SUPPLEMENTARY MATERIAL

Comparative Profile for COVID-19 Cases from China and North America: Clinical Symptoms, Comorbidities and Disease Biomarkers

Alaa Badawi[1,2] and Denitsa Vasileva[3]

[1]Public Health Risk Sciences Division, Public Health Agency of Canada, 180 Queen Street West, Toronto, ON M5V3L7, Canada

[2]Department of Nutritional Sciences, Faculty of Medicine, University of Toronto, Medical Sciences Building, 1 King's College Circle, Toronto, ON, M5S 1A8 Canada

[3]Center for Heart Lung Innovation, University of British Columbia, 166-1081 Burrard Street, Vancouver, BC, V6Z 1Y6 Canada

Supplement Table 1 PRISMA Checklist

Section/topic		Checklist item	page
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRAC T			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTROD UCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	1-3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	
METHOD S			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	None
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow - up) and report characteristics (e.g., years	6-8

		considered, language, publication status) used as criteria for eligibility, giving rationale.	Appendix
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	6
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta - analysis).	6
Data collection process	10	Describe method of data extraction from reports (e.g. piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	6-8
Data items	11	List and define all variables for which data were sought (e.g. PICOS, funding sources) and any assumptions and simplifications made.	6-8
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in data synthesis.	7,8
Summary measures	13	State the principal summary measures (e.g. risk ratio, difference in means).	7,8
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g. I^2) for each meta-analysis.	7,8
Risk of bias across	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g. publication bias	7,8

studies		selective reporting within studies).	
Additional analyses	16	Describe methods of additional analyses (e.g. sensitivity or subgroup analysis, meta-regression), i done, indicating which were pre-specified	7,8
RESULTS			
Study selection	17	Give numbers of studies screened, assess for eligibility, and included in the review, with reasons fo exclusion at each stage, ideally with a flow diagram.	9
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g. study size, PICOS, follow-up period) and provide the citations.	None
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	None
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with forest plot.	Tables 1-4
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Tables 1-4
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15)	Tables 1-4
Additional analysis	23	Give results of additional analyses, if done (e.g. sensitivity or subgroup analyses, meta-regression [see item 16]).	Tables 1-4
DISCUSSI ON			

Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	12-18
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	12-18
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	12-18
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	20

Supplement Table 2 Studies selected for from China and North America

No.	Ref. (A Studies from China)
1	Bai Sr Y, Wang Sr X, Huang Sr Q *et al*. SARS-CoV-2 infection in health care workers: a retrospective analysis and model study. medRxiv 2020. 03.29; [DOI: 10.1101/2020.03.29.20047159]
2	Bi Q, Hong C, Meg J *et al*. Characterization of clinical progression of COVID-19 patients in Shenzhen, China. medRxiv 2020.04.22; [DOI: 10.1101/2020.04.22.20076190]
3	Bi Q, Wu Y, Mei S *et al*. Epidemiology and Transmission of COVID-19 in Shenzhen China: Analysis of 391 Cases and 1286 of their close contacts. Lancet Infect Dis 2020. [DOI: 10.1016/ S1473-3099(20)30287-5]
4	Bian H, Zheng ZH, Wei D *et al*. Meplazumab treats COVID-19 pneumonia: an open-labelled, concurrent controlled add-on clinical trial. medRxiv 2020.03.21.20040691. [DOI: 10.1101/2020.03.21.20040691]
5	Cao B, Wang Y, Wen D *et al*. A Trial of Lopinavir-Ritonavir in Adults Hospitalized with Severe Covid-19. N Engl J Med 2020; 382:1787-1799. [DOI: 10.1056/NEJMoa2001282]
6	Chang D, Lin M, Wei L *et al*. Epidemiological and Clinical Characteristics of Novel Coronavirus Infections Involving 13 patients outside Wuhan, China. JAMA 2020;323(11):1092–1093. [DOI:10.1001/jama.2020.1623]
7	Chen N, Zhou M, Dong X *et al*. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet 2020; 395: 507-13. [DOI: 10.1016/ S0140-6736(20)30211-7]
8	Chen J, Qi T, Liu L *et al*. Clinical progression of patients with COVID-19 in Shanghai, China. Journal of Infectious Diseases 2020;80(5): e1-e6.
9	Chen T, Wu D, Chen H *et al*. Clinical characteristics of 113 deceased patients with coronavirus disease 2019: retrospective

study. BMJ 2020;368: m1091.

