ISARIC Partner Analyses

Short Title and Link to Proposal	SAP Full Title	Pre-print	Analysis Status	Publication title and link if published	Manuscript Publication Date	Objectives	Chair and Institution	Co-chair and Institution	Statistician and Institution	Final dataset used	RT-PN	RT-PT
Project study (editorial, no proposal)	N/A	N/A	Published	The value of open-source clinical science in pandemic response: lessons from ISARIC	RDV21	To describe the role of adaptive observational studies in global outbreak research response	ISARIC Clinical Characterisation Group		NA	No data		
Observational pandemic studies	N/A	N/A	Published	ISARIC is a critical tool for observational studies during epidemics and pandemics		Reply to comment in Nature Medicine by Ricotta et al.	ISARIC Clinical Characterisation Group		NA	No data		
Symptoms at admission	International consensus of age-specific presenting symptoms for patients admitted to hospital with coronavirus disease 2019	https://www.medrxiv.org/content/10.1101/2021.10.06.21264653v1	Published	COVID-19 symptoms at hospital admission vary with age and sex	JHov21	1. To investigate patterns of symptoms at arrival to hospital for patients admitted to hospital with COVID-19, stratified by age, sex and country. 2. To investigate the utility of commonly used clinical case definitions of COVID-19 for patients of different ages and in different countries.	Mark Pritchard, University of Oxford, UK	ISARIC Clinical/Analytic Group, University of Oxford, UK	Mark Pritchard, University of Oxford, UK	REDCap data		
Global illness	ISARIC International COVID-19 Critically Ill Cohort	N/A	Published	Clinical characteristics, risk factors, and outcomes in patients with severe COVID-19	30Dec21	1) To summarise the demographic characteristics and clinical features of ~58,000 critically ill patients of any age, admitted to hospital with COVID-19 across high-income, middle-income, and low-income settings.	Srinivas Murthy, British Columbia Children's Hospital, Canada	Luis Felipe Reyes Velasco, Universidad De La Sabana, Colombia	Esteban Garcia-Gallo, Universidad De La Sabana, Colombia			
		N/A	Published	ISARIC COVID-19 dataset	8Dec21	2) To describe clinical outcomes (e.g., ICU length of stay, hospital length of stay, ICU mortality, hospital mortality, days of mechanical ventilation, among others) of critically ill patients with severe COVID-19. 3) To characterize the variability in the clinical features and management strategies of these patients.			Esteban Garcia-Gallo, Universidad De La Sabana, Colombia			
		N/A	Published	Respiratory support in patients with severe COVID-19		4) To explore the risk and protective factors associated with mortality for these patients. 5) To determine variation over time in various phases of ICU 'journey' including treatments received, length of stay in ICU and duration of mechanical ventilation.			Esteban Garcia-Gallo, Universidad De La Sabana, Colombia			
		N/A	Published	Major adverse cardiovascular events (MACE) in patients with severe COVID-19	8May20							
Inpatient journey	Time-variation in the 'inpatient journey'	https://www.medrxiv.org/content/10.1101/2021.11.25.21266783v1	Published	Ten months of temporal variation in the clinical journey of hospitalised patients with COVID-19: An observational cohort	23Nov21	Research questions: 1) Does the 'inpatient journey' change over time in the course of the COVID-19 pandemic? 2) Do patient's presenting characteristics change in the course of the COVID-19 pandemic? 3) Do patient's presenting characteristics explain changes in 'inpatient journey'?	Matthew Hall, University of Oxford, UK	ISARIC Clinical/Analytic Group, University of Oxford, UK	Matthew Hall, University of Oxford, UK	REDCap data		
Diet	Influence of nutrition status on COVID-related outcome		Published	Association of body mass index with COVID-19 related in-hospital death	PRJul22	Compare COVID-19-related mortality according to underweight status and malnutrition, before and after adjustments for known demographic confounders.	Jean-Charles Preiser, CUB Hôpital Erasme, Belgium	Marianna Anscombe, CUB-Hôpital Erasme, Belgium	Jason Bouziotis, CUB-Hôpital Erasme, Belgium	17 Jan 2022		
Acute Kidney Injury	Acute Kidney Injury in COVID-19	https://www.medrxiv.org/content/10.1101/2021.08.19.21272265v1	Published	Use of an extended KDIGO definition to diagnose Acute Kidney Injury in patients with COVID-19	20Apr22	1) To characterise patients with COVID-19 who develop Acute Kidney Injury (AKI) 2) To identify the temporal profile of AKI in patients with COVID-19 throughout the hospital journey 3) To develop a predictive machine learning model for AKI in COVID-19, using data from predominantly upper-middle income countries, and externally validate this model in a LMIC setting (Latin America).	Sally Shrapnel & Marina Wainstein, University of Queensland, Australia	Rolando Claure-Del Granado, Hospital Obrero #2, Caja Nacional de Salud and Universidad Mayor de San Simon, Bolivia	Sally Shrapnel and Samuel James MacDonald, University of Queensland, Australia	24 May 2021		
