**Table 1 (online supplementary). Diagnosis codes used to select acute ischemic stroke cases**

|  |  |
| --- | --- |
| **Diagnosis code** | **Label for code** |
| I63 | Cerebral infarction |
| I63.0 | Cerebral infarction due to thrombosis of precerebral arteries |
| I63.00 | Cerebral infarction due to thrombosis of unspecified precerebral artery |
| I63.01 | Cerebral infarction due to thrombosis of vertebral artery |
| I63.011 | Cerebral infarction due to thrombosis of right vertebral artery |
| I63.012 | Cerebral infarction due to thrombosis of left vertebral artery |
| I63.013 | Cerebral infarction due to thrombosis of bilateral vertebral arteries |
| I63.019 | Cerebral infarction due to thrombosis of unspecified vertebral artery |
| I63.02 | Cerebral infarction due to thrombosis of basilar artery |
| I63.03 | Cerebral infarction due to thrombosis of carotid artery |
| I63.031 | Cerebral infarction due to thrombosis of right carotid artery |
| I63.032 | Cerebral infarction due to thrombosis of left carotid artery |
| I63.033 | Cerebral infarction due to thrombosis of bilateral carotid arteries |
| I63.039 | Cerebral infarction due to thrombosis of unspecified carotid artery |
| I63.09 | Cerebral infarction due to thrombosis of other precerebral artery |
| I63.1 | Cerebral infarction due to embolism of precerebral arteries |
| I63.10 | Cerebral infarction due to embolism of unspecified precerebral artery |
| I63.11 | Cerebral infarction due to embolism of vertebral artery |
| I63.111 | Cerebral infarction due to embolism of right vertebral artery |
| I63.112 | Cerebral infarction due to embolism of left vertebral artery |
| I63.113 | Cerebral infarction due to embolism of bilateral vertebral arteries |
| I63.119 | Cerebral infarction due to embolism of unspecified vertebral artery |
| I63.12 | Cerebral infarction due to embolism of basilar artery |
| I63.13 | Cerebral infarction due to embolism of carotid artery |
| I63.131 | Cerebral infarction due to embolism of right carotid artery |
| I63.132 | Cerebral infarction due to embolism of left carotid artery |
| I63.133 | Cerebral infarction due to embolism of bilateral carotid arteries |
| I63.139 | Cerebral infarction due to embolism of unspecified carotid artery |
| I63.19 | Cerebral infarction due to embolism of other precerebral artery |
| I63.2 | Cerebral infarction due to unspecified occlusion or stenosis of precerebral arteries |
| I63.20 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries |
| I63.21 | Cerebral infarction due to unspecified occlusion or stenosis of vertebral arteries |
| I63.211 | Cerebral infarction due to unspecified occlusion or stenosis of right vertebral artery |
| I63.212 | Cerebral infarction due to unspecified occlusion or stenosis of left vertebral artery |
| I63.213 | Cerebral infarction due to unspecified occlusion or stenosis of bilateral vertebral arteries |
| I63.219 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral artery |
| I63.22 | Cerebral infarction due to unspecified occlusion or stenosis of basilar artery |
| I63.23 | Cerebral infarction due to unspecified occlusion or stenosis of carotid arteries |
| I63.231 | Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries |
| I63.232 | Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries |
| I63.233 | Cerebral infarction due to unspecified occlusion or stenosis of bilateral carotid arteries |
| I63.239 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid artery |
| I63.29 | Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries |
| I63.3 | Cerebral infarction due to thrombosis of cerebral arteries |
| I63.30 | Cerebral infarction due to thrombosis of unspecified cerebral artery |
| I63.31 | Cerebral infarction due to thrombosis of middle cerebral artery |
| I63.311 | Cerebral infarction due to thrombosis of right middle cerebral artery |
| I63.312 | Cerebral infarction due to thrombosis of left middle cerebral artery |
| I63.313 | Cerebral infarction due to thrombosis of bilateral middle cerebral arteries |
| I63.319 | Cerebral infarction due to thrombosis of unspecified middle cerebral artery |
| I63.32 | Cerebral infarction due to thrombosis of anterior cerebral artery |
| I63.321 | Cerebral infarction due to thrombosis of right anterior cerebral artery |
| I63.322 | Cerebral infarction due to thrombosis of left anterior cerebral artery |
| I63.323 | Cerebral infarction due to thrombosis of bilateral anterior cerebral arteries |
| I63.329 | Cerebral infarction due to thrombosis of unspecified anterior cerebral artery |
| I63.33 | Cerebral infarction due to thrombosis of posterior cerebral artery |
| I63.331 | Cerebral infarction due to thrombosis of right posterior cerebral artery |
| I63.332 | Cerebral infarction due to thrombosis of left posterior cerebral artery |
| I63.333 | Cerebral infarction due to thrombosis of bilateral posterior cerebral arteries |
| I63.339 | Cerebral infarction due to thrombosis of unspecified posterior cerebral artery |
| I63.34 | Cerebral infarction due to thrombosis of cerebellar artery |