10 Chen C, Zhang Y, Huang J *et al*. Favipiravir versus Arbidol for COVID-19: A Randomized Clinical Trial. medRxiv 2020.03.17; [[DOI: 10.1101/2020.03.17.20037432]

11 Chen Z, Hu J, Zhang Z *et al*. Efficacy of hydroxychloroquine in patients with COVID-19: results of a randomized clinical trial. medRxiv 2020.03.22; [DOI: 10.1101/2020.03.22.20040758]

12 Chen H, Zhang Z, Wang L *et al*. First Clinical Study Using HCV Protease Inhibitor Danoprevir to Treat Naive and Experienced COVID-19 Patients. medRxiv 2020.03.22; [DOI: 10.1101/2020.03.22.20034041]

13 Deng L, Li C, Zeng Q, *et al*. Arbidol combined with LPV/r versus LPV/r alone against Corona Virus Disease 2019: A retrospective cohort study. J Infect 2020; 81(1): e1-e5. [DOI: 10.1016/j.jinf.2020.03.002]

14 Dong Y, Mo X, Hu Y, *et al*. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. Pediatrics 2020; [DOI: 10.1542/peds.2020-0702]

15 Fan L, Liu C, Li N, *et al*. Medical treatment of 55 patients with COVID-19 from seven cities in northeast China who fully recovered: a single-center, retrospective, observational study. medRxiv 2020.03.28; [[DOI: 10.1101/2020.03.28.20045955]

16 Fan Z, Chen L, Li J, *et al*. Clinical Features of COVID-19-Related Liver Functional Abnormality. Clin. Gastroenterol. Hepatol. 2020; 18(7): 1561-66. [DOI: 10.1016/j.cgh.2020.04.002]

17 Fang X, Mei Q, Yang, T, *et al*. Low-dose corticosteroid therapy does not delay viral clearance in patients with COVID-19. J Infect 2020; 81: 147–78. [[DOI: 10.1016/j.jinf.2020.03.013]

18 Guan W, Ni Z, Hu Y, *et al*. Clinical Characteristics of Coronavirus Disease 2019 in China. N Engl J Med 2020; 382:1708-20. [[DOI: 10.1056/NEJMoa2002032]

19 Guo T, Fan Y, Chen M. Cardiovascular Implications of Fatal Outcomes of Patients with Coronavirus Disease 2019 (COVID-

19). JAMA Cardiol 2020; **5(7):** 811-818. [DOI:10.1001/jamacardio.2020.1017]

20 Guo A, Cui JJ, OuYang QY, *et al*. The clinical characteristics and mortal causes analysis of COVID-19 death patients. medRxiv 2020.04.12; [DOI: 10.1101/2020.04.12.20062380]

21 Han C, Duan C, Zhang S, *et al*. Digestive Symptoms in COVID-19 Patients With Mild Disease Severity: Clinical Presentation, Stool Viral RNA Testing, and Outcomes. Am J Gastroenterol. 2020;115(6):916-923. [DOI:10.14309/ajg.0000000000000664]

22 Xie H, Zhao J, Lian N, *et al*. Clinical characteristics of non?ICU hospitalized patients with coronavirus disease 2019 and liver injury: A retrospective study. Liver Int 2020; 40(6):1321-1326. [DOI: 10.1111/liv.14449]

23 Hu L, Chen S, Fu Y, *et al*. Risk Factors Associated with Clinical Outcomes in 323 COVID-19 Patients in Wuhan, China. Clinical Infectious Diseases 2020; ciaa539. [DOI: 10.1093/cid/ciaa539]

24 Hu Z, Song C, Xu C. *et al*. Clinical characteristics of 24 asymptomatic infections with COVID-19 screened among close contacts in Nanjing, China. Sci. China Life Sci 2020; 63:706–11. [DOI: 10.1007/s11427-020-1661-4]

25 Huang C, Wang Y, Li X *et al*. Clinical Features of patients infected with 2019 novel coronavirus in Wuhan, China. The Lancet 2020; 395(10223):497-506. [DOI: 10.1016/ S0140-6736(20)30183-5]

26 Huang Y, Lyu X, Li D *et al*. A cohort study of 223 patients explores the clinical risk factors for the severity diagnosis of COVID-19. medRxiv 2020.04.18; [DOI: 10.1101/2020.04.18.20070656]

27 Huang Y, Yang R, Xu Y *et al*. Clinical characteristics of 36 non-survivors with COVID-19 in Wuhan, China. medRxiv 2020; [DOI: 10.1101/2020.02.27.20029009]

28 Jiang X, Tao J, Wu H *et al*. Clinical features and management of severe COVID-19: A retrospective study in Wuxi, Jiangsu Province, China. medRxiv 2020.04.10; [DOI: 10.1101/2020.04.10.20060335]

29 Jin X, Lian J, Hu J, *et al*. Epidemiological, clinical and virological characteristics of 74 cases of coronavirus-infected disease 2019 (COVID-19) with gastrointestinal symptoms. Gut 2020; 69:1002-9.

