

Supplementary Materials/Appendices

Appendix 1: Database Search Terms

PubMed terms:

(SARS-CoV-2[tw] or Severe acute respiratory syndrome coronavirus 2[tw] or COVID-19[tw] or COVID19[tw] or coronavirus disease 2019[tw] or 2019 novel coronavirus[tw] or 2019-nCoV[tw] or "severe acute respiratory syndrome coronavirus 2"[nm] or "COVID-19"[nm] or coronavirus disease 2019[tw] or coronavirus disease-19[tw] or Wuhan seafood market pneumonia virus[tw] or wuhan coronavirus[tw] or 2019 pandemic[tw])

AND

("Stroke"[Mesh:NoExp] or stroke*[tw] or Cerebrovascular Accident*[tw] or CVA[tw] or CVAs[tw] or Apoplexy[tw] or Brain Vascular Accident*[tw] or brain accident*[tw] or brain attack*[tw] or brain insult*[tw] or brain ischemic attack*[tw] or brain ischaemic attack*[tw] or brain vascular accident*[tw] or cerebral insult*[tw] or cerebral vascular accident[tw] or cerebral vascular insufficiency[tw] or cerebro vascular accident*[tw] or cerebrovascular arrest[tw] or cerebrovascular insufficiency[tw] or cerebrovascular insult*[tw] or cerebrovascular failure[tw] or cerebrovascular injury[tw] or cerebrum vascular accident*[tw] or ischemic cerebral attack[tw] or ischemic cerebral seizure*[tw] or ischaemic cerebral attack*[tw] or ischaemic cerebral seizure*[tw])

AND

("Time Factors"[Mesh] or "Time-to-Treatment"[Mesh] or Door-to-Treatment Time*[tw] or delayed treatment*[tw] or treatment delay*[tw] or time-to-treatment*[tw] or "Delivery of Health Care, Integrated"[Mesh] or delivery of health care[tw] or door-to-needle[tw] or door-to-groin puncture[tw] or door-to-alteplase[tw] or door-to-er[tw] or door-to-doctor[tw] or door-to-physician[tw] or door-to-CT[tw] or door-to-computed tomography[tw] or door-to -stroke team [tw] or LKW-to-arrival[tw] or last known well-to-arrival[tw] or door-to-reperfusion[tw] or length of stay[tw] or length of hospitalization[tw] or length of hospital stay[tw] or stroke quality metric*[tw] or discharge outcome*[tw] or outcome*[tw] or practice*[tw] or guideline*[tw] or recanalization rate*[tw] or "defect-free care"[tw] or "discharge modified Rankin Scale"[tw] or "discharge mRS"[tw])

Embase terms:

((COVID-19 or COVID19 or severe acute respiratory syndrome coronavirus 2 or "2019-nCoV" or SARS-CoV-2).tw. or (Wuhan OR novel OR 2019 OR 2020) adj5 (coronavirus).tw.)

AND

(cerebrovascular accident/ OR (stroke or apoplexy* or brain accident or brain attack or brain insult or brain ischemic attack or brain ischaemic attack or brain vascular accident or cerebral insult or cerebrovascular accident or cerebral vascular accident or cerebral vascular insufficiency or cerebro vascular accident or cerebrovascular arrest or cerebrovascular insufficiency or cerebrovascular insult or cerebrovascular failure or cerebrovascular injury or cerebrum vascular accident or CVA or CVAs or ischemic cerebral attack or ischemic cerebral seizure or ischaemic cerebral attack or ischaemic cerebral seizure).tw.)

AND

Time factor/ or Time to treatment/ or length of stay/ or (time factor* or door to treatment time or onset to treatment time or symptom to treatment time or time to therapy or delayed treatment* or treatment delay* or time to treatment* or door to needle or door to groin puncture or door to alteplase or door to ED physician or door to head CT or door to computed tomography or door to stroke team or LKW to arrival or last known well to arrival or door to reperfusion or door to Tissue plasminogen activator or door to IV-tPA or door to intravenous thrombolysis or door to mechanical thrombectomy or length of stay or length of hospitalization or length of hospital stay or stroke quality metric* or discharge outcome* or outcome* or practice* or guideline* or recanalization rate* or defect-free care or discharge modified Rankin Scale or discharge mRS).tw.

Cochrane terms:

(COVID-19 or COVID19 or "severe acute respiratory syndrome coronavirus 2" or "2019-nCoV or SARS-CoV-2)