| I63.341 | Cerebral infarction due to thrombosis of right cerebellar artery |
| I63.342 | Cerebral infarction due to thrombosis of left cerebellar artery |
| I63.343 | Cerebral infarction due to thrombosis of bilateral cerebellar arteries |
| I63.349 | Cerebral infarction due to thrombosis of unspecified cerebellar artery |
| I63.39 | Cerebral infarction due to thrombosis of other cerebral artery |
| I63.4 | Cerebral infarction due to embolism of cerebral arteries |
| I63.40 | Cerebral infarction due to embolism of unspecified cerebral artery |
| I63.41 | Cerebral infarction due to embolism of middle cerebral artery |
| I63.411 | Cerebral infarction due to embolism of right middle cerebral artery |
| I63.412 | Cerebral infarction due to embolism of left middle cerebral artery |
| I63.413 | Cerebral infarction due to embolism of bilateral middle cerebral arteries |
| I63.419 | Cerebral infarction due to embolism of unspecified middle cerebral artery |
| I63.42 | Cerebral infarction due to embolism of anterior cerebral artery |
| I63.421 | Cerebral infarction due to embolism of right anterior cerebral artery |
| I63.422 | Cerebral infarction due to embolism of left anterior cerebral artery |
| I63.433 | Cerebral infarction due to embolism of bilateral anterior cerebral arteries |
| I63.429 | Cerebral infarction due to embolism of unspecified anterior cerebral artery |
| I63.43 | Cerebral infarction due to embolism of posterior cerebral artery |
| I63.431 | Cerebral infarction due to embolism of right posterior cerebral artery |
| I63.432 | Cerebral infarction due to embolism of left posterior cerebral artery |
| I63.433 | Cerebral infarction due to embolism of bilateral posterior cerebral arteries |
| I63.439 | Cerebral infarction due to embolism of unspecified posterior cerebral artery |
| I63.44 | Cerebral infarction due to embolism of cerebellar artery |
| I63.441 | Cerebral infarction due to embolism of right cerebellar artery |
| I63.442 | Cerebral infarction due to embolism of left cerebellar artery |
| I63.443 | Cerebral infarction due to embolism of bilateral cerebellar arteries |
| I63.449 | Cerebral infarction due to embolism of unspecified cerebellar artery |
| I63.49 | Cerebral infarction due to embolism of other cerebral artery |
| I63.5 | Cerebral infarction due to unspecified occlusion or stenosis of cerebral arteries |
| I63.50 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery |
| I63.51 | Cerebral infarction due to unspecified occlusion or stenosis of middle cerebral artery |
| I63.511 | Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery |
| I63.512 | Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery |
| I63.513 | Cerebral infarction due to unspecified occlusion or stenosis of bilateral middle cerebral arteries |
| I63.519 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery |
| I63.519 | Cerebral infarction due to unspecified occlusion or stenosis of anterior cerebral artery |
| I63.521 | Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery |
| I63.522 | Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery |
| I63.523 | Cerebral infarction due to unspecified occlusion or stenosis of bilateral anterior cerebral arteries |
| I63.529 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery |
| I63.53 | Cerebral infarction due to unspecified occlusion or stenosis of posterior cerebral artery |
| I63.531 | Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery |
| I63.532 | Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery |
| I63.533 | Cerebral infarction due to unspecified occlusion or stenosis of bilateral posterior cerebral arteries |
| I63.539 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery |
| I63.54 | Cerebral infarction due to unspecified occlusion or stenosis of cerebellar artery |
| I63.541 | Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery |
| I63.542 | Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery |
| I63.543 | Cerebral infarction due to unspecified occlusion or stenosis of bilateral cerebellar arteries |
| I63.549 | Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery |
| I63.59 | Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery |
| I63.8 | Other cerebral infarction |
| I63.81 | Other cerebral infarction due to occlusion or stenosis of small artery |
| I63.89 | Other cerebral infarction |
| I63.9 | Cerebral infarction, unspecified |
| P91.0 | Neonatal cerebral ischemia |
| 433.01 | Occlusion and stenosis of basilar artery with cerebral infarction |
| 433.11 | Occlusion and stenosis of carotid artery with cerebral infarction |
| 433.21 | Occlusion and stenosis of vertebral artery with cerebral infarction |
| 433.31 | Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction |
| 433.81 | Occlusion and stenosis of other specified precerebral artery with cerebral infarction |
| 433.91 | Occlusion and stenosis of unspecified precerebral artery with cerebral infarction |
| 434.01 | Cerebral thrombosis with cerebral infarction |
| 434.11 | Cerebral embolism with cerebral infarction |
| 434.91 | Cerebral artery occlusion, unspecified with cerebral infarction |

