

Global HCQ/CQ studies

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@CovidAnalysis

Database of all HCQ COVID-19 studies. 294 studies, 219 peer reviewed, 245 comparing treatment and control groups. Submit updates/corrections below. HCQ is not effective when used very late with high dosages over a long period (RECOVERY/SOLIDARITY), effectiveness improves with earlier usage and improved dosing. Early treatment consistently shows positive effects. Negative evaluations typically ignore treatment time, often focusing on a subset of late stage studies. *In Vitro* evidence made some believe that therapeutic levels would not be attained, however that was incorrect, e.g. see [Ruiz].

5/17	Early,...	<i>Covid Analysis...</i>	meta-analysis v1...	HCQ for COVID-19: real-time meta analysis o...
				• 100% of the 29 early treatment studies report a positive effect (13 statistically significant in isolat...
5/17	PrEP	<i>Syed et al., me...</i>	symp. case, ↑59.0%	Pre-Exposure Prophylaxis with Various Dose...
				Small PrEP RCT of low risk patients, showing no significant differences. Authors report that there ...
5/16	PrEP	<i>Rojas-Serrano ...</i>	symp. case, ↓82.0%	Hydroxychloroquine For Prophylaxis Of COVI...
				Early terminated HCQ PrEP RCT with 62 HCQ and 65 placebo patients, showing 82% lower cases ...
5/10	Late	<i>Sammartino et...</i>	death, ↑240.0%, ...	Predictors for inpatient mortality during the ...
				Retrospective 1,108 hospitalized patients in New York showing significantly higher mortality with ...
5/1	Late	<i>De Rosa et al., ...</i>	death, ↓35.0%, p=...	Risk Factors for Mortality in COVID-19 Hospi...
				Retrospective 1,538 hospitalized patients in Italy, showing only HCQ associated with reduced mort...
4/30	Late	<i>Bosaeed et al.,...</i>	death, ↓3.7%, p=...	Favipiravir and Hydroxychloroquine Combina...
				RCT 254 very late stage (93% on oxygen, 17% in ICU at baseline) hospitalized patients in Saudi Ara...
4/29	Late	<i>Aghajani et al.,...</i>	death, ↓19.5%, p=...	Decreased In-Hospital Mortality Associated ...
				Retrospective 991 hospitalized patients in Iran focusing on aspirin use but also showing results fo...
4/28	Late	<i>Kokturk et al., ...</i>	death, ↑3.8%, p=...	The predictors of COVID-19 mortality in a na...
				Retrospective 1,500 hospitalized late stage (median SaO2 87.7) patients in Turkey, showing no sig...
4/27	Late	<i>Réa-Neto et al...</i>	death, ↑57.0%, p=...	An open-label randomized controlled trial ev...
				Early terminated very late stage (99% on oxygen, 81% in ICU, 18% on mechanical ventilation at bas...

4/26	Late	<i>Mohandas et a...</i>	death, ↑81.0%, p=...	Clinical review of COVID-19 patients presenti... Retrospective 3,345 hospitalized patients in India, 11.5% treated with HCQ, showing unadjusted hi...
4/23	Late	<i>Toya et al., SSRN (Preprint)</i>		A Cross-Country Analysis of the Determinant... Country based analysis finding lower mortality with the use of HCQ.
4/22	Late	<i>Reis et al., JA...</i>	death, ↓66.0%, p=...	Effect of Early Treatment With Hydroxychlor... Early terminated RCT in Brazil showing lower mortality and hospitalization with HCQ, but not reac...
4/15	PrEP	<i>Alzahrani et al...</i>	death, ↓58.8%, p=...	Clinical characteristics and outcome of COVI... Retrospective 47 rheumatic disease patients, not finding significant differences with HCQ.
4/15	PrEP	<i>Alegiani et al., ...</i>	death, ↑8.0%, p=...	Risk of COVID-19 hospitalization and mortali... Retrospective database analysis case control study of rheumatic patients. When compared with o...
4/14	PEP	<i>Seet et al., Inte...</i>	severe case, ↓35....	Positive impact of oral hydroxychloroquine a... Prophylaxis RCT in Singapore with 3,037 low risk patients, showing lower serious cases, lower sy...
4/6	Early	<i>Mokhtari et al.,...</i>	death, ↓69.7%, p<...	Clinical outcomes of patients with mild COVI... Retrospective 28,759 adult outpatients with mild COVID-19 in Iran, 7,295 treated with HCQ, showin...
4/5	Safety	<i>Edington et al.,...</i>	safety analysis	Safety of treatment with chloroquine and hy... Safety analysis of CQ and HCQ covering 46 RCTs with 23,132 patients, showing no mortality attrib...
3/31	Late	<i>Alghamdi et al...</i>	death, ↑6.9%, p=...	Clinical Efficacy of Hydroxychloroquine in Pa... Retrospective 775 hospitalized patients in Saudi Arabia showing no significant difference. There w...
3/26	Safety	<i>Faruqui et al., l...</i>	safety analysis	Safety of hydroxychloroquine in healthcare ... Retrospective 1303 health care workers finding that HCQ prophylaxis was well tolerated. 20% repo...
3/24	PrEP	<i>Dev et al., Tran...</i>	cases, ↓26.0%, p=...	Risk factors and frequency of COVID-19 am... Retrospective case control study of 3,100 healthcare workers in India showing lower cases with H...
3/23	Late	<i>Barry et al., Int...</i>	death, ↓98.9%, p=...	Clinical Characteristics and Outcomes of Ho... 605 hospitalized patients in Saudi Arabia showing no mortality with HCQ (only 6 patients received ...
3/17	Late	<i>Stewart et al., ...</i>	death, ↑18.0%, p=...	COVID-19 Evidence Accelerator: A parallel an... Collection of seven retrospective database analyses in the USA, showing higher mortality with trea...
3/17	In Vit...	<i>Dang et al., bio...</i>	in vitro	Structural basis of anti-SARS-CoV-2 activity ... Microscopy/spectroscopy study showing that HCQ binds to both N-terminal domain and C-termin...

3/12	Early	<i>Roy et al., med...</i>	recov. time, ↓2.4...	Outcome of Different Therapeutic Interventio... Retrospective database analysis of 56 mild COVID-19 patients, all treated with vitamin C, vitamin D...
3/9	PrEP	<i>Vivanco-Hidal...</i>	hosp., ↑46.0%, p=...	Incidence of COVID-19 in patients exposed t... Retrospective database analysis of chronic HCQ users and matched control patients, failing to ma...
3/8	Late	<i>Martin-Vicente...</i>	death, ↓59.3%, p...	Absent or insufficient anti-SARS-CoV-2 S anti... Retrospective 92 ICU patients with almost all treated with HCQ and only one non-HCQ treated pati...
3/4	Late	<i>Salvador et al.,...</i>	death, ↓32.9%, p...	Clinical Features and Prognostic Factors of ... Prospective study of 245 hospitalized patients, 121 treated with HCQ, showing lower (non-statistic...
3/2	PrEP	<i>Pham et al., Rh...</i>	death, ↓19.7%, p...	Failure of chronic hydroxychloroquine in prev... Tiny retrospective database analysis of hospitalized COVID-19 patients with rheumatologic diseas...
2/28	Early	<i>Thakar et al., Indian J. Med. Res., doi:1...</i>		Chloroquine nasal drops in asymptomatic & ... Small RCT for CQ nasal drops suggesting efficacy in preventing infection, while no significant diffe...
2/28	PrEP	<i>Bhandari et al., International Journal o...</i>		A Preventive Study on Hydroxychloroquine P... Retrospective 4,239 healthcare workers using HCQ prophylaxis showing no mortality, 8 mild symp...
2/26	Early	<i>Amaravadi et ...</i>	no recov., ↓60.0%...	Hydroxychloroquine for SARS-CoV-2 positive... Tiny early-terminated 34 patient RCT for outpatient treatment showing faster recovery with treatm...
2/26	Late	<i>Tanriverdi et al., Turkish Journal of Me...</i>		Hydroxychloroquine plus azithromycin and e... Retrospective 83 hospitalized patients in Turkey confirming that earlier treatment is better, and sh...
2/26	Early	<i>Giraud-Gatineau et al., Research Squa...</i>		The Need for Early Management in Patients ... Review of early treatment of COVID-19 at IHU Méditerranée Infection in France, including HCQ+AZ...
2/23	Late	<i>Gonzalez et al....</i>	death, ↓62.6%, p...	Efficacy and safety of Ivermectin and Hydrox... RCT late stage severe condition (93% SOFA ≥ 2, 96% APACHE ≥ 8) high comorbidity hospitalized p...
2/20	PrEP	<i>Bae et al., Viru...</i>	cases, ↓30.3%, p...	Recent Hydroxychloroquine Use Is Not Signi... Retrospective database analysis of prior HCQ usage in South Korea, showing non-statistically sign...
2/19	Late	<i>Lamback et al.,...</i>	death, ↓8.9%, p=...	Hydroxychloroquine with azithromycin in pat... Retrospective 193 hospitalized patients in Brazil not finding a significant difference with HCQ. The ...
2/18	Late	<i>Awad et al., A...</i>	death, ↑19.1%, p...	Impact of hydroxychloroquine on disease pr... This paper has inconsistent values - the number of treatment and control patients differs in the te...

2/11	Late	<i>Lora-Tamayo et al.</i>	death, ↓50.5%, p<...	Early Lopinavir/ritonavir does not reduce mo... Lopinavir/ritonavir retrospective study also showing univariate results for HCQ, with significantly l...
2/10	Early,...	<i>Desai et al., J. Clinical Medicine, doi:10...</i>		The Use of Antiviral Agents against SARS-Co... Retrospective 143 COVID-19 hospitalized patients >65yo, showing adjusted OR for antiviral treatm...
2/9	Meta	<i>Lounnas et al., ...</i>	meta-analysis	Revisiting a Meta-analysis Shows that Hydro... Analysis of the Fiolet meta analysis and correction of bias evaluation, showing HCQ RR 0.45 [0.31-...
2/9	Late	<i>Purwati et al., ...</i>	viral+, ↓66.3%, p<...	A Randomized, Double-Blind, Multicenter Cli... RCT 754 patients comparing HCQ+AZ along with other treatment groups using lopinavir/ritonavir ...
2/5	PrEP	<i>Fitzgerald et al...</i>	cases, ↓8.5%, p=...	Risk Factors for Infection and Health Impact... Retrospective 4666 people with autoimmune or inflammatory conditions, showing HCQ adjusted r...
2/5	Late	<i>Hernandez-Car...</i>	death, ↓12.0%, p...	Hydroxychloroquine for the treatment of sev... Very late stage RCT with 214 patients, mean SpO ₂ 65%, 162 on mechanical ventilation, showing n...
2/5	Late	<i>Ouedraogo et ...</i>	death, ↓33.0%, p...	Factors associated with the occurrence of a... Retrospective 456 patients in Burkina Faso showing lower risk of ARDS (p=0.001) and mortality (p...
2/1	Revi...	<i>Alexander et al...</i>	review	Early Multidrug Outpatient Treatment of SAR... Review of studies on treatment of COVID-19 for nursing home residents, concluding that there is a...
2/1	Late	<i>Ubaldo et al., C...</i>	death, ↓18.4%, p...	COVID-19: A Single-Center ICU Experience of... Retrospective ICU patients in the Philippines showing unadjusted HCQ RR 0.82, p = 0.64.
1/31	PrEP	<i>Naderi et al., Immunopathologia Persa...</i>		Prophylactic effects of hydroxychloroquine o... Prospective observational study of 215 RA patients treated with HCQ showing 9 cases, 1 hospitali...
1/31	Late	<i>Roig et al., Revi...</i>	death, ↓15.6%, p...	Clinical and pharmacological data in COVID-... Retrospective 79 hospitalized nonagenarian patients showing unadjusted HCQ mortality RR 0.84, ...
1/27	PrEP	<i>Trefond et al., ...</i>	death, ↑16.6%, p...	Impact of hydroxychloroquine used as DMA... Retrospective 71 chronic HCQ patients compared with 191 matched controls, analyzing only thos...
1/26	Safety	<i>Eftekhar et al., ...</i>	safety analysis	Hydroxychloroquine and azithromycin: As a ... Retrospective 172 hospitalized patients, 83% treated and HCQ+AZ and 17% with HCQ, not finding ...
1/25	Early	<i>Dabbous et al., Archives of Virology, d...</i>		Efficacy of favipiravir in COVID-19 treatment:... RCT with 44 favipiravir patients and 48 CQ patients, showing non-statistically significant lower mo...

1/25	In Sili...	<i>Hussein et al., Journal of Molecular St...</i>		Molecular Docking Identification for the effic... Molecular dynamics analysis recommending Zn (CQ) Cl2(H2O) and Zn (HCQ) Cl2(H2O) as potenti...
1/24	Early	<i>Zelenko, Z., Preprint (Preprint)</i>		Nebulized Hydroxychloroquine for COVID-19 ... Report on the use of nebulized HCQ showing much more rapid improvement compared to tablets,...
1/23	PrEP	<i>Cifuentes et al., Medicina Clínica (Engl...</i>		Incidence of COVID-19 in patients under chr... Retrospective 3,817 chronic HCQ patients showing 4.4% COVID-19 positive rate, 1.3% severe. Ther...
1/18	Late	<i>Li et al., Scienc...</i>	no disch., ↓50.0%...	Evaluation of the efficacy and safety of hydr... Small RCT comparing HCQ and CQ in China with 88 very late stage (17.6 days from onset to hospi...
1/12	Late	<i>Li et al., Resear...</i>	viral-time, ↑40.0...	Treatment of COVID-19 patients with hydrox... Small retrospective database analysis of 37 late stage patients hospitalized in an intensive care ce...
1/10	PrEP	<i>Rangel et al., J...</i>	death, ↓25.1%, p...	Chronic Hydroxychloroquine Therapy and C... Retrospective 50 COVID-19 patients that take chronic HCQ, compared to a matched sample of pat...
1/8	Late	<i>Yegerov et al., ...</i>	death, ↓95.3%, p...	Epidemiological and Clinical Characteristics, ... Retrospective 1,072 hospitalized patients in Kazakhstan showing no mortality for HCQ treated pati...
1/7	In Sili...	<i>Baidya et al., Journal of Molecular Str...</i>		Inhibitory capacity of Chloroquine against S... Molecular docking study of 16 drugs showing CQ had the highest binding affinity with ACE2, and ...
1/6	Theo...	<i>Noureddine et ...</i>	theory	Quantum chemical studies on molecular str... <i>In silico</i> analysis of hydroxychloroquine and hydroxychloroquine sulfate predicting that hydroxychl...
1/4	Safety	<i>Gautret et al., I...</i>	safety analysis	Safety profile of hydroxychloroquine and azit... Report on the safety of HCQ+AZ with 3,737 COVID-19 patients. 138 had contraindications and trea...
1/2	Late	<i>Sarfaraz et al., ...</i>	death, ↑45.0%, p...	Determinants of in-hospital mortality in COVI... Retrospective 186 hospitalized patients in Pakistan showing unadjusted HCQ mortality RR 1.45, <i>p</i> ...
1/1	Late	<i>Lotfy et al., Tur...</i>	death, ↑24.8%, p...	Use of Hydroxychloroquine in Patients with ... Retrospective 202 patients in Saudi Arabia not showing significant differences with treatment. No ...
1/1	Late	<i>Sands et al., In...</i>	death, ↑69.9%, p...	No clinical benefit in mortality associated wit... Retrospective database analysis of 1,669 patients in the US showing OR 1.81, <i>p</i> = 0.01. Confoundi...
12/31	Revi...	<i>Matada et al., ...</i>	review	A comprehensive review on the biological int... Review of quinolone and derivatives, natural and drug sources, and biological activity.

12/31	Late	<i>Pseudos et al., ...</i>	death, ↑63.5%, p...	Corona Virus Disease-19 (COVID-19) in a Vet... Retrospective 67 hospitalized patients in the USA showing non-statistically significant unadjusted ...
12/31	Late	<i>Teixeira et al., ...</i>	death, ↑79.3%, p...	Characteristics and outcomes of COVID-19 ... Retrospective 161 hospitalized patients in the USA showing non-statistically significant unadjuste...
12/31	Late	<i>Vernaz et al., S...</i>	death, ↓15.3%, p...	Early experimental COVID-19 therapies: asso... Retrospective 840 hospitalized patients in Switzerland showing non-statistically significant lower ...
12/30	Revi...	<i>McCullough et...</i>	review	Multifaceted highly targeted sequential multi... Review urging early treatment of COVID-19 with sequential multidrug treatment that has been sho...
12/30	Early	<i>Procter et al., Reviews in Cardiovascul...</i>		Clinical outcomes after early ambulatory mu... Retrospective 922 outpatients, with 320 treated early due to age>50 or comorbidities, showing 2.2...
12/29	Late	<i>Güner et al., Jo...</i>	ICU, ↓77.3%, p=0...	Comparing ICU Admission Rates of Mild/Mo... Retrospective 824 hospitalized patients in Turkey showing lower ICU admission for HCQ vs. favipir...
12/28	PrEP	<i>Cordtz et al., R...</i>	hosp., ↓24.0%, p=...	Incidence and severeness of COVID-19 hosp... Retrospective 58,052 rheumatic disease patients in Denmark showing that RA patients have a hig...
12/24	Late	<i>Chari et al., Blo...</i>	death, ↓33.1%, p...	Clinical features associated with COVID-19 o... Retrospective multiple myeloma patients showing lower mortality with HCQ treatment, unadjuste...
12/23	Early	<i>Su et al., BioSc...</i>	progression, ↓84....	Efficacy of early hydroxychloroquine treatme... 85% lower disease progression with early use of HCQ. Retrospective 616 patients in China showin...
12/23	Late	<i>Taccone et al., ...</i>	death, ↓24.7%, p...	The role of organizational characteristics on ... Retrospective 1,747 ICU patients in Belgium showing lower mortality with HCQ, multivariate mixed...
12/22	Late	<i>Cangiano et al...</i>	death, ↓73.4%, p...	Mortality in an Italian nursing home during C... 73% lower mortality with HCQ. Analysis of 98 PCR+ nursing home residents in Italy, mean age 90, ...
12/19	PrEP	<i>Huh et al., Inter...</i>	progression, ↑25...	Association of prescribed medications with t... Retrospective database analysis with 17 existing users of HCQ and 5 severe cases, showing no si...
12/18	Late	<i>Matangila et al...</i>	death, ↓54.9%, p...	Clinical characteristics of COVID-19 patients ... 55% lower death with HCQ+AZ. Retrospective 160 hospitalized patients in the Democratic Republi...
12/16	Late	<i>Signes-Costa ...</i>	death, ↓47.0%, p...	Prevalence and 30-day mortality in hospitaliz...

			47% lower mortality with HCQ/CQ. Retrospective 1,271 patients with lung disease in Canada, Chin...
12/16	PrEP	<i>Gönenli et al., ...</i>	progression, ↓29.... Prophylactic use of Hydroxychloroquine am... Small prophylaxis survey showing lower, but not statistically significant, progression to pneumonia...
12/14	Late	<i>Sofian et al., Wiener Medizinische Wo...</i>	SARS-CoV-2, a virus with many faces: a seri... Report on a series of 10 patients experiencing prolonged COVID-19 symptoms that were given HC...
12/14	Late	<i>Orioli et al., Dia...</i>	death, ↓12.7%, p... Clinical characteristics and short-term progn... Small retrospective study of 73 diabetic patients in Belgium, 55 HCQ patients, showing HCQ RR 0...
12/14	Late	<i>Naseem et al., ...</i>	death, ↓33.3%, p... Predicting mortality in SARS-COV-2 (COVID-... Retrospective 1,214 hospitalized patients in Pakistan, 77 HCQ patients, showing 33% lower mortal...
12/14	Late	<i>Tan et al., Viru...</i>	hosp. time, ↓35.2... A retrospective comparison of drugs against... Retrospective 333 patients in China, with only 8 HCQ patients, showing shorter duration of hospita...
12/11	Late	<i>Bielza et al., Jo...</i>	death, ↓21.5%, p... Clinical characteristics, frailty and mortality ... Retrospective 630 elderly patients in Spain showing lower mortality with HCQ treatment, unadjust...
12/11	Early	<i>Sogut et al., Th...</i>	safety analysis Safety and efficacy of hydroxychloroquine in ... Safety study of 152 outpatients concluding that HCQ is safe for COVID-19, was well tolerated, and ...
12/11	PrEP	<i>Jung et al., Cli...</i>	death, ↓59.3%, p... Effect of hydroxychloroquine pre-exposure o... Retrospective cohort study of RA and SLE patients not showing a significant difference in PCR+ c...
12/10	Late	<i>Alqassieh et al...</i>	hosp. time, ↓18.2... Clinical characteristics and predictors of the ... Prospective observational study of 131 COVID-19 patients in Jordan, showing 18% shorter hospita...
12/10	News	<i>Italian Council ...</i>	news Consiglio di Stato, sì all'uso dell'idrossiclorac... Consiglio di Stato ruling in Italy re-establishes the right of Italian MDs to prescribe HCQ, which was...
12/9	Late	<i>Johnston et al...</i>	hosp., ↓29.9%, p=... Hydroxychloroquine with or Without Azithro... Small early terminated late treatment RCT comparing vitamin C + folic acid, HCQ + folic acid, and ...
12/9	Early	<i>Agusti et al., E...</i>	progression, ↓68.... Efficacy and safety of hydroxychloroquine in ... Small trial of low dose HCQ for healthcare workers with mild SARS-CoV-2 showing 68% lower prog...
12/9	Late	<i>Guglielmetti et...</i>	death, ↓35.0%, p... Severe COVID-19 pneumonia in Piacenza, Ita... Retrospective 218 hospitalized patients in Italy showing non-statistically significant 35% lower mo...
12/7			

	PEP	<i>Barnabas et al...</i>	hosp., ↑3.7%, p=1...	Hydroxychloroquine for Post-exposure Prop... Early terminated PEP RCT comparing HCQ and vitamin C with 781 low-risk patients (83% househo...
12/4	Late	<i>Ozturk et al., N...</i>	death, ↓43.9%, p...	Mortality analysis of COVID-19 infection in c... Retrospective 1210 hospitalized patients in Turkey focused on chronic kidney disease, haemodialy...
12/4	Late	<i>Modrák et al., ...</i>	death, ↓59.0%, p...	Detailed disease progression of 213 patients... Retrospective 213 hospitalized patients in Czech Republic showing lower mortality with HCQ. Subj...
12/4	Late	<i>Peng et al., Ne...</i>	progression, ↓10....	Early versus late acute kidney injury among ... Retrospective 4020 hospitalized patients in China showing non-statistically significant lower risk o...
12/2	PEP	<i>Wiseman et al...</i>	cases, ↓42.0%, p...	Effective post-exposure prophylaxis of Covid... 6th independent analysis showing efficacy from the Boulware PEP trial. This prospective analysis ...
12/1	Late	<i>Capsoni et al., ...</i>	ventilation, ↓40.0...	CPAP Treatment In COVID-19 Patients: A Ret... Small 52 patient retrospective study of patients with acute respiratory failure showing lower rates ...
11/30	Late	<i>Abdulrahman ...</i>	death, ↓16.7%, p...	The efficacy and safety of hydroxychloroquin... Retrospective medical record analysis of acute care patients in Bahrain not showing a significant ...
11/29	Late	<i>Abd-Elsalam et al., Biological Trace El...</i>		Do Zinc Supplements Enhance the Clinical E... 191 patient RCT in Egypt comparing the addition of zinc to HCQ, not showing a significant differen...
11/28	Late	<i>Lambermont e...</i>	death, ↓32.3%, p...	Predictors of Mortality and Effect of Drug Th... Retrospective 247 mechanically ventilated patients showing lower mortality with HCQ, but not stat...
11/28	N/A	<i>Ruiz et al., Inte...</i>	dosing study	Hydroxychloroquine lung pharmacokinetics i... HCQ lung pharmacokinetic study confirming that lung concentrations can be much higher than pl...
11/28	Late	<i>Rodriguez-Gon...</i>	death, ↓22.8%, p...	COVID-19 in hospitalized patients in Spain: a ... Retrospective 1255 patients in Spain showing lower mortality with HCQ. Subject to confounding b...
11/27	Late	<i>van Halem et a...</i>	death, ↓31.6%, p...	Risk factors for mortality in hospitