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| **Category** | **Cause of Death (COD)**  \*Specifies NCHS top 10 CODs | **ICD Codes from** | **ICD Codes** |
| Injuries | Accidents (unintentional injuries) \* | NCHS 1 | V01–X59, Y85–Y86,  Excluding motor vehicle accidents and poisonings (given the SIMAH ICD codes below) |
| Injuries | Motor vehicle accident | SIMAH 2,3 | V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6,  V20-V79, V80.3-V80.5,  V81.0-V81.1, V82.0-V82.1,  V83-V86, V87.0-V87.8,  V88.0-V88.8, V89.0 and V89.2 |
| Injuries | Opioid poisoning | Charlotte/Yu 5 | 1) X40-X44, X85, Y10-Y14 from underlying cause  2) T40.0-T40.4, T40.6 from contributing cause  Must meet both 1) and 2)  Note: X60-X64 excluded from poisoning, but coded to suicide |
| Injuries | Alcohol poisonings | SIMAH 2,3 | X45 from underlying cause  Note: F10.0 excluded from alcohol poisoning, but coded to AUD  Note: Alcohol poisoning could also only X45, F10.0 and T51 to match with the Poisoning paper. It was not done here to avoid overlap with other causes. |
| Injuries | Intentional self-harm | SIMAH 2,3 | X60-X84, Y87.0  Note: X60-X64 is coded to suicide and excluded from opioid poisoning |
| Injuries | Other injuries | IHME GBD 2019 4 | **Transport injuries**: V00-V86.99, V87.2-V87.3, V88.2-V88.3, V90-V98.8;  **Unintentional injuries**: D69.5-D69.59, D70.1-D70.2, D78-D78.89, D89.81-D89.813, E03.2, E06.4, E09-E09.9, E16.0, E23.1, E24.2, E27.3, E36-E36.8, E66.1, E86.02-E87.99, E89-E89.9, G21.0-G21.19, G24.0-G24.09, G25.1, G25.4, G25.6-G25.79, G62.0, G72.0, G93.7, G96.0, G96.11, G97-G97.9, H02.81-H02.819, H05.33-H05.339, H05.42-H05.53, H44.6-H44.799, H59-H59.89, H91.0-H91.09, H95-H95.9, I95.2-I95.81, I97-I97.9, J70-J70.5, J95-J95.9, K08.5-K08.59, K43-K43.9, K52.0, K62.7, K68.11, K91-K91.9, K94-K95.89, L23.3, L27.0-L27.1, L55-L55.9, L56.0-L56.1, L58-L58.9, L64.0, L76-L76.82, M10.2-M10.29, M60.2-M60.28, M87.1-M87.19, M96-M96.9, N14-N14.4, N30.4-N30.41, N46.021, N46.121, N52.2-N52.39, N65-N65.1, N99-N99.9, P93-P93.8, P96.2, P96.5, R50.2-R50.83, W00-W46.2, W49-W62.9, W64-W70.9, W73-W81.9, W83-W94.9, W97.9, W99-X06.9, X08-X44.9, X46-X58.9, Y10-Y14.9, Y16-Y19.9, Y40-Y84.9, Y88-Y88.3, Z21.0, Z42-Z43.0, Z43.8-Z43.9, Z48-Z48.9, Z51-Z51.9, Z88-Z88.9, Z92-Z94.0, Z94.6, Z94.8-Z94.9, Z96-Z96.49, Z96.6-Z97.2, Z97.8-Z99.12, Z99.3-Z99.9;  **Self-harm and interpersonal violence**: T74.2-U03, X60-X64.9, X66-Y08.9, Y35-Y38.9, Y87.0-Y87.2, Y89.0-Y89.1;  Excluding the other injuries listed above |
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| Infectious diseases | COVID-19\* | NCHS 1 | U07.1 |