**Table 2 (online supplementary). Data extracted from both the hospital discharge databases and the literature**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author/database, year** | **Reference** | **Region** | **Country** | **Data source** | **Study design (selection bias)** | **Study period** | **Age range** | **Number of AIS cases** | **Incidence rate per 100,000 (95% CI)\*** |
| Simma et al 2007  | [1] | Europe | Austria | Hospital | Retrospective cohort (Population-based) | 1984–2005 | >30 d–<19 y | NA | 1.96 |
| Tuckuviene et al 2011  | [2] | Europe | Denmark | Registry | Retrospective cohort (Population-based) | 1994–2006 | 0 d–18 y | 211 | 1.33 (1.16, 1.52) |
|  | 0 d–<28 d | 52 | 6.07 (4.63, 7.97) |
|  | 28 d–<1 y | 75 | 8.68 (6.92, 10.89) |
|  | 1 y–4 y | 53 | 1.51 (1.16, 1.98) |
|  | 10 y–14 y | 22 | 0.55 (0.36, 0.83) |
|  | 5 y–9 y | 29 | 0.67 (0.47, 0.96) |
|  | 15 y–18 y | 32 | 1.03 (0.73, 1.46) |
| Laugesaar et al 2010  | [3] | Europe | Estonia | Emergency dept.Inpatient & outpatient medical records | Prospective Retrospective cohort(Population-based) | 2004–2006 | 30 d–17 y | 13 | 1.61 (0.90, 2.69) |
|  | 30 d–5 y | NA | 2.7 |
|  | 6 y–11 y | NA | 1.75 |
|  | 12 y–17 y | NA | 0.8 |
| Béjot et al 2017  | [4] | Europe | France | Registry | NA | 2005–2015 | 29 d–18 y | NA | 2.6 |
| Darmency-Stamboul et al 2012  | [5] | Europe | France | Hospital | Nested case–control | 2000–2007 | GA 28 w–<29 d | 32 | 22.6 (15.43, 31.84) |
| DREES 2017 | [6] | Europe | France | Hospital discharge database | Retrospective cohort | 2017 | 0 d–17 y | 858 | 6.13 (5.73, 6.55) |
|  | 0 d–27 d | 226 | 31.68 (27.68, 36.09) |
|  | 28 d–<1 y | 89 | 13.67 (10.98, 16.82) |
|  | 1 y–4 y | 105 | 3.48 (2.85, 4.21) |
|  | 5 y–9 y | 62 | 1.56 (1.20, 2.00) |
|  | 10 y–17 y | 376 | 5.95 (5.36, 6.58) |
| Giroud et al 1995 | [7] | Europe | France | Registry | Prospective(Population-based) | 1985–1993 | 0 d–<16 y | NA | 7.9 |
| Tuppin et al 2014 | [8] | Europe | France | Insurance database | Retrospective cohort(Population-based) | 2009–2010 | 29 d–17 y | 157 | 0.5 |
|  |  |  |  |  |  |  |  |  |  |
| Rambaud et al 2020 | [9] | Europe | France | Hospital-based | Retrospective cohort | 2007 | 10 y–<18 y | 60 | 0.6  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Gerstl et al 2019  | [10] | Europe | Germany | Hospital-based surveillance system | Prospective (Population-based) | 2015–2017 | 28 d–18 y | 164 | 0.41 (0.35, 0.47) |
|  | 28 d–<1 y | 14 | 0.6 (0.33, 1.01) |
|  | 1 y–5 y | 51 | 0.38 (0.27, 0.51) |
|  | >5 y–12 y | 38 | 0.32 (0.23, 0.43) |
|  | >12 y–18 y | 61 | 0.48 (0.37, 0.62) |
| GFSO 2017  | [11] | Europe | Germany | Hospital discharge database | Retrospective cohort | 2017 | 0 d–17 y | 967 | 7.02 (6.58, 7.48) |
|  | 0 d–27 d | 383 | 47.33 (42.71, 52.32) |
|  | 28 d–<1 y | 151 | 20.42 (17.29, 23.95) |
|  | 1 y–4 y | 55 | 1.81 (1.36, 2.36) |
|  | 5 y–9 y | 36 | 0.99 (0.69, 1.37) |
|  | 10 y–17 y | 342 | 5.47 (4.91, 6.08) |
| Klemme et al 2017  | [12] | Europe | Germany | Hospital | Prospective | 2015 | 0 d–<29 d | 52 | 7.1 (5.26, 9.24) |
| Corso et al 2009  | [13] | Europe | Italy | Registry | Prospective (Population-based) | 2004–2005 | 0 d–14 y | 1 | 6.12 (0.15, 34.08) |
| Manobianca et al 2010 | [14] | Europe | Italy | Hospital, clinics | Prospective(Population-based) | 2001–2002 | 0 d–14 y | 1 | 7.9 (0.20, 44.04) |
|  | 15 y–24 y | 0 | 0 |
| CMBD-H 2015 | [15] | Europe | Spain | Hospital discharge database | Retrospective cohort | 2015 | 0 d–17 y | 506 | 6.2 (5.67, 6.76) |
|  | 0 d–27 d | 146 | 38.59 (32.58, 45.38) |
|  | 28 d–<1 y | 58 | 16.66 (12.65, 21.54) |
|  | 1 y–4 y | 60 | 3.63 (2.77, 4.67) |
|  | 5 y–9 y | 52 | 2.15 (1.61, 2.82) |
|  | 10 y–17 y | 191 | 5.12 (4.42, 5.90) |
| Machado et al 2015  | [16] | Europe | Portugal | Hospital | Retrospective | 2007–2011 | Full-term newborns | 9 | 32 (7.69, 133) |
| Christerson & Strömberg 2010 | [17] | Europe | Sweden | Hospital | Retrospective | 2000–2006 | 0–<18 y | 43 | 1.49 (1.10, 2.00) |
| Grunt et al 2015 | [18] | Europe | Switzerland | Registry | Prospective (Population-based) | 2000–2010 | GA 36 w–28 d | 100 | 13 (11, 17) |
| HES 2018  | [19] | Europe | UK | Hospital discharge database | Retrospective cohort | 2017–2018 | 0 d–17 y | 961 | 6.84 (6.41, 7.29) |
|  |  | 0 d–27 d | 276 | 36.78 (32.57, 41.39) |
|  |  | 28 d–<1 y | 109 | 15.87 (13.03, 19.14) |
|  |  | 1 y–4 y | 180 | 5.58 (4.79, 6.46) |
|  |  | 5 y–9 y | 160 | 3.91 (3.33, 4.56) |
|  |  | 10 y–17 y | 235 | 3.94 (3.45, 4.48) |
| Mallick et al 2014  | [20] | Europe | UK | Mixed | Prospective (Population-based) | 2008–2009 | 29 d–<16 y | 96 | 1.6 (1.30, 1.96) |
|  |  | 29 d–<1 y | 16 | 4.14 (2.36, 6.72) |
|  |  | 1 y–5 y | 47 | 2.42 (1.78, 3.22) |
|  |  | 6 y–10 y | 10 | 0.56 (0.27, 1.03) |