30 Kang M, Wu J, Ma W, *et al*. Evidence and characteristics of human-to-human transmission of SARS-CoV-2. medRxiv 2020.02.03; [DOI: 10.1101/2020.02.03.20019141]

31 Li Y, Xie Z, Lin W, *et al*. Efficacy and safety of lopinavir/ritonavir or arbidol in adult patients with mild/moderate COVID-19: an exploratory randomized controlled trial. Med 2020; [DOI: 10.1016/j.medj.2020.04.001]

32 Li J, Li S, Cai Y, *et al*. Epidemiological and Clinical Characteristics of 17 Hospitalized Patients with 2019 Novel Coronavirus Infections Outside Wuhan, China. medRxiv 2020.02.11; [DOI: 10.1101/2020.02.11.20022053]

33 Liao J, Fan Sr. S, Chen J, *et al*. Epidemiological and clinical characteristics of COVID-19 in adolescents and young adults. medRxiv 2020.03.10; [DOI: 10.1101/2020.03.10.20032136]

34 Liao X, Chen H, Wang B, *et al*. Critical Care for Severe COVID-19: A Population-based Study from a Province with Low Case-fatality Rate in China. medRxiv 2020.03.22; [DOI: 10.1101/2020.03.22.20041277]

35 Lin L, Jiang X, Zhang Z, *et al*. Gastrointestinal symptoms of 95 cases with SARS-CoV-2 infection. Gut 2020; 69:997-1001.

36 Liu Y, Sun W, Li J *et al*. Clinical features and progression of acute respiratory distress syndrome in coronavirus disease 2019. medRxiv 2020.02.17; [DOI: 10.1101/2020.02.17.20024166]

37 Liu Lei and Gao Jian-ya. Clinical characteristics of 51 patients discharged from hospital with COVID-19 in Chongqing, China. medRxiv 2020.02.20; [DOI: 10.1101/2020.02.20.20025536]

38 Liu KC, Xu P, Lv WF *et al*. CT manifestations of coronavirus disease-2019: A retrospective analysis of 73 cases by disease severity. Eur J Radiol 2020; 126(108941). [DOI: 10.1016/j.ejrad.2020.108941]

39 Liu S, Luo H, Wang Y *et al*. Characteristics and Associations with Severity in COVID-19 Patients: A Multicentre Cohort

Study from Jiangsu Province, China. [DOI: 10.2139/ssrn.3548753]

40 Liu Q, Fang X, Tian L *et al*. The effect of Arbidol Hydrochloride on reducing mortality of Covid-19 patients: a retrospective study of real world date from three hospitals in Wuhan. medRxiv 2020.04.11. [DOI: 10.1101/2020.04.11.20056523]

41 Liu Y, Du X, Chen J *et al*. Neutrophil-to-lymphocyte ratio as an independent risk factor for mortality in hospitalized patients with COVID-19. J Infect. 2020;81(1): e6-e12. [DOI: 10.1016/j.jinf.2020.04.002]

42 Liu T, Zhang J, Yang Y *et al*. The role of interleukin?6 in monitoring severe case of coronavirus disease 2019. EMBO Mol Med 2020;12:e12421. [DOI: 10.15252/emmm.202012421]

43 Liu J, Ouyang L, Guo P *et al*. Epidemiological, Clinical Characteristics and Outcome of Medical Staff Infected with COVID-19 in Wuhan, China: A Retrospective Case Series Analysis. medRxiv 2020.03.09; [DOI: 10.1101/2020.03.09.20033118]

44 Liu K, Chen Y, Lin R, Han K. Clinical features of COVID-19 in elderly patients: A comparison with young and middle-aged patients. J Infect. 2020;80(6):e14-e18. [DOI: 10.1016/j.jinf.2020.03.005]

45 Liu F, Xu A, Zhang Y *et al*. Patients of COVID-19 may benefit from sustained Lopinavir-combined regimen and the increase of Eosinophil may predict the outcome of COVID-19 progression. Int J Infect Dis. 2020;95:183-191. [DOI: 10.1016/j.ijid.2020.03.013]

46 Lu X, Zhang L, Du H *et al*. SARS-CoV-2 Infection in Children. N Engl J Med 2020; 382:1663-1665. [DOI:10.1056/NEJMc2005073