			Published	Association of Country-Income Level with the Characteristics and Outcomes of Critically Ill Patients Hospitalized With Acute Kidney Injury and COVID-19	24May19							
International cohort	ISARIC International COVID-19 Cohort	https://www.medrxiv.org/content/10.1101/2021.09.11.21263419v1	Published	Characteristics and outcomes of an international cohort of 600,000 hospitalised with COVID-19	29Feb20	1) To summarize the demographic characteristics and clinical features of 30910 patients admitted to hospital with COVID-19 across high-income, middle-income, and low-income settings. 2) To characterize the variability in the clinical features of these patients. 3) To explore the risk factors associated with mortality and ICU admission for these patients.	Christiana Kartsonaki, University of Oxford, UK	ISARIC Clinical/Analytic Group, University of Oxford, UK	Christiana Kartsonaki, University of Oxford, UK	05 Jan 2022		
Neurological analysis	Neurological manifestation and outcome for patients admitted to hospital with COVID-19: Results from the ISARIC prospective multinational observational study	N/A	Published	Neurological manifestations of COVID-19 in adults and children	10Sep20	1) What are the different types of neurological manifestations at admission and their prevalence? 2) What are the different types of neurological complications and their prevalence? 3) Neurological complications (cvm_b_homea = seizure_ceterm = stroke_ceterm = meningitis_ceterm) 4) Stroke and its risk factors 5) What's the outcome of neurological complications? 6) Intervention for neurological complications 7) Exploratory — bleeding complication (text: CNS, brain, cerebral hemorrhage) risk factors	Sung-Min Cho, John Hopkins University, USA	Tom Solomon, University of Liverpool, UK; David Thomson, University of Cape Town, South Africa	Nicole White, University of Queensland, Australia	24 May 2021		
		N/A	Published	Sex differences in post-acute neurological sequelae of SARS-CoV-2 and outcomes	9Feb23		Sung-Min Cho, John Hopkins University, USA	Nicole White, University of Queensland, Australia	Nicole White, University of Queensland, Australia			
		N/A	Published	Long-term neurological symptoms after acute COVID-19 illness requiring hospitalization in adult patients: insights from the ISARIC COVID-19 follow-up study	6Dec23		Denise Battaglini, IRCCS Ospedale Policlinico San Martino, Italy	Sung-Min Cho, John Hopkins University, USA; David Thomson, University of Cape Town, South Africa	Denise Battaglini, IRCCS Ospedale Policlinico San Martino, Italy			
Coagulopathy and thrombosis	Coagulopathy and thrombosis among COVID-19 patients. Variation by geographical location and healthcare setting		Published	Thrombotic and hemorrhagic complications of COVID-19 in adults hospitalized in high-income countries compared with those in middle-income countries: an international study	30Jun23	1) To describe bleeding, thrombosis, and coagulopathy among patients with COVID-19 who do not require mechanical ventilation, and to compare the frequency of these problems across geographic regions. 2) To describe bleeding, thrombosis, and coagulopathy among COVID-19 patients who require mechanical ventilation. 3) To describe regional variations in anticoagulation treatment practices for COVID-19 patients, including frequency of anticoagulation use and how often therapeutic versus prophylactic dosing is prescribed. 4) To prevent coagulopathy lab values associated with bleeding and thrombosis complications.	Matthew Griffee, University of Utah, USA	Patricia Rocco, Fundação Oswaldo Cruz, Brazil	Angela Pereira and Chang Zhang, University of Utah			
ECMO predictive analytics	Development of predictive analytics model for need of extracorporeal support in COVID-19	N/A	Published	Validation of extracorporeal membrane oxygenation (ECMO) prediction and severity of illness scores in an international COVID-19 cohort	4Apr23	1) Specific Aim 1: To predict the necessity for ECMO support utilising variables 24-48 hours prior to ECMO initiation. 2) Specific Aim 2: Develop, validate and test a machine learning model for predicting the need for ECMO at various time windows using a large international database. 3) Specific Aim 3: Test the developed model in a local, hotshot dataset, using a simulated real-time approach, and evaluate the decision alert rate.	Heidi J. Dalton, INOVA Fairfax Medical Center, USA; Ahmed Said & Neel Shah, Washington University in St Louis, St. Louis	Itsa M. Marwali, National Cardiovascular Center Harapan Kita, Jakarta, Indonesia	Ahmed Said, Neel Shah and Xue Bing, Washington University in St Louis, St. Louis			