| Carey et al 2017  | [21] | North America | Canada | Hospital | Prospective | 1992–2012 | 0 y–14 y | 158 | 0.38 |
| deVeber et al 2017 | [22] | North America | Canada | Registry | Prospective (Population-based) | 1992–2008 | 0 d–18 y | 933 | 1.72 (1.59, 1.85) |
|  | 0 d–28 d | 232 | 10.20 (8.43, 12.05) |
|  |  |  |  |
| Surmava et al 2019  | [23] | North America | Canada | Hospital | Retrospective (Population-based) | 2010–2011 | 0 d–<18 y | 61 | 3.3 (1.70, 2.86) |
|  | 0 d–28 d | 16 | 11.5 (6.54, 18.58) |
|  | 29 d–<18 y | NA | 2.9 |
|  |  |  |  |  |  |  |  |  |  |
| Dunbar et al 2020 | [24] | North America  | Canada | Registry | RetrospectiveProspective (Population-based) | 2008–2017 | 0 d–28 d | 80 | 34 (24, 41) |
|  |  |  |  |  |  |  |  |  |  |
| Agrawal et al 2009  | [25] | North America  | US | Hospital | Retrospective (Population-based) | 1997–2003 | 0 d–19 y | 132 | 2.4 (2.0, 2.9) |
|  | 0 d–29 d | 60 | 29 (22, 37) |
|  | 29 d–19 y | 72 | 1.3 (1.0, 1.7) |
| Armstrong-Wells et al 2009  | [26] | North America  | US | Health insurance plan | Nested case–control | 1993–2003 | GA >28 w–28 d | 93 | 28.7 (23.20, 35.21) |
| HCUP 2017  | [27] | North America  | US | Hospital discharge database | Retrospective cohort | 2017 | 0 d–17 y | 2727 | 3.69 (3.55, 3.83) |
|  | 0 d–27 d | 977 | 25.28 (23.72, 26.92) |
|  | 28 d–<1 y | 351 | 9.92 (8.91, 11.01) |
|  | 1 y–4 y | 432 | 2.76 (2.51, 3.03) |
|  | 5 y–9 y | 254 | 1.23 (1.08, 1.39) |
|  | 10 y–17 y | 713 | 2.11 (1.96, 2.27) |
| Hoffman et al 2011  | [28] | North America | US | Stroke database  | Prospective | 2003–2009 | <18 y | 97 | 10.7 (8.67, 13.04) |
| Lo et al 2009  | [29] | North America | US | Hospital | Retrospective (Population-based) | 2003 | 30 d–20 y | 3156 | 3.7 (3.57, 3.83) |
|  | 30 d–<4 y | 1168 | 5.9 (5.57, 6.24) |
|  | 5 y–9 y | 471 | 2.4 (2.17, 2.60) |
|  | 10 y–14 y | 466 | 2.2 (2.00, 2.40) |
|  | 15 y–20 y | 1051 | 4.3 (4.01, 4.53) |
| Lee et al 2005  | [30] | North America | US | Health insurance plan | Nested case–control | 1997–2003 | 0 d–28 d | 40 | 20.1 (14.35, 27.35) |
| Chiang & Cheng 2018  | [31] | Asia | Taiwan | Insurance database | Retrospective cohort (Population-based) | 2010–2011 | 0 d–18 y | 103 | 2.3 (1.87, 2.78) |
|  |  | 0 d–<2 y | 25 | 7.6 (4.94, 11.27) |
|  |  | 2 y–5 y | 17 | 2.1 (1.23, 3.38) |
|  |  | 6 y–9 y | 10 | 1.1 (0.53, 2.02) |
|  |  | 10 y–13 y | 14 | 1.2 (0.68, 2.08) |
|  |  | 14 y–18 y | 37 | 2.8 (1.98, 3.88) |