| Infectious diseases | Influenza and pneumonia\* | NCHS 1 | J09–J18 |
| Infectious diseases | Other infectious diseases | IHME GBD 2019 4 | **Respiratory infections and tuberculosis**: A10-A14, A15-A18.89, A19-A19.9, A48.1, A70, B90-B90.9, B96.0-B96.1, B97.21, B97.4-B97.6, H65-H70.93, J00-J06.9, J09-J18.2, J18.8-J18.9, J19.6-J22.9, J36-J36.0, J85.1, J91.0, K67.3, K93.0, M49.0, N74.0-N74.1, P23-P23.9, P37.0, U04-U04.9, U84.3, Z03.0, Z11.1, Z20.1, Z23.2, Z25.1;  **Enteric infections**: A00-A08.8, A09, A80-A80.9, B91, K52.1, Z11.0, Z20.0-Z20.09, Z22.1, Z23.0;  **Neglected tropical diseases and malaria**: A30-A30.9, A68-A68.9, A69.2-A69.29, A69.8-A69.9, A71-A71.9, A74.0, A75-A75.9, A77-A79.9, A82-A82.9, A90-A91.0, A92-A96.9, A98-A99.0, B33.0-B33.1, B50-B50.0, B50.8-B52.0, B52.8-B53.1, B53.8-B57.5, B60-B60.8, B64-B83.9, B89, B92, B94.0, K93.1, P37.1, P37.3-P37.4, U06-U06.9, Z11.6, Z20.3, Z24.2-Z24.3, Z26.0;  **Other infectious diseases**: A20-A28.9, A31-A39.9, A42-A44.9, A48-A48.0, A48.2-A49.9, A65-A65.0, A69-A69.1, A74, A74.8-A74.9, A81-A81.9, A83-A85.2, A85.8-A86.0, A87-A89.0, B00-B06.9, B10-B10.89, B15-B19.9, B25-B27.99, B33, B33.3-B34.9, B37-B37.2, B37.5-B47.1, B47.9-B49, B58-B59, B94, B94.1-B95.0, B95.2-B96, B96.2-B97.2, B97.29-B97.39, B97.7-B97.8, B97.89, B99-B99.9, D70.3, D86.81, D89.3, F02.1, F07.1, G00-G09.9, G14-G14.6, I00, I02, I02.9, I96-I96.9, I98.1, J85-J85.0, J85.2-J85.3, J86-J86.9, K75.0, K75.3, K76.3, M49.1, M89.6-M89.69, P35-P35.9, P37, P37.2, P37.5-P37.9, R02-R02.9, U82-U84, U85-U89, Z11, Z11.2, Z11.5-Z11.59, Z11.8-Z11.9, Z16-Z16.39, Z20, Z20.4-Z20.5, Z20.8-Z20.9, Z22-Z22.0, Z22.2-Z22.39, Z22.5-Z22.9, Z23.3-Z23.7, Z24.0-Z24.1, Z24.4-Z25.0, Z83.1;  Excluding the infectious diseases listed above |
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| NCD | Diseases of heart\* | NCHS 1 | I00–I09, I11, I13, I20–I51  Note: exclude I42.6 to be included under AUD |
| NCD | Malignant neoplasms (cancer)\* | NCHS 1 | C00–C97 |
| NCD | Cerebrovascular diseases (stroke)\* | NCHS 1 | I60–I69 |
| NCD | Chronic lower respiratory diseases\* | NCHS 1 | J40–J47 |
| NCD | Dementia\* | NCHS 6 | F00-F03, F05.1, G30, G31, R54  Note : G31.2 excluded from Dementia and included under AUD  Note : I67.3 excluded from Dementia and included under stroke |
| NCD | Diabetes mellitus\* | NCHS 1 | E10–E14 |
| NCD | Nephritis, nephrotic syndrome and nephrosis (kidney disease)\* | NCHS 1 | N00–N07, N17–N19, N25–N27 |
| NCD | Liver disease and cirrhosis | SIMAH 2,3 | K70, K73, K74, K76.0, K76.6, B18 |
| NCD | Alcohol use disorder | SIMAH 2,3, | E24.4, F10-F10.9, G31.2, G62.1, G72.1, I42.6, K29.2, K85.2, K86.0, R78.0, Y90, Y91, Y91.0 – Y91.3, Y91.9 |