AND

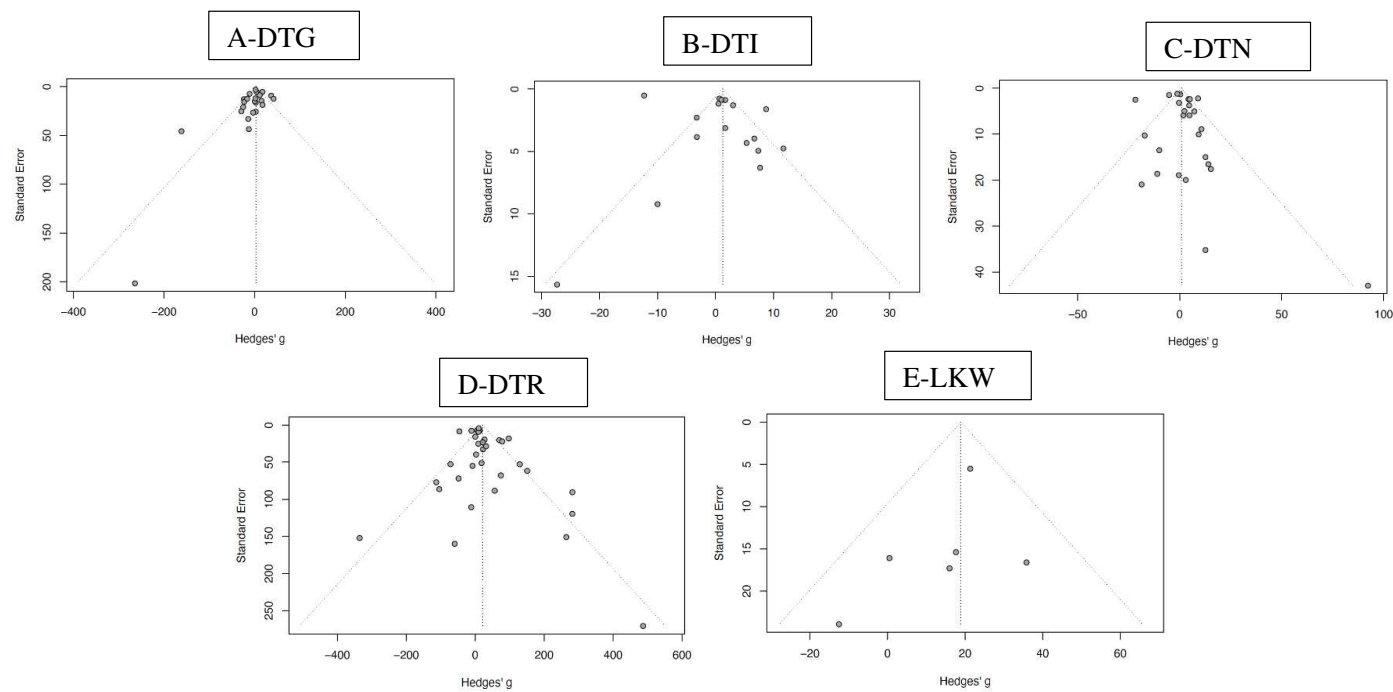
(stroke or "Cerebrovascular Accident" or CVA or Apoplexy or "Brain Vascular Accident" or "brain accident" or "brain attack" or "brain insult" or "brain ischemic attack" or "brain ischaemic attack" or "brain vascular accident" or "cerebral insult" or "cerebral vascular accident" or "cerebral vascular insufficiency" or "cerebro vascular accident" or "cerebrovascular arrest" or "cerebrovascular insufficiency" or "cerebrovascular insult" or "cerebrovascular failure" or "cerebrovascular injury" or "cerebrum vascular accident" or "ischemic cerebral attack" or "ischemic cerebral seizure" or "ischaemic cerebral attack" or "ischaemic cerebral seizure")

Appendix 2: Raw Time Metric Values by Study

Study	LKW		DTI		DTN		DTG		DTR	
	Pre-COVID Mean (SD)	COVID Mean (SD)	Pre-COVID Mean (SD)	COVID Mean (SD)	Pre-COVID Mean (SD)	COVID Mean (SD)	Pre-COVID Mean (SD)	COVID Mean (SD)	Pre-COVID Mean (SD)	COVID Mean (SD)
Aboul-Nour 2021	370 (488)	652 (866)	40 (28)	48 (63)	—	—	—	—	—	—
Agarwal 2020	452 (626)	380 (510)	13 (7)	16 (6)	37 (15)	38 (22)	72 (27)	84 (26)	67 (47)	118 (55)
Altschul 2020	232 (303)	514 (663)	—	—	—	—	85 (67)	87 (35)	—	—
Amukotwa 2020	—	—	23 (13)	11 (7)	—	—	—	—	—	—
Aref 2021	960 (1486)	625 (776)	—	—	—	—	—	—	—	—
Candelaresi 2021	—	—	38 (15)	43 (23)	—	—	—	—	—	—
Chen 2021	88 (46)	93 (67)	14 (12)	15 (7)	60 (24)	38 (15)	—	—	—	—
Cummings 2020	199 (274)	153 (187)	—	—	56 (22)	60 (22)	—	—	—	—
D'Anna 2021	136 (165)	163 (276)	24 (36)	25 (35)	39 (9)	40 (8)	134 (232)	122 (205)	—	—
Ghoreishi 2020	332 (390)	355 (384)	—	—	22 (11)	21 (10)	—	—	—	—
Gu 2021	240 (350)	391 (545)	—	—	55 (27)	66 (29)	—	—	—	—
Huo 2021	239 (168)	242 (205)	—	—	129 (69)	221 (135)	—	—	—	—
Jasne 2020	343 (498)	362 (489)	—	—	59 (27)	71 (49)	—	—	131 (80)	118 (72)
John 2020	621 (744)	517 (557)	—	—	36 (13)	43 (15)	68 (20)	104 (33)	—	—
Katsanos 2020	269 (241)	157 (109)	11 (11)	23 (14)	44 (46)	60 (22)	65 (70)	68 (62)	73 (39)	106 (62)
Kwan 2020	—	—	—	—	—	—	53 (22)	69 (75)	94 (40)	95 (77)
Li 2021	230 (185)	495 (679)	—	—	—	—	230 (124)	216 (124)	—	—
Luo 2021	121 (86)	135 (106)	—	—	48 (17)	43 (17)	142 (96)	119 (46)	—	—
Mag Uidhir 2020	234 (261)	331 (406)	—	—	—	—	—	—	—	—
Mitra 2020	560 (837)	501 (831)	67 (34)	57 (58)	—	—	—	—	—	—
Naccarato 2020	101 (93)	110 (73)	—	—	69 (59)	50 (19)	84 (37)	81 (23)	—	—
Nagamine 2020	554 (605)	1041 (1682)	18 (12)	25 (33)	50 (20)	50 (37)	132 (23)	109 (32)	—	—
Neves-Briard 2020	121 (111)	191 (244)	16 (8)	17 (7)	24 (7)	33 (12)	58 (21)	76 (28)	83 (25)	105 (26)
Padmanabhan 2020	634 (799)	690 (636)	—	—	64 (47)	54 (30)	445 (566)	181 (62)	—	—
Paliwal 2020	102 (72)	91 (70)	2 (5)	0 (0)	48 (15)	48 (15)	101 (36)	112 (30)	—	—
Plumereau 2020	87 (45)	97 (60)	25 (17)	32 (29)	60 (27)	62 (26)	82 (21)	86 (35)	—	—
Rinkel 2020	256 (349)	288 (398)	14 (10)	14 (10)	30 (14)	34 (23)	95 (53)	112 (68)	—	—
Rudilosso 2020	146 (91)	146 (99)	22 (5)	23 (5)	28 (10)	31 (34)	70 (25)	59 (20)	—	—
Siegler 2020	596 (940)	584 (692)	88 (143)	61 (95)	39 (20)	52 (61)	—	—	—	—
Tan 2021	499 (626)	451 (565)	—	—	43 (34)	52 (26)	271 (162)	109 (71)	—	—
Tejada-Meza 2020	78 (43)	88 (53)	—	—	52 (25)	57 (23)	89 (40)	91 (40)	—	—
Teo 2020	148 (176)	277 (422)	—	—	66 (34)	55 (38)	118 (26)	89 (47)	—	—
Uchino 2020	190 (263)	211 (289)	32 (30)	29 (27)	—	—	—	—	—	—
Velilla-Alonso 2021	311 (416)	386 (503)	31 (33)	28 (21)	39 (32)	53 (57)	95 (41)	95 (37)	—	—
Wang 2020	—	—	—	—	58 (44)	41 (16)	108 (128)	83 (53)	—	—
Yang 2020	303 (197)	295 (199)	—	—	—	—	131 (31)	172 (52)	180 (55)	215 (63)
Zhang 2021	167 (72)	245 (86)	—	—	—	—	71 (45)	54 (46)	—	—
Zini 2020	—	—	28 (13)	37 (15)	68 (21)	73 (34)	—	—	170 (53)	186 (83)

Appendix 2: The reported time metrics for each study for the COVID-19 time period and the pre-COVID-19 time period are displayed. Data are presented in minutes as mean (standard deviation). A blank value (-) indicates that the specified time metric was not reported in the corresponding study. In the event that median times were reported, mean values and standard deviations were calculated as described in the methods utilizing the method from Hoza et al.⁴ **Legend:** LKW: last known well; DTI: door-to-imaging; DTN: door-to-needle; DTG: door-to-groin; DTR: door-to-reperfusion

Appendix 3: Funnel Plots



Appendix 4: Stroke Time Metric Funnel Plots. Hedges' g is inversely plotted against the standard error for each study. Asymmetry in the funnel plots could be due to heterogeneity or publication bias. Separate funnel plots are shown for door-to-groin (A), door-to-imaging (B), door-to-needle (C), door-to-reperfusion (D), and last-known-well to arrival (E).

Appendix 4: Egger's Test Results

Stroke Metric	Egger's p-value
LKW	0.12
DTI	0.12
DTN	0.40
DTR	0.34
DTG	0.17

Appendix 4: The results from Egger's Test are shown for each stroke time.

Appendix 5: Additional Information

While this review was conducted according to the 2020 PRISMA guidelines, it was not registered. A protocol for this review was constructed before the initiation of the study, and is available upon request of the primary author. This review received no funding. The authors have no competing interests to declare. Data collection forms, data extracted from individual studies, data used for all analyses, and analytic code are all stored locally and can be made available upon request of the primary author.