*AIS,* acute ischemic stroke*; CI*, confidence interval; *CMBD-H*, Conjunto Mínimo Básico de Datos – Hospitalización; *d*, days; *DREES*, Direction de la recherche, des études, de l’évaluation et des statistiques; *GA*, gestational age; *GFSO*, German Federal Statistical Office; *HCUP*, Healthcare Cost and Utilization Project; *HES*, Hospital Episode Statistics; *m*, months; *NA*, not available; *w*, weeks; *y*, years.

\*95% CI was calculated if not provided by the original data source. Absence of the 95% CI indicates the CI could not be calculated due to the missing numerator.

**Table 3 (online supplementary). Mean (SEM) incidence rate of pediatric acute ischemic stroke per 100,000 by age group**

| **Age group** | **Mean incidence rate** | **SEM** | **Total number of cases** | **Total number of records**  |
| --- | --- | --- | --- | --- |
| 0 d–28 d | 24.55 | 3.89 | 2,774 | 16 |
| 29 d–1 y | 12.81 | 1.65 | 863 | 8 |
| 1 y–4 y | 3.03 | 0.45 | 936 | 7 |
| 5 y–9 y | 1.83 | 0.29 | 1,074 | 8 |
| 10 y–17/18 y | 2.77 | 0.55 | 2,573 | 13 |

*d*, days; *SEM*, standard error of the mean; *y*, years.

Summary data for Fig. 2A.

**Table 4 (online supplementary). Mean (SEM) incidence rate of pediatric acute ischemic stroke per 100,000 by age group and data source**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data source** | **Age group** | **Mean incidence rate** | **SEM** | **Total number of cases** | **Total number of records**  |
| Literature records | 0 d–28 d | 19.38 | 3.14 | 766 | 11 |
| 29 d–1 y | 4.47 | 2.34 | 105 | 3 |
| 1 y–4 y | 1.40 | 1.02 | 98 | 2 |
| 5 y–9 y | 1.21 | 0.60 | 510 | 3 |
| 10 y–17/18 y | 11.86 | 0.59 | 1,350 | 7 |
| Hospital database records | 0 d–28 d | 35.93 | 4.46 | 2,008 | 5 |
| 29 d–1 y | 15.31 | 1.73 | 657 | 5 |
| 1 y–4 y | 3.45 |  0.72 | 832 | 5 |
| 5 y–9 y | 1.72 | 0.52 | 564 | 5 |
| 10 y–17/18 y | 4.52 | 0.69 | 1,857 | 5 |

*d*, days; *SEM*, standard error of the mean; *y*, years.

