centers for Disease Control and Prevention (CDC). Cases have been assigned to localities based on residence at time of discharge. However, geographic specification of cases in these data are more approximate than exact, so there may be some misspecification of where a case resided with neighboring areas on the map. Processes used for analyzing inpatient discharge data related to injuries and violence are consistent with guidance provided by Safe States and CDC, through Injury Surveillance Workgroup publications.

### ***Mortality Data***

The mortality injury indicator data presented are drawn from the Virginia resident death certificate dataset provided by the VDH Division of Health Statistics. These data represent all Virginia resident deaths, regardless of where the death occurred. Virginia residents who died out of state would therefore be included, and geographic assignment of cases within these data is based on residence at time of death, as recorded on the death certificate. Death certificates are known to underestimate the burden of certain causes of death, such as suicide and drug overdose. Processes used for analyzing death certificated data related to injuries and violence are consistent with guidance provided by Safe States and CDC, through Injury Surveillance Workgroup publications.