Pediatric analysis	Clinical outcomes in children with severe covid-19: a retrospective study in limited vs. enormous resource countries	N/A	Published	Pediatric COVID-19 mortality: a database analysis of the impact of health resource disparity	7Oct22	1) Evaluate the incidence of mortality and morbidities (MOF, Septic Shock, ARDS, AKI, DIC, Neurologic complications), Mechanical ventilation, intubation time, PICU LOS and hospital LOS in children with severe COVID-19 cases from developed and developing countries data in ISARIC and ECMOCARD registry. 2) Evaluate the risk factors for mortality and morbidities. 3) Compare the risk factors identified for mortality and morbidities between data from developed and developing countries.	Ista Miranda Maiwali, Pediatric Cardiac ICU National Cardiovascular Center Harapan Kita, Jakarta, Indonesia	Hwa-Jin Cho, Chonnam National University Children's Hospital, Gwangju, South Korea; & Muhammad Rayhan, Dyah Kanya Wati, Faculty of Medicine, Universitas Udayana, Bali, Indonesia; & Rajdadel Yubertz, Saiful Anwar Hospital, Malang, West Java, Indonesia	Ivy Cerelia Valerie, Regina General Hospital, Jembrana, Bali, Indonesia; & Muhammad Rayhan, National Cardiovascular Center Harapan Kita, Jakarta, Indonesia	07 Apr 2021		
Liver function in COVID-19	Liver function abnormalities in patients admitted with COVID-19 and association with outcomes: A draft analysis plan using data collected by the ISARIC Collaborators	https://www.medrxiv.org/content/10.1101/2021.09.09.21263310v1	Published	Liver injury in hospitalized patients with COVID-19: An international multinational cohort study	6Sep23	1) To evaluate the prevalence and severity of derangements in liver function among patients admitted with COVID-19 2) To evaluate the association between admission liver function tests (ALT, AST and bilirubin) and hospital outcomes 3) To evaluate the incidence of Remdesivir-associated hepatotoxicity	Saptarshi Bishnu, Apollo Hospitals, Chennai, India	Bhavdeb Kumar Tirupakuzhi Vijayaraghavan, Apollo Hospitals, Chennai, India; and Neill KJ Adhikari, University of Toronto, Canada	Anirudq Menon, University of Oxford, UK; and Joaquin Baruch, ISARIC, UK			
Utility of log data	A tool-box for epidemic research: the ISARIC Clinical Characterisation group on strategies to simplify and improve collaboration-fueled research during health emergencies	https://www.authorea.com/users/453276/articles/551636-symptom-based-case-definitions-for-COVID-19	Published	Symptom-based case definitions for COVID-19: Time and geographical variations for detection at hospital admission among 260,000 patients	10Jan22	1) To propose sampling strategies to determine the following characteristics for an emerging infection: a) the clinical presentation or change of the clinical presentation, b) case-fatality ratio (CFR) among hospitalized patients, c) risk factors and prognostic scores for severe outcomes (death, ICU admission, invasive mechanical ventilation, or composite outcome). 2) To provide an evidence base approach for updating the ISARIC COVID-19 case report forms by evaluating the completion of these forms during the COVID-19 pandemic and the utility of the data in each variable.	Joaquin Baruch, ISARIC, UK; Christiana Kartsonaki, Peru Olliaro, Laura Merson, Bronner P. Gonçalves, Amanda Rojek & Jake Dunning, University of Oxford, UK	Bharath Kumar Tirupakuzhi Vijayaraghavan, Apollo Hospitals, Chennai, India; Trokon Omarley Yeakah, National Public Health Institute, Liberia; Janet Diaz, World Clinical Data Platform				
		N/A	Published	Overcoming Clinical heterogeneity in Disease Outbreaks: Analysis of ISARIC WHO COVID-19 Case Report Form Utilization	30Aug24							
Omicron population-level characterisation	Comparing clinical presentation and outcomes of hospitalized SARS-CoV-2 patients before and after the spread of the Omicron variant	https://www.medrxiv.org/content/10.1101/2022.06.10.22276241v1	Published	An international observational study to assess the impact of the Omicron variant emergence at the onset of hospitalization of COVID-19 in hospitalized patients	9Oct22	Primary objectives: 1.To compare disease severity in hospitalized patients during periods when most SARS-CoV-2 infections, at the population-level, are caused by the delta variant versus periods when most infections are caused by the Omicron variant. 2.To assess frequency of previous vaccination in hospitalized patients and severity of disease in vaccinated versus unvaccinated individuals before versus after the spread of Omicron variant. Secondary objectives: 1.To characterize the clinical profile (demographics and symptoms at admission) of hospitalized patients during periods when Delta is dominant versus when Omicron is the dominant variant 2.To estimate prevalence of comorbidities in hospitalized patients before versus after the spread of Omicron variant	Peru Olliaro, Christiana Kartsonaki, Bronner P. Gonçalves, Joaquin Baruch & Jake Dunning, University of Oxford, UK; Waasila Jassat, NICD, South Africa; Yaseen Arabi, King Abdulaziz Medical City, Saudi Arabia; Rob Fowler, Sunnybrook Health Sciences Centre, Canada; Alistair Nichol, University College Dublin, Ireland; Evert-Jan Wils & David Ong, Francisca Gasthuis & Vlietland, Netherlands; Hannah Peek & Jonathan Remppis, University Hospital of Tübingen, Germany; Cornelius Rau, University Children's Hospital; University Medical Center Hamburg-Eppendorf, Germany; Abigail Beane, CLH Network, Asia; Madiha Hashmi, CLH Network, Pakistan; Anders Benjamin Kildal, University Hospital of North Norway, Norway; Arne Søraas, The Norwegian Corona Cohort, Oslo University Hospital, Norway; Jan Cato Holter, Oslo University Hospital, Norway; Claudia Figueiredo-Mello, Ana Freitas Ribeiro & Regiana Roscoe de Souza Castanheira, Instituto de Infectologia Emilio Ribas, Brazil			REDCap data		
Vaccination in COVID-19	Description of vaccination history and its association with patient characteristics and outcomes in the ISARIC COVID-19 database		Published	A multi-country analysis of COVID-19 hospitalizations by vaccination status	21Sep20	1) To assess the frequency of vaccination history in patients admitted to hospital with COVID-19 across time during the pandemic and in different countries after the initiation of each country's vaccination campaign. 2) To describe the demographic composition and frequency of comorbidities in patients with a history of vaccination versus patients without a history of vaccination. To ensure that patients with different vaccination status are comparable in relation to factors other than vaccination, we will restrict the analysis to time periods when country-specific vaccination coverage is above pre-defined thresholds. 3) To describe clinical outcomes (e.g., fatality risk and treatment) with advanced respiratory support (i.e., IMV, NIV, or HFNC) of patients depending on their vaccination status. To ensure that patients with different vaccination status are comparable in relation to other factors, we will restrict the analysis to time periods when country-specific vaccination coverage is above predefined thresholds. 4) To qualitatively compare analyses that use individual-level data on vaccination with analyses informed by population-level data on both vaccination coverage and variant relative frequencies.	Bronner P. Gonçalves, ISARIC, University of Oxford, UK	Luis Felipe Reyes, Universidad de La Sabana, Colombia; Ignacio Martin-Loeches, Trinity College Dublin, Ireland; Waasila Jassat, NICD, South Africa; Jesus Rico-Feijoo & Cesar Aldecoa, Hospital Universitario Río Hortega, Valladolid, Spain; Chiara Pidanti, IRCCS Sacro Cuore Don Calabria Hospital, Italy; Shankaji U Basu & Sally Shrapnel, University of Queensland, Australia; Benjamin Lefèvre, Université de Lorraine, Nancy, France; Jose M Lopez, Instituto Nacional de Salud del Niño San Borja, Peru; Kwan Hassan, University of Edinburgh, UK; Peru L. Olliaro, Laura Merson, Barbara Citarella, Joaquin Baruch, Amanda Rojek & Christiana Kartsonaki, ISARIC, University of Oxford	Bronner P Gonçalves, ISARIC, University of Oxford, UK	REDCap data		
		N/A	Awaiting publication	Interpretations of studies on SARS-CoV-2 vaccination and post-acute COVID-19 sequelae								
Monitoring of COVID-19 outcomes	Monitoring of COVID-19-associated outcomes across countries and over time in relation to the publication of therapeutic guidelines	N/A	Published	Implementation of Recommendations on the Use of Corticosteroids in Severe COVID-19	24Dec23	1) To report mortality by time-epoch (weekly/monthly) globally and by WHO region, in relation to the publication of therapeutic guidelines for COVID-19 2) To analyse and compare pandemic mortality/case-mortality rates before and after the publication of therapeutic guidelines for COVID-19, in relation to treatment availability and wealth levels. 3) To assess how mortality over-time trajectories vary according to wealth level and opportunistic infections prevalence in sites/regions, in relation to the publication of therapeutic guidelines for COVID-19 4) (If available) To assess rates of opportunistic infections in patients hospitalised with COVID-19, overall and in relation to the publication of therapeutic guidelines. 5) (If available) To describe rates of treatment administration by time epoch and severity level in relation to the publication of therapeutic guidelines for COVID-19 6) (If available) To assess rate of opportunistic infection in patients hospitalized with COVID-19 based on administered treatment and opportunistic infections prevalence at site of hospitalization (adjusted for??) 7) To assess the risk of mortality in patients hospitalized with COVID-19 based on administered treatment (adjusted for??)	Francois Lamontagne, Université de Sherbrooke, Canada	Félix Camirand Lemyre, Université de Sherbrooke, Canada	Félix Camirand Lemyre, Université de Sherbrooke, Canada			
Statistical and machine learning methods for predicting risk of pulmonary embolism and death in patients with COVID-19	Statistical and machine learning methods for predicting risk of pulmonary embolism and death in patients with COVID-19	https://www.ssrn.com/abstract=11500	Awaiting publication	Paper submitted to journal		To investigate and compare methods for predicting risk of pulmonary embolism and death among patients with COVID-19	Christiana Kartsonaki, University of Oxford	Jan Clifton, University of Oxford; Munib Mesinovic, University of Oxford; Bin Wan Rajahram, Queen Elizabeth Hospital, Malaysia; Or Wong Xin Ci, Digital Health Research and Innovation Unit, Malaysia	Munib Mesinovic, University of Oxford, UK	1Mar2022		
Automatic identification of signals in Clinical Notes using Natural Language Processing	Automatic Identification of Signals in Clinical Notes using Natural Language Processing	https://www.medrxiv.org/content/10.1101	Published	Lightweight transformers for clinical natural language processing	12Jan24	To maximise the representation of all populations affected by COVID-19, include terms from the entirety of the ISARIC dataset, including all patients from all participating countries.	Omid Rohanian, University of Oxford	Hannah Journey, Christiana Kartsonaki, Bronner Gonçalves, Laura Merson, David Clifton, University of Oxford, UK; Jose A. Calvache, Universidad del Cauca, Colombia	Muhammad Noor Khrais, South City Hospital, Pakistan; Omid Rohanian, University of Oxford, UK			
Measures of oxygenation	Utility of measures of oxygenation for COVID-19 case management and outcome	N/A	Published	Characteristics and outcomes of COVID-19 patients admitted to hospital with and without respiratory symptoms	8May20	1) The primary objective is to assess the utility of measures of oxygenation as a predictor of poor outcome in covid-19. 2) A secondary objective is to assess the utility of measures of oxygenation to guide patient management decisions.	Peru Olliaro, University of Oxford, UK	Deva Jayakumar, Apollo Hospitals, India	Barbara Citarella, University of Oxford, UK, & Michel Vaillant, Luxembourg Institute of Health, Luxembourg			
Clinical care definitions	Applicability of commonly used COVID-19 clinical case definitions and severity score amongst patients hospitalized with COVID-19 in low-and middle-income countries		Analysis completed			The overall aim for this project is to describe the ISARIC-LMIC data in terms of completeness and conduct following analysis given the availability of required data: 1) To assess the adequacy of common covid-19 clinical case definitions to covid-19 hospitalized patients in LMICs with reference to sensitivity 2) To assess applicability/adequacy of common severity scores to covid-19 hospitalized patients in LMICs	Zainul Hassan, University of Oxford, UK	Buddha Basnyat, Oxford University Clinical Research Unit-Nepal, Nepal	Anirudq Menon, University of Oxford, UK			
Potassium in COVID-19	Potassium in COVID-19 patients admitted to the hospital		Analysis underway			1) Association of baseline potassium and mortality at day 90. 2) Prevalence of dyskalemia (hypo/hyperkalemia) at baseline and during the hospitalization 3) Determine the factors associated with hypo-hyperkalemia at baseline 4) Analysis of hospital potassium trajectories (i.e. potassium normalization) in relation to in-hospital mortality, and mortality at day 90 (and 30) 5) Association of baseline potassium and in-hospital mortality 6) Association of baseline potassium and acute renal failure (KDIGO >=1 or renal replacement therapy), mechanical ventilation, and time to discharge home	Rossignol Patric, Nancy, France, Montzeoier Emmanuel, Nantes, France; Jean-Sébastien Hulot, Paris, France - INSERM	Jonathan Samuel Chávez Iñiguez, Hospital Civil de Guadalajara, Mexico	Sandra Wagner, CIC-P and FCRIN-IN-CRCT, Nancy, France			
Cardiovascular impact	Cardiovascular impact in COVID19 patients: a multicenter cohort analysis		Analysis underway			1) Determine the rate of cardiovascular dysfunction with vasopressor requirements in severe COVID19 patients and its impact on outcomes 2) Characterize COVID19 patients with cardiovascular dysfunction with vasopressor requirements (bee additional notes section below – Note 1) in what concerns previous comorbidities, clinical presentation and survival rates. 3) Ascertain the prognostic value of troponin levels and hyperbilirubinis on vasopressor free days, vasopressor dosage, ventilator free days, SOFA score and Mortality rate	José Pedro Cidade & Pedro Póvoa, Hospital São Francisco Xavier, Lisbon, Portugal	Sozit Karim, University Technology MARA, Malaysia	José Pedro Cidade, Hospital São Francisco Xavier, Lisbon, Portugal; Ana Marreiros, Universidade Algarve, Faro, Portugal			
Lymphopenia in COVID-19	Lymphopenia in severe COVID19 patients: are they a unique immunologically compromised population?		Analysis underway			1)Determine the rate of lymphopenia in severe COVID19 patients 2)Characterize COVID19 patients with lymphopenia in what concerns previous comorbidities, clinical presentation and survival rates. 3)Ascertain the prognostic value of the ratio Neutrophil/Lymphocyte ratio on ICU Mortality and Mortality rate of COVID19 patients 4)Ascertain the prognostic value and magnitude of effect of lymphopenia on vasopressor free days (see additional notes section below – Note 1), vasopressor dosage, ventilator free days, SOFA score and Mortality rate 5)Document the rate of intercurrent nosocomial infections on COVID19 patients with lymphopenia and its possible association with altered inflammatory serum markers profiles (C-reactive Protein and Procalcitonin)	José Pedro Cidade & Pedro Póvoa, Hospital São Francisco Xavier, Lisbon, Portugal	Noraishinin Seidon & Noor Azleen; University Technology MARA, Malaysia	José Pedro Cidade, Hospital São Francisco Xavier, Lisbon, Portugal; Ana Marreiros, Universidade Algarve, Faro, Portugal			
Follow-up	Characterization of long term Covid-19 outcomes in different populations: ISARIC Global Collaborative Adult Covid-19 Follow-up analysis		Analysis underway			The primary objective of this study is to characterise the physical and psychosocial consequences in patients with Long Covid (post-acute Covid-19). Secondary objectives include estimating the risk of and risk factors for post-Covid-19 medical sequelae, psychosocial consequences.	Janet Scott, ISARIC4C UK, MRC-University of Glasgow Centre for Virus Research, UK; Luis Felipe Reyes, UK; Universidad de la Sabana, Colombia; University of Oxford, UK; Daniel Munblit, Sechenov University, Russia; Louise Sigfrid, University of Oxford, UK	See SAP	See SAP			
Non-invasive oxygenation strategies	Prevalence of use and outcomes of Non-invasive oxygenation strategies as first-line treatment of COVID-19 respiratory failure		Analysis underway			1)Describe the current global practice in the treatment of Covid-19 respiratory failure 2)Determine the proportion of the patients managed with non-invasive oxygenation strategies (high flow nasal oxygen, helmet or face mask non-invasive ventilation and continuous positive airway pressure (CPAP) in the intensive care unit. 3)Assess the rate of treatment failure (need for endotracheal intubation) and clinical outcome (hospital mortality) in the overall cohort of patients, and in the subgroup of patients with PaO2/FiO2<300 mmHg and <200 mmHg. 4)Secondary objective will be to compare patients who received noninvasive support or direct invasive mechanical ventilation as first-line treatment of hypoxemic	Domenico Luca Grieco, Fondazione Policlinico Universitario A. Gemelli IRCCS, Italy	Massimo Antonelli, Fondazione Policlinico Universitario A. Gemelli IRCCS, Italy	Matteo Velardo			
Cancer	Characteristics, presentation, risk factors, treatments and outcomes in patients with cancer and COVID-19 (WMC: ISARIC International Cancer)		Analysis underway			To describe the characteristics, presentation, risk factors, and treatments of patients with cancer and Covid-19, and to assess the associations of cancer with outcomes.	Christiana Kartsonaki, University of Oxford, UK; Universidad del Cauca, Colombia; University of Oxford, UK; Laura Turtle and Carlo Palmieri, University of Liverpool, UK	Jose A. Calvache,Universidad del Cauca, Colombia; Esther de Vries, Pontificia Universidad Javeriana Bogotá, Colombia	Christiana Kartsonaki, University of Oxford, UK			
Variation in management of COVID-19	Variation in management and outcomes of hospitalised patients with COVID-19 among low-, middle- and high-income countries		Analysis underway			To compare the management and outcomes of hospitalised patients with COVID-19 between low-, middle- and high-income countries in the whole cohort and in the subgroup of critically ill patients	Yaseen M. Arabi, King Abdulaziz Medical City, Saudi Arabia	Hasan M Al-Dorzi, King Abdulaziz Medical City, Saudi Arabia	Jesna Jose, King Abdulaziz Medical City, Saudi Arabia			
Impact of COVID-19 in Pregnancy	Impact of COVID-19 in Pregnancy		Analysis underway			1)Describe the demographic and clinical characteristics of pregnant women stratified by gestational age and overall, and non-pregnant women admitted to hospital with COVID-19 2)Investigate factors associated with mortality in pregnant women with COVID-19 3)Determine risk factors associated with severe or critical COVID-19 among pregnant and non-pregnant women. Severity definitions are as described by WHO recommendations 4)Compare predictors of critical illness and death from COVID-19 in pregnant women compared with non-pregnant women 5)Investigate outcomes for pregnant women with COVID-19 who received vaccination compared to those who were not vaccinated 6)Compare treatments and outcomes of pregnant and non-pregnant women with COVID-19 in different geographic regions. 7)Investigate the effects of COVID-19 on pregnancy outcome as recorded during hospitalisation.	Jesús Gitaka, Mount Kenya University, Thika, Kenya; Barbara W Citarella, University of Oxford, UK	Francis Gilbert Mumbiti; University of Birmingham, UK; Yvonne Mvura, Ministry of Health, Kenya; Benrut Mollet, Pilates Health Institute, Tanzania	Barbara W Citarella, University of Oxford, UK; Bronner Goncalves, University of Oxford, UK			
Cardiovascular comorbidities and complications in hospitalised patients with COVID-19	Cardiovascular comorbidities and complications in hospitalized patients with COVID-19		Analysis underway			1)What are the risk of adverse outcomes (death, admission to ICU, use of IMV) associated with cardiovascular comorbidities (e.g. pre-existing endocrine/DVT/VTE, myocardial infarction, heart failure, stroke and others)? 2)What are the risks of cardiovascular complications (pulmonary embolism/DVT/VTE, myocardial infarction, heart failure, stroke and others)?	Christiana Kartsonaki, University of Oxford	Lydia Harrison, New College, University of Oxford; Prof Rangimari Abdullah Nurwash, Serdang Hospital, Malaysia; Maxamen A/P Maisarango, Centre for Clinical Outcome Research, Malaysia	Lydia Harrison and Christiana Kartsonaki, University of Oxford, UK			
Predicting Long COVID Syndrome Machine Learning Models (PRILOCS)	Predicting Long COVID Syndrome using Machine Learning Models (PRILOCS)		Analysis underway			The primary objective of this study is to develop, test and validate machine learning models for the early detection of patients who are at risk of Long COVID syndromes in the Asia region.	Kalaiarasu M. Peariasamy, ISARIC, Institute for Clinical Research, National Institutes of Health Malaysia	Xin Ci Wong, Mohd Aizuddin Abdul Rahman; Han Meng Lai, Institute for Clinical Research, National Institutes of Health Malaysia	Xian Boon Low, Institute for Clinical Research, National Institutes of Health Malaysia; Nik Arsyad Nik Muhamad Afendi, Monash University; Bin Wong, Taylor's University Malaysia			

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The relative influence of clinical and sociodemographic variables on the long-term COVID-19 associated QALYL lost	The relative influence of clinical and sociodemographic variables on the long-term COVID-19 associated QALYL lost		Awaiting publication	Submitted to journal		1) The first aim of this study is to estimate Quality-adjusted life years (QALYs) lost associated with long-term COVID-19 symptoms as a function of a collection of clinical and social characteristics, and identify which factors contribute most significantly to QALYs lost. 2) The second aim of this study is to determine the extent to which age (group), sex, and comorbidities may explain observed 'effects' of socio-demographic factors' on QALYs lost attributed to long-term COVID-19 symptoms and by extension, imply other key non-clinical drivers.	Togni Mendez, Harvard University, US and UK	Louise Sigfrid, University of Oxford, Oxford, UK; Christl Donnelly, Oxford University and Imperial College London, UK; Waasila Jassat, South Africa; Luis Felipe Reyes, Universidad de La Sabana, Colombia; Anne Natvin, Oslo University Hospital, Norway; Anders H. Nygaard, Oslo University Hospital, Norway	Togni Mendez, Harvard University and Oxford University, US and UK			
Ethnicity	Exploring associations between ethnicity, in-hospital complications and COVID-19 outcomes in the United Kingdom, Brazil, and South Africa		Analysis underway			1) To compare the similarities/differences of COVID-19 characteristics (e.g., symptoms on admission, comorbidities, demographics) in patients hospitalised in Brazil and South Africa versus the United Kingdom and across different ethnicities within all three countries. 2) To assess whether risk factors driving mortality and in-hospital deterioration (defined as any requirement of ventilatory support or critical care, or death [32]) are consistent in diverse settings and across ethnicity, using data from hospitalised adult patients in Brazil, South Africa and the United Kingdom.	Manuela Paniofff, Liverpool School of Tropical Medicine, UK	Fernanda A. Bozza, National Institute of Infectious Diseases Evandro Chagas, Oswaldo Cruz Foundation, Ministry of Health, Rio de Janeiro, Brazil; & Waasila Jassat, National Institute for Communicable Diseases (NICD), National Health Laboratory Service (NHLS), Johannesburg, South Africa	Manuela Paniofff, Liverpool School of Tropical Medicine , UK; & Leonardo S.L. Bastos, Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Brazil			
Trial emulation of corticosteroids	Can observational data answer questions about treatment effects during an emerging infectious disease outbreak? Trial emulation of corticosteroids for patients admitted to hospital with COVID-19		Analysis underway			This analysis will investigate whether a trial emulation analysis using the ISARIC multinational cohort could reproduce the result of the RECOVERY trial. Secondarily, we will explore: 1) How soon into the pandemic this result could have been obtained (with the data as collected and under assumptions of greater data completeness); 2) Whether the observational data collected by the ISARIC Clinical Characterisation Group could answer secondary questions about the optimal dose of dexamethasone; 3) Whether a timely report of treatment effects from observational data could have beneficially affected clinical practice.	Mark G Pritchard, University of Oxford, UK	Jose Andres Calvache, Universidad del Cauca, Colombia	Mark G Pritchard, University of Oxford, UK			
Platform trials in COVID-19	Rate of implementation at sites participating in a platform trial compared to sites without a platform trial: An observational study of critically ill COVID-19 patients		Analysis underway			1) What are the proportions of critically ill COVID-19 patients receiving effect, futile, and harmful therapies prior to Jan 2020 and Dec 2022? 2) What are the differences in implementation rates—the rate of use of effective, harmful and futile therapies—prior to and following REMAP-CAP domain publication between REMAP-CAP sites and sites not participating in REMAP-CAP? 3) What are the differences in the time to implementation of effective and de-implementation of harmful and futile therapies following REMAP-CAP domain publication between REMAP-CAP sites and sites not participating in REMAP-CAP?	Aleysia Cordonli, Monash University, Australia	Alisa Higgins, Monash University, Australia	Anais Charles-Nelson, Monash University, Australia & Nita Carmand Lerruyn, Université de Sherbrooke, Canada			
COVID in elderly	Clinical outcomes among elderly COVID-19 patients: An ecological analysis based on national income levels and healthcare access and quality.		Analysis underway			1) To estimate and describe the incidence of mortality, ICU admission rate, and length of hospital stay in adults older than 65 years with diagnosis of COVID-19 and severe COVID-19 reported in the ISARIC registry and stratify these estimates across low- middle- and high-income countries. 2) To investigate the relationship between mortality, ICU admission rates, and hospital stay duration among adults aged 65 and older diagnosed with COVID-19 and severe COVID-19, and the Healthcare Access and Quality index by country at the population level.	Jose A. Calvache, Universidad del Cauca, Colombia	Daniel Pinto, Universidad del Cauca, Colombia	Henry Lenedo Rodas & Esther Sofia Morean, Universidad del Cauca, Colombia			
Risk to admission	Risk to admission of COVID19 patients from the Emergency Department			N/A		1) To compare those COVID19 patients who are admitted from those who are early discharged. 2) To describe those patients in high risk for complications.	Alejandro Martin-Quiros, Hospital Universitario La Paz Madrid, Spain	Jose Andres Calvache, Universidad del Cauca, Cauca, Colombia	Manesa Diaz-Almirón, Hospital Universitario La Paz Madrid, Spain			
Corticosteroids and alternatives	The utility and limitations of clinical trials and cohort studies to determine treatment efficacy during a disease outbreak			N/A		1) Describe use of corticosteroids for hospitalised patients with COVID-19. 2) Compare the association of corticosteroids with mortality, among patients in observational studies, with effects of corticosteroids as measured in RCTs. Where discrepancies exist, explore potential underlying reasons of variation in outcomes, including bias. 3) Compare assessment of safety of corticosteroids in patients using observational data with RCT data. Where discrepancies exist, explore explain potential underlying reasons sources of variation in outcomes, including bias. 4) Compare similar observational and RCT analyses for hydroxychloroquine and remdesivir, should feasible approaches be identified using corticosteroids as an example.	Amanda Rojek, Royal Melbourne Hospital, Australia	Pinian Kumar Panda, All India Institute Medical Sciences (AIIMS) Rishikesh, India	Ruvandra Proto, Sunnybrook Health Sciences Centre			
Healthcare workers	COVID-19 Among Healthcare Workers in a Worldwide Multi-center Study: Geographical Distribution, Characteristics and Outcomes			N/A		Report and describe the prevalence, characteristics and outcomes of COVID-19 among healthcare workers.	Jean-Charles Preiser & George-Bou Khee, CUB-Hopital Erasme, Belgium	Waasila Jassat, National Institute for Communicable Diseases (NICD), Johannesburg, South Africa	George-Bou Khee, CUB-Hopital Erasme, Belgium	17/Jul/2023		
ECMO: a risk factor analysis	Extracorporeal Membrane Oxygenation for COVID-19 Respiratory Distress Syndrome: a ISARIC Risk Factor Analysis			N/A		1) Descriptive analysis of all ECMO treated COVID-19 patients. Analysis of Outcomes, ECMO-related Adverse Events, and Mortality rate while on ECMO running. 2) To predict pre-ECMO and on-ECMO variables for ECMO-related Adverse Events and Mortality (Risk Factors) of COVID-19 pts. 3) Splitting Analysis of Outcomes into two populations, if available, in terms of pediatric and adult COVID-19 populations.	Antonio Loforte & Davide Pacini, S. Orsola Hospital, ALMA Mater Studiorum University of Bologna, Italy	Byron Piñeres Olave & Juan Carlos Nuñez-Enriquez, Unidad de Cuidado Crítico Pediátrico, Pablo Tobón Uribe Hospital, Colombia; & UMAE Hospital de Pediatría CMN "Siglo XXI", Mexico	Giorgia Bellanti, S. Orsola Hospital, ALMA Mater Studiorum University of Bologna, Italy			
Omicron individual characterisation	Characterising SARS-CoV-2 Omicron vs Delta variant in terms of vaccination status, clinical presentation and outcomes			Abandoned as not possible – no individual data		Primary objectives: 1) To estimate the association between vaccination status and hospitalisation with Omicron variant, relative to hospitalisation with Delta variant 2) To characterise the severity of clinical presentation and outcomes in hospitalised patients with Omicron variant, relative to hospitalised patients infected with Delta variant. Secondary objectives: 1) To characterise the clinical profile of patients infected with Omicron variant compared to patients infected with Delta variant 2) To estimate the prevalence of comorbidities in hospitalised patients infected with Omicron variant and compare with patients infected with Delta variant 3) To estimate the associations of age, sex, symptoms, comorbidities, and treatments with risk of unfavourable outcome (death or invasive mechanical ventilation, IMV) in hospitalised patients with Omicron and Delta variants	Bronner P. Gonçalves, University of Oxford		Bronner P. Gonçalves, University of Oxford			