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| NCD | Other NCD | IHME GBD 2019 4 | **Neoplasms**: C00-C07, C08-C19.0, C20, C21-C21.8, C22-C22.4, C22.7-C23, C24-C26.1, C26.8-C26.9, C30-C30.1, C31-C33, C34-C34.92, C37-C37.0, C38-C39.9, C40-C41.4, C41.8-C41.9, C43-C45.2, C45.7, C45.9, C47-C4A, C50-C50.629, C50.8-C52, C53-C54.3, C54.8-C56.2, C56.9-C58.0, C60-C64.2, C64.9-C69.92, C70-C70.1, C70.9-C73, C74-C75.5, C75.8-C79.9, C80-C81.49, C81.7-C81.79, C81.9-C85.29, C85.7-C86.6, C88-C90.32, C91-C93.7, C93.9-C95.2, C95.7-C97.9, D00-D24.9, D26.0-D39.9, D4-D49.9, E34.0, K51.4-K51.419, K62.0-K62.3, K63.5, N60-N60.99, N84.0-N84.1, N87-N87.9, Z03.1, Z08-Z09.9, Z12-Z12.9, Z80-Z80.9, Z85-Z85.9, Z86.0-Z86.03;  **Cardiovascular diseases**: B33.2-B33.24, D86.85, G45-G46.8, I01-I01.9, I02.0, I05-I09.9, I11-I11.2, I11.9, I20-I21.6, I21.9-I27.0, I27.2-I28.9, I30-I38.0, I39-I41.8, I42-I43.8, I44-I44.8, I45-I52.8, I60-I64, I64.1, I65-I83.93, I86-I89.0, I89.9, I95.0-I95.1, I98, I98.8-I99.9, K75.1, R00-R01.2, Z01.3-Z01.31, Z03.4-Z03.5, Z13.6, Z52.7, Z82.3-Z82.49, Z86.7-Z86.79, Z94.1-Z94.3, Z95-Z95.9;  **Chronic respiratory diseases**: D86-D86.2, D86.9, G47.3-G47.39, J30-J35.9, J37-J39.9, J41-J42.4, J43-J46.0, J47-J47.9, J60-J68.9, J70.8-J70.9, J80-J80.9, J82, J84-J84.9, J90-J90.0, J91, J91.8-J93.12, J93.8-J94.9, J96-J96.92, J98-J99.8, R05.0-R06.9, R09-R09.89, R84-R84.9, R91-R91.8, Z82.5;  **Digestive diseases**: I84-I85.9, I98.2, K20-K23.8, K25-K31.9, K35-K38.9, K40-K42.9, K44-K46.9, K50-K51.319, K51.5-K52, K52.2-K52.9, K55-K62, K62.4-K62.6, K62.8-K63.4, K63.8-K67, K67.8-K68.1, K68.12-K68.9, K70-K75, K75.2, K75.4-K76.2, K76.4-K77.8, K80-K80.81, K81-K83.9, K85-K87.1, K90-K90.9, K92-K92.9, K93.8, R11-R19.8, R85-R85.9, Z13.81-Z13.818, Z43.1-Z43.4, Z52.6, Z83.7-Z83.79, Z87.1-Z87.19, Z94.4;  **Neurological disorders**: F00-F02.0, F02.2-F02.3, F02.8-F03.91, F06.2, G10-G10.0, G11-G13.8, G20-G21, G21.2-G24, G24.1-G25.0, G25.2-G25.3, G25.5, G25.8-G26.0, G30-G31.1, G31.8-G32.89, G35-G35.0, G36-G37.9, G40-G41.9, G43-G44.89, G50-G54.1, G54.5-G62, G62.2-G65.2, G70-G71.19, G71.3-G72, G72.1-G73.7, G80-G83.9, G89-G93.6, G93.8-G95.29, G95.8-G96, G96.1, G96.12-G96.9, G98-G99.8, M33-M33.99, M60-M60.19, M60.8-M60.9, M79.7, R25-R27.9, R29-R29.91, R41-R42.0, R56-R56.9, R90-R90.89, Z03.3, Z13.85, Z13.858, Z82.0, Z86.6-Z86.69;  **Mental disorders**: F04-F06.1, F06.3-F07.0, F08-F09.9, F20-F34.9, F38-F52.9, F55-F55.8, F56-F99.0, G47-G47.29, G47.4-G47.9, R40-R40.4, R45-R46.89, R55-R55.0, Z03.2, Z04.6-Z04.72, Z13.4, Z64, Z81-Z81.0, Z81.8, Z86.5-Z86.59;  **Substance use disorders**: E24.4, F10-F19.99, G31.2, G62.1, P96.1, R78.0-R78.9, X45-X45.9, X65-X65.9, Y15-Y15.9, Z81.1-Z81.4;  **Diabetes and kidney diseases**: D63.1, E08-E08.9, E10-E14.9, I12-I13.9, N00-N08.8, N15.0, N17-N19, Q60-Q63.2, Q63.8-Q63.9, Q64.2-Q64.9, R73-R73.9, Z13.1, Z49-Z49.32, Z52.4, Z83.3, Z99.2;  **Skin and subcutaneous diseases**: A46-A46.0, A66-A67.3, A67.9, B07-B09, B35-B36.9, B85-B88.9, D86.3, E80.1-E80.29, I89.1-I89.8, L00-L05.92, L08-L08.9, L10-L14.0, L20-L23.2, L23.4-L27, L27.2-L30.9, L40-L45, L49-L54.0, L56, L56.2-L57.9, L59-L60.9, L62-L64, L64.8-L68.9, L70-L75.9, L80-L92.9, L94-L95.9, L97-L99.8, M72.5-M72.6, N49.2-N49.3, R20-R24.0, Z20.7, Z41.1, Z84.0, Z87.2, Z94.5;  **Sense organ diseases**: B30-B30.9, H00-H02.8, H02.82-H02.9, H03.0-H05.329, H05.34-H05.419, H05.8-H06.3, H10-H11.9, H13-H13.8, H15-H22.8, H25-H28.8, H30-H36.8, H40-H40.9, H42-H44.539, H44.8-H55.89, H57-H58.9, H60-H62.8, H71-H75.83, H80-H83.93, H90-H91, H91.1-H94.83, Q16-Q16.9, R43-R44.9, Z01.0-Z01.12, Z13.5, Z41.3, Z52.5, Z82.1-Z82.2, Z83.5-Z83.6, Z94.7, Z97.3-Z97.4;  **Musculoskeletal disorders**: G54.2-G54.4, I27.1, L93-L93.2, M00-M03.6, M05-M10.19, M10.3-M25.9, M30-M32.9, M34-M36.8, M40-M43.9, M45-M49, M49.2-M51.9, M53-M54.9, M61-M63.89, M65-M68.8, M70-M72.4, M72.8-M73, M75-M77.9, M79-M79.676, M79.8-M87.09, M87.2-M89.59, M89.7-M95.9, M99-M99.9, Z13.82-Z13.83, Z82.6-Z82.69, Z87.3-Z87.39;  **Other non-communicable diseases**: B37.3-B37.49, C7A00-C7B8, D25-D26, D3A00-D3A8, D55-D61.9, D64-D69.49, D69.6-D70.0, D70.4-D77, D80-D84.9, D86.8, D86.82-D86.84, D86.86-D86.89, D89-D89.2, D89.8, D89.82-D89.9, E03-E03.1, E03.3-E06.3, E06.5-E07.9, E15-E16, E16.1-E16.9, E20-E23.0, E23.2-E24.1, E24.3, E24.8-E27.2, E27.4-E32.9, E34, E34.1-E35.8, E65-E66.09, E66.2-E68, E70-E80.09, E80.3-E85.9, E88-E88.9, E90-E998, G71.2, K00-K08.499, K08.8-K14.9, M26-M27.9, N10-N13.9, N15, N15.1-N16.8, N20-N23.0, N25-N29, N29.1-N30.31, N30.8-N37.8, N39-N46.02, N46.022-N46.12, N46.122-N49.1, N49.8-N52.1, N52.8-N53.9, N61-N64.9, N72-N72.0, N75-N77.8, N80-N81.9, N83-N84, N84.2-N86, N88-N95.9, N97-N98.9, P96.0, Q00-Q07.9, Q10-Q15.9, Q17-Q18.9, Q20-Q28.9, Q30-Q45.9, Q50-Q56.4, Q63.3, Q64-Q64.19, Q65-Q87.89, Q89-Q89.8, Q90-Q93.9, Q95-Q99.9, R30-R37, R39-R39.9, R86-R87.9, Z01.2-Z01.21, Z01.4-Z01.7, Z13.7-Z13.79, Z13.84, Z14-Z15.89, Z31-Z31.9, Z43.5-Z43.7, Z82.7-Z82.79, Z83.4-Z83.49, Z84.1-Z84.2, Z86.1-Z86.19, Z87.4-Z87.448, Z87.7-Z87.798, Z96.5;  Excluding the other NCDs listed above |
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| Other | All others |  | All others not included above |

NCHS: National Center for Health Statistics; COD: Cause of death

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