Summary data for Fig. 2B.

**Table 5 (online supplementary). Mean (SEM) incidence rate of pediatric acute ischemic stroke per 100,000 by age group and region or country**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Region/country** | **Age group** | **Mean incidence rate** | **SEM** | **Total number of cases** | **Total number of records**  |
| Europe (excl. UK)\* | 0 d–28 d | 24.80 | 5.35 | 1,000 | 8 |
| 29 d–1 y | 13.85 | 2.33 | 387 | 5 |
| 1 y–4 y | 2.47 | 0.44 | 324 | 5 |
| 5 y–9 y | 1.44 | 0.22 | 179 | 4 |
| 10 y–17 y | 2.87 | 0.94 | 1,104 | 7 |
| UK | 0 d–28 d | 36.78 | 0.00 | 276 | 1 |
| 29 d–1 y | 11.96 | 3.91 | 125 | 2 |
| 1 y–4 y | 5.58 | 0.00 | 180 | 1 |
| 5 y–9 y | 3.91 | 0.00 | 160 | 1 |
| 10 y–17 y | 3.03 | 0.91 | 258 | 2 |
| North America (US) | 0 d–28 d | 25.67 | 1.61 | 1,170 | 4 |
| 29 d–1 y | 9.92 | 0.00 | 351 | 1 |
| 1 y–4 y | 2.76 | 0.00 | 432 | 1 |
| 5 y–9 y | 1.62 | 0.39 | 725 | 2 |
| 10 y–17/18 y | 2.14 | 0.03 | 1,179 | 2 |

*d*, days; *SEM*, standard error of the mean; *y*, years.

Summary data for Fig. 2C.

\*Denmark, Estonia, France, Germany, Portugal, Spain, and Switzerland.

**Table 6 (online supplementary). Mean (SEM) incidence rate of pediatric acute ischemic stroke per 100,000 in all ages\* by country**

| **Country** | **Mean incidence rate** | **SEM** | **Total number of cases** | **Total number of records**  |
| --- | --- | --- | --- | --- |
| Canada | 2.51 | 0.79 | 1,190 | 2 |
| Denmark | 1.33 | NA | 211 | 1 |
| France | 6.13 | NA | 858 | 1 |
| Germany | 7.02 | NA | 967 | 1 |
| Italy | 6.48 | NA | 1 | 1 |
| Spain | 6.16 | NA | 506 | 1 |
| Sweden | 1.49 | NA |  43 | 1 |
| Taiwan | 2.30 | NA | 103 | 1 |
| UK | 6.84 | NA | 961 | 1 |
| US | 5.60 | 2.58 | 2,956 | 3 |

*NA,* not applicable‡; *SEM*, standard error of the mean.

Summary data for Fig. 3.

\*Only included records which reported incidence rates for children across all age groups (0–17/18 years).

‡SEM could not be calculated as only one study was included.

**Table 7 (online supplementary). Mean (SEM) incidence rate of pediatric acute ischemic stroke per 100,000 in all ages\* by region**

| **Region** | **Mean incidence rate** | **SEM** | **Total number of cases** | **Total number of records**  |
| --- | --- | --- | --- | --- |
| Europe\*\* | 5.07 | 0.95 | 3,547 | 7 |
| North America (US and Canada) | 4.36 | 1.62 | 4,146 | 5 |
| Asia (Taiwan) | 2.30 | NA | 103 | 1 |
| All regions | 4.58 | 0.76 | 7,796 | 13 |

*NA,* not applicable‡; *SEM*, standard error of the mean.

\*Only included records which reported incidence rates for children across all age groups (0–17/18 years).

\*\*Denmark, France, Germany, Italy, Spain, Sweden, and UK.

‡SEM could not be calculated as only one study was included.

**Table 8 (online supplementary). Records included in the meta-analysis of the incidence rates of acute ischemic stroke in neonates per 100,000 live births**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author/database, year** | **Reference** | **Region** | **Country** | **Data source** | **Study design (selection bias)** | **Study period** | **Age range** | **Numerator (number of cases)** | **Incidence rate per 100,000 (95% CI)** |
| Tuckuviene et al 2011  | [2] | Europe | Denmark | Registry | Retrospective (Population-based) | 1994–2006 | 0 d–<28 d | 52 | 6.07 (4.63, 7.97) |
| Darmency-Stamboul et al 2012  | [5] | Europe | France | Hospital | Retrospective case–control | 2000–2007 | GA 28 w–<29 d | 32 | 22.6 (15.43, 31.84) |
| DREES 2017  | [6] | Europe | France | Hospital discharge database | Retrospective cohort | 2017 | 0 d–27 d | 226 | 31.68 (27.68, 36.09) |
| GFSO 2017  | [11] | Europe | Germany | Hospital discharge database | Retrospective cohort | 2017 | 0 d–27 d | 383 | 47.33 (42.71, 52.32) |
| Klemme et al 2017  | [12] | Europe | Germany | Hospital | Prospective | 2015 | 0 d–<29 d | 52 | 7.10 (5.26, 9.24) |
| CMBD-H 2015  | [15] | Europe | Spain | Hospital discharge database | Retrospective cohort | 2015 | 0 d–27 d | 146 | 38.59 (32.58, 45.38) |
| Machado et al 2015  | [16] | Europe | Portugal | Hospital | Retrospective | 2007–2011 | Full-term newborns | 9 | 32 (7.69, 133) |
| Grunt et al 2015  | [18] | Europe | Switzerland | Registry | Prospective (Population-based) | 2000–2010 | GA >36 w–28 d | 100 | 13 (11, 17) |
| HES 2018  | [19] | Europe | UK | Hospital discharge database | Retrospective cohort | 2017–2018 | 0 d–27 d | 276 | 36.78 (32.57, 41.39) |
|  |  |  |  |  |  |  |  |  |  |
| deVeber et al 2017  | [22] | North America | Canada | Registry | Prospective (Population-based) | 1992–2008 | 0 d–28 d | 232 | 10.2 (8.43, 12.05) |
| Surmava et al 2019  | [23] | North America | Canada | Hospital | Retrospective (Population-based) | 2010–2011 | 0 d–28 d | 16 | 11.5 (6.54, 18.58) |
| Dunbar et al 2020 | [24] | North America | Canada | Registry | RetrospectiveProspective (Population-based) | 2008–2017 | 0 d–28 d | 80 | 34 (27, 41) |
|  |  |  |  |  |  |  |  |  |  |
| Agrawal et al 2009  | [25] | North America | US | Hospital | Retrospective (Population-based) | 1997–2003 | 0 d–29 d | 60 | 29 (22, 37) |
| Armstrong-Wells et al 2009  | [26] | North America | US | Hospital | Nested case–control | 1993–2003 | GA >28 w–28 d | 93 | 28.7 (23.20, 35.21) |
| HCUP 2017 | [27] | North America | US | Hospital discharge database | Retrospective cohort | 2017 | 0 d–27 d | 977 | 25.28 (23.72, 26.92) |
| Lee et al 2005  | [30] | North America | US | Hospital | Case–control | 1997–2003 | 0 d–28 d | 40 | 20.1 (14.35, 27.35) |

*CI*, confidence interval; *CMBD-H*, Conjunto Mínimo Básico de Datos – Hospitalización; *d*, days; *DREES*, Direction de la recherche, des études, de l’évaluation et des statistiques; *GA*, gestational age; *GFSO*, German Federal Statistical Office; *HCUP*, Healthcare Cost and Utilization Project; *HES*, Hospital Episode Statistics; *w*, weeks.

Summary data for Fig. 4.

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