47 Lu J, Hu S, Fan R *et al*. ACP risk grade: a simple mortality index for patients with confirmed or suspected severe acute respiratory syndrome coronavirus 2 disease (COVID-19) during the early stage of outbreak in Wuhan, China. medRxiv 2020.02.20; [DOI: 10.1101/2020.02.20.20025510]

48 Luo X, Xia H, Yang W *et al*. Characteristics of patients with COVID-19 during epidemic ongoing outbreak in Wuhan, China.

medRxiv 2020.03.19; [DOI: 10.1101/2020.03.19.20033175]

49 Mao L, Jin H, Wang M *et al*. Neurologic Manifestations of Hospitalized Patients With Coronavirus Disease 2019 in Wuhan, China. JAMA Neurol. 2020;77(6):683–690. [DOI: 10.1001/jamaneurol.2020.1127]

50 Miao C, Zhuang J, Jin M *et al*. A comparative multi-centre study on the clinical and imaging features of confirmed and unconfirmed patients with COVID-19. medRxiv 2020.03.22; [DOI: 10.1101/2020.03.22.20040782]

51 Mo P, Xing Y, Xiao Y *et al*. Clinical characteristics of refractory COVID-19 pneumonia in Wuhan, China, Clinical Infectious Diseases. Clin Infect Dis 2020; ciaa270. [DOI: 10.1093/cid/ciaa270]

52 Pan F, Ye T, Sun P *et al*. Time Course of Lung Changes at Chest CT during Recovery from Coronavirus Disease 2019 (COVID-19). Radiology 2020; 295(3). [DOI: 10.1148/radiol.2020200370]

53 Ping K. Epidemiologic Characteristics of COVID-19 in Guizhou, China. medRxiv 2020.03.01; [DOI: 10.1101/2020.03.01.20028944]

54 Qi X, Liu Y, Wang J *et al*. Clinical course and risk factors for mortality of COVID-19 patients with pre-existing cirrhosis: a multicentre cohort study. Gut 2020. [DOI: 10.1136/gutjnl-2020-321666]

55 Qian GQ, Yang NB, Ding F *et al*. Epidemiologic and clinical characteristics of 91 hospitalized patients with COVID-19 in Zhejiang, China: a retrospective, multi-centre case series. QJM: An International Journal of Medicine 2020; 113(7): 474–81. [DOI: 10.1093/qjmed/hcaa089]

56 Qiu C, Deng Z, Xiao Q, *et al*. Transmission and clinical characteristics of coronavirus disease 2019 in 104 outside?Wuhan patients, China. J Med Virol. 2020; 1–9. [DOI: 10.1002/jmv.25975]

57 Qiu H, Wu J, Hong L *et al*. Clinical and epidemiological features of 36 children with coronavirus disease 2019 (COVID-19) in Zhejiang, China: an observational cohort study. Lancet Infect Diss 2020; 20(6): 689-96. [DOI: 10.1016/S1473-

3099(20)30198-5]

58 Shen L, Li S, Zhu Y *et al*. Clinical and laboratory-derived parameters of 119 hospitalized patients with coronavirus disease 2019 in Xiangyang, Hubei Province, China. J. Infect. 2020; 81:147–178.

59 Shi S, Qin M, Shen B *et al*. Association of Cardiac Injury With Mortality in Hospitalized Patients With COVID-19 in Wuhan, China. JAMA Cardiol. 2020;5(7):802–810. [DOI:10.1001/jamacardio.2020.0950]

60 Shi H, Han, X, Jiang, N *et al*. Radiological findings from 81 patients with COVID-19 pneumonia in Wuhan, China: a descriptive study. The Lancet Infect. Dis. 2020; 20(4): 425-434. [DOI: https://[DOI.org/10.1016/S1473-3099(20)30086-4]

61 Song F, Shi N, Shan F, *et al*. Emerging 2019 Novel Coronavirus (2019-nCoV) Pneumonia. Radiology 2020; 295 (1): 210-17.

62 Jia-Kui Sun. Acute gastrointestinal injury in critically ill patients with coronavirus disease 2019 in Wuhan, China. medRxiv 2020.03.25; [DOI: 10.1101/2020.03.25.20043570]

63 Tang N, Li D, Wang X *et al*. Abnormal coagulation parameters are associated with poor prognosis in patients with novel coronavirus pneumonia. J Thromb Haemost. 2020;18(4):844-847. [DOI:10.1111/jth.14768]

64 Tao Y, Cheng P, Chen W *et al*. High incidence of asymptomatic SARS-CoV-2 infection, Chongqing, China. medRxiv 2020.03.16.; [DOI: 10.1101/2020.03.16.20037259]

65 Tian S, Hu N, Lou J *et al*. Characteristics of COVID-19 infection in Beijing. 2020. J Infect. 2020; 80(4): 401-406. [DOI: 10.1016/j.jinf.2020.02.018]

66 Tian S, Wu M, Chang Z *et al*. Epidemiological investigation and intergenerational clinical characteristics of 24 COVID-19 patients associated with supermarket cluster. medRxiv 2020; [DOI: 10.1101/2020.04.11.20058891]

67 Wan S, Xiang Y, Fang W *et al*. Clinical features and treatment of COVID-19 patients in northeast Chongqing. J Med Virol. 2020;92(7):797-806. [DOI:10.1002/jmv.25783]

68 Wang D, Hu B, Hu C *et al*. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus–Infected Pneumonia in Wuhan, China. JAMA. 2020;323(11):1061–1069. [DOI:10.1001/jama.2020.1585]

69 Wang K, Kang S, Tian R *et al*. Imaging manifestations and diagnostic value of chest CT of coronavirus disease 2019 (COVID-19) in the Xiaogan area. Clinical Radiology 2020; 75(5): 341-347. [DOI: https://[DOI.org/10.1016/j.crad.2020.03.004]

70 Wang L, He W, Yu I *et al*. Coronavirus disease 2019 in elderly patients: Characteristics and prognostic factors based on 4-week follow-up. J. Infect. 2020; 80: 639–645.

71 Wang Y, Zhang D, Du G *et al*. Remdesivir in adults with severe COVID-19: a randomised, double-blind, placebo-controlled, multicentre trial. The Lancet 2020; 395(10236):1569-78.

72 Wang Y, Zhou Y, Yang Z *et al*. Clinical Characteristics of Patients with Severe Pneumonia Caused by the 2019 Novel Coronavirus in Wuhan, China. medRxiv 2020; [DOI: 10.1101/2020.03.02.20029306]

73 Wei M, Yuan J, Liu Y *et al*. Novel Coronavirus Infection in Hospitalized Infants Under 1 Year of Age in China. JAMA.2020; 323(13):1313–1314. [DOI: 10.1001/jama.2020.2131]

74 Wu C, Chen X, Cai Y et al. Risk Factors Associated With Acute Respiratory Distress Syndrome and Death in Patients With Coronavirus Disease 2019 Pneumonia in Wuhan, China. JAMA Intern Med. 2020;180(7):934–943. [DOI: 10.1001/jamainternmed.2020.0994]

75 Wu Sr. Q, Xing Y,Shi L *et al*. Epidemiological and Clinical Characteristics of Children with Coronavirus Disease 2019. medRxiv 2020; 2020.03.19; [DOI: 10.1101/2020.03.19.20027078]

76 Wu P, Duan F, Luo C *et al*. Characteristics of Ocular Findings of Patients with Coronavirus Disease 2019 (COVID-19) in Hubei Province, China. JAMA Ophthalmol. 2020;138(5):575–578. [DOI:10.1001/jamaophthalmol.2020.1291]

77 Xiao G, Hu H, Wu F *et al*. Acute kidney injury in patients hospitalized with COVID-19 in Wuhan, China: A single-center retrospective observational study. medRxiv 2020.04.06; [DOI: https://[DOI.org/10.1101/2020.04.06.20055194]

78 Yang Xu. Dynamic profile of severe or critical COVID-19 cases. medRxiv 2020.03.18; [DOI:https://[DOI.org/10.1101/2020.03.18.20038513]

79 Xu H, Huang S, Liu S *et al*. Evaluation of the clinical characteristics of suspected or confirmed cases of COVID-19 during home care with isolation: A new retrospective analysis based on O2O. medRxiv 2020.02.26; [DOI: 10.1101/2020.02.26.20028084]

80 Xu HY, Dong JH, An WM *et al*. Clinical and computed tomographic imaging features of novel coronavirus pneumonia caused by SARS-CoV-2. 2020. J. Infect. 2020; 80(4): 394-400. [DOI: 10.1016/j.jinf.2020.02.017]

81 Xu T, Chen C, Zhu Z et al. Clinical features and dynamics of viral load in imported and non-imported patients with COVID-19. IJID. 2020;94: 68-71. [DOI: 10.1016/j.ijid.2020.03.022]

82 Xu XW, Wu XX, Jiang XG *et al*. Clinical findings in a group of patients infected with the 2019 novel coronavirus (SARS-Cov-2) outside of Wuhan, China: retrospective case series. BMJ 2020; 368:m606.

83 Yan D, Liu XY, Zhu Y *et al*. Factors associated with prolonged viral shedding and impact of Lopinavir/Ritonavir treatment in patients with SARS-CoV-2 infection. Eur Respir J. 2020; 56(1): 2000799. [DOI: 10.1183/13993003.00799-2020]

84 Yang W, Cao Q, Qin L *et al*. Clinical characteristics and imaging manifestations of the 2019 novel coronavirus disease (COVID-19): A multi-center study in Wenzhou city, Zhejiang, China. J. Infect. 2020; 80(4): 388-93. [DOI: 10.1016/j.jinf.2020.02.016]

85 Yang X, Yu Y, Xu J *et al*. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. The Lancet 2020; 8(5): 475-481. [DOI: 10.1016/S2213-

2600(20)30079-5]

86 Yang Y, Shi J, Ge S *et al*. Association between Prolonged Intermittent Renal Replacement Therapy and All-Cause Mortality in COVID-19 Patients Undergoing Invasive Mechanical Ventilation: a Retrospective Cohort Study. medRxiv 2020.03.16; [DOI: 10.1101/2020.03.16.20036780]

87 Yao T, Gao Y, Cui Q *et al*. Clinical Characteristics of 55 Cases of Deaths with COVID-19 Pneumonia in Wuhan, China: Retrospective Case Series. SSRN 2020. [DOI: 10.2139/ssrn.3550019]

88 Yu H, Cai Q, Dai X *et al*. The clinical and epidemiological features and hints of 82 confirmed COVID-19 pediatric cases aged 0-16 in Wuhan, China. medRxiv 2020.03.15; [DOI: 10.1101/2020.03.15.20036319]

89 Yu J, Ouyang W, Chua MLK *et al*. SARS-CoV-2 Transmission in Patients with Cancer at a Tertiary Care Hospital in Wuhan, China. JAMA Oncol. 2020;6(7):1108–1110. [DOI: 10.1001/jamaoncol.2020.0980]

90 Zeng Z, Sha T, Zhang Y, *et al*. Hypertension in patients hospitalized with COVID-19 in Wuhan, China: A single-center retrospective observational study. medRxiv 2020.04.06; [DOI: 10.1101/2020.04.06.20054825]

91 Zhang X, Cai H, Hu J *et al*. Epidemiological, clinical characteristics of cases of SARS-CoV-2 infection with abnormal imaging findings. IJID. 2020:94;81-7. [DOI: 10.1016/j.ijid.2020.03.040]

92 Zhang HY, Wang LW, Chen YY, *et al*. A Multicentre Study of 2019 Novel Coronavirus Disease Outcomes of Cancer Patients in Wuhan, China. medRxiv 2020.03.21; [DOI: https://[DOI.org/10.1101/2020.03.21.20037127]

93 Zhang F, Yang D, Li J *et al*. Myocardial injury is associated with in-hospital mortality of confirmed or suspected COVID-19 in Wuhan, China: A single center retrospective cohort study. medRxiv 2020.03.21; [DOI: 10.1101/2020.03.21.20040121]

94 Zhang J, Dong X, Cao Y *et al*. Clinical characteristics of 140 patients infected with SARS?CoV?2 in Wuhan, China. Allergy. 2020; 75: 1730– 1741. [DOI: 10.1111/all.14238]

95 Zhang B, Zhou X, Qiu Y *et al*. Clinical characteristics of 82 death cases with COVID-19. PloS One 2020; [DOI: 10.1371/journal.pone.0235458]

96 Zhao J, Yuan Q, Wang H *et al*. Antibody responses to SARS-CoV-2 in patients of novel coronavirus disease 2019. Clin Infect Dis 2020; ciaa344. [DOI: 10.1093/cid/ciaa344]

97 Zhao W, Yu S, Zha X *et al*. Clinical characteristics and durations of hospitalized patients with COVID-19 in Beijing: a retrospective cohort study. medRxiv 2020.03.13; [DOI: 10.1101/2020.03.13.20035436]

98 Zheng F, Tang W, Li H *et al*. Clinical characteristics of 161 cases of corona virus disease 2019 (COVID-19) in Changsha. Eur Rev Med Pharmacol Sci 2020; 24 (6): 3404-3410. [DOI:10.26355/eurrev_202003_20711]

99 Zhou F, Yu T, Du R *et al*. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. The Lancet 2020; 395(10229):1054-62. [DOI: 10.1016/S0140-6736(20)30566-3]

100 Zhou B, She J, Wang Y *et al*. The clinical characteristics of myocardial injury in severe and very severe patients with 2019 novel coronavirus disease. J Infect 2020; 81(1): 147-78. [DOI: 10.1016/j.jinf.2020.03.021]

101 Zhou Y, Zhang Z, Tian J, Xiong S. Risk factors associated with disease progression in a cohort of patients infected with the 2019 novel coronavirus. Ann Palliat Med 2020;9(2):428-436. [DOI: 10.21037/apm.2020.03.26]

102 Zhou Y, Yang Z, Guo Y *et al*. A New Predictor of Disease Severity in Patients with COVID-19 in Wuhan, China. medRxiv 2020.03.24; [DOI: 10.1101/2020.03.24.20042119]

103 Zhou F, Yu X, Tong X *et al*. Clinical features and outcomes of 197 adult discharged patients with COVID-19 in Yichang, Hubei. medRxiv 2020.03.26; [DOI: 10.1101/2020.03.26.20041426]

104 Zhou Z, Xie S, Zhang J *et al*. Short-Term Moderate-Dose Corticosteroid Plus Immunoglobulin Effectively Reverses COVID-19 Patients Who Have Failed Low-Dose Therapy. Preprints 2020; 2020030065. [DOI: 10.20944/preprints202003.0065.v1]

105	Zhu Z, Lu Z, Xu T *et al*. Arbidol monotherapy is superior to lopinavir/ritonavir in treating COVID-19. J Infect. 2020;81(1):e21-e23. [DOI: 10.1016/j.jinf.2020.03.060]

No.	**Ref. (Studies from North America)**
1	Arentz M, Yim E, Klaff L, *et al*. Characteristics and Outcomes of 21 Critically Ill Patients With COVID-19 in Washington State. JAMA. 2020;323(16):1612–1614. [DOI:10.1001/jama.2020.4326]
2	Argenzio MG, Bruse SL, Slater Cl *et al*. Characterization and clinical course of 1000 Patients with COVID-19 in New York: retrospective case series. BMJ 2020;369:m1996 [DOI: 10.1136/bmj.m1996]
3	Arons M, Hatfield K, Reddy S, *et al*. Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility. 2020. N Engl J Med 2020; 382:2081-2090. [DOI: 10.1056/NEJMoa2008457]
4	Auld S, Caridi-Scheible M, Blum J *et al*. ICU and ventilator mortality among critically ill adults with COVID-19. Crit Care Med 2020; [DOI: 10.1097/CCM.0000000000004457]
5	Baggett TP, Keyes H, Sporn N, Gaeta JM. Prevalence of SARS-CoV-2 Infection in Residents of a Large Homeless Shelter in Boston. JAMA 2020;323(21):2191–2192. [DOI:10.1001/jama.2020.6887]
6	Bhatraju, PK, Ghassemieh BJ, Nichols M *et al*. Covid-19 in Critically Ill Patients in the Seattle Region — Case Series. N Engl J Med 2020; 382:2012-2022 [DOI: 10.1056/NEJMoa2004500]
7	Gold JA, Wong KK, Szablewski CM *et al*. Characteristics and Clinical Outcomes of Adult Patients Hospitalized with COVID-19 — Georgia, March 2020. MMWR Morb Mortal Wkly Rep 2020;69:545–550. [DOI: 10.15585/mmwr.mm6918e1external icon]
8	Kimball A, Hatfield KM, Arons M *et al*. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020. MMWR Morb Mortal Wkly Rep 2020;69:377–

381. [DOI: 10.15585/mmwr.mm6913e1]

9 Chow EJ, Schwartz NG, Tobolowsky FA *et al*. Symptom Screening at Illness Onset of Health Care Personnel With SARS-CoV-2 Infection in King County, Washington. JAMA. 2020;323(20):2087–9. [DOI:10.1001/jama.2020.6637]

10 Cummings MJ, Baldwin MR, Abrams D, *et al*. Epidemiology, clinical course, and outcomes of critically ill adults with COVID-19 in New York City: a prospective cohort study. Lancet 2020;395:1763–70. [DOI: 10.1016/ S0140-6736(20)31189-2]

11 Goyal P, Choi JJ, Pinheiro LC *et al*. Clinical Characteristics of Covid-19 in New York City. N Engl J Med 2020; 382:2372-2374. [DOI: 10.1056/NEJMc2010419]

12 Magagnoli J, Narendran S, Pereira F, *et al*. Outcomes of Hydroxychloroquine Usage in United States Veterans Hospitalized with COVID-19. Med. 2020; [DOI: 10.1016/j.medj.2020.06.001]

13 McMichael TM, Currie DW, Clark S *et al*. Epidemiology of Covid-19 in a Long-Term Care Facility in King County, Washington. N Engl J Med 2020; 382:2005-2011 [DOI: 10.1056/NEJMoa2005412]

14 Petrilli CM, Jones SA, Yang J *et al*. Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study. BMJ 2020;369:m1966. [DOI: 10.1136/bmj.m1966]

15 Richardson S, Hirsch JS, Narasimhan M, *et al*. Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area. JAMA. 2020;323(20):2052–2059. [DOI:10.1001/jama.2020.6775]

16 Patricio Solís and Hiram Carreo. COVID-19 Fatality and Comorbidity Risk Factors among Confirmed Patients in Mexico. medRxiv 2020.04.21; [DOI: 10.1101/2020.04.21.20074591]

17 The COVID-19 Investigation Team. Clinical and virologic characteristics of the first 12 patients with coronavirus disease 2019 (COVID-19) in the United States. Nature Med 2020; 26:861-8.

18 Vahidy FS, Nicolas JC, Meeks JR *et al*. Racial and Ethnic Disparities in SARS-CoV-2 Pandemic: Analysis of a COVID-19

Observational Registry for a Diverse U.S. Metropolitan Population. medRxiv 2020.04.24; [DOI:10.1101/2020.04.24.20073148]

19 Vaid A, Somani S, Russak AJ *et al*. Machine Learning to Predict Mortality and Critical Events in COVID-19 Positive New York City Patients. medRxiv 2020.04.26.20073411; [DOI: 10.1101/2020.04.26.20073411]

Supplement Table 3 Results for bias analysis in observations assessed within the selected studies

Observation	China				North America			
	Egger's test[1]	*P* value	Kendall's tau Test[2]	*P* value	Egger's test[1]	*P* value	Kendall's tau test[2]	*P* value
Fever	0.411 ± 0.354	0.123	0.078	0.034	-3.907 ± 1.700	0.016	-0.030	0.417
Cough	0.047 ± 0.357	0.448	-0.016	0.354	-3.327 ± 1.659	0.029	-0.262	0.050
Dyspnea	-0.597 ± 0.570	0.147	-0.059	0.124	-3.322 ± 1.001	0.002	-0.205	0.103
Headache	-0.962 ± 0.324	0.002	-0.058	0.188	0.219 ± 0.627	0.366	0.132	0.256
Expectoration	-1.086 ± 0.364	0.002	-0.073	0.117	1.367 ± 1.827	0.245	0.267	0.226
Myalgia	-1.763 ± 0.558	0.001	-0.155	0.004	-1.066 ± 0.729	0.091	-0.222	0.185
Fatigue	-0.117 ± 0.498	0.407	-0.081	0.056	1.619 ± 1.778	0.265	0.001	0.500
Diarrhea	-3.202 ± 0.429	0.001	-0.032	0.275	-2.671 ± 0.520	0.001	-0.211	0.104
Vomiting and nausea	-3.925 ± 0.495	0.001	0.078	0.115	-1.620 ± 0.863	0.049	0.001	0.500
Sore throat	-1.152 ± 0.371	0.001	-0.026	0.371	0.841 ± 0.518	0.065	0.154	0.221
Chills	-1.351 ± 0.736	0.041	-0.103	0.246	-0.574 ± 0.320	0.058	0.083	0.377
Obesity	-3.675 ± 0.904	0.005	-0.286	0.183	-2.259 ± 1.787	0.108	-0.140	0.142
Hypertension	0.069 ± 0.411	0.433	-0.104	0.014	3.804 ± 2.759	0.089	-0.093	0.224
Diabetes	-0.242 ± 0.290	0.203	-0.117	0.006	2.921 ± 1.485	0.028	-0.089	0.201
Cardiovascular	-1.673 ± 0.379	0.001	-0.068	0.087	1.939 ± 1.479	0.099	0.021	0.425

diseases								
COPD	-1.119 ± 0.398	0.003	-0.098	0.056	3.425 ± 1.085	0.002	-0.001	0.495
Cancer	1.071 ± 0.483	0.019	0.089	0.084	0.713 ± 0.936	0.227	-0.093	0.245
Liver diseases (any)	-0.756 ± 0.462	0.053	0.083	0.122	1.218 ± 1.646	0.235	0.094	0.288
Chronic kidney diseases	-0.747 ± 0.586	0.103	0.093	0.086	3.932 ± 1.744	0.0163	0.001	0.500

[1]Egger's regression test results are shown as Egger's regression intercept ± standard error; [2]Kendall's tau test results are shown as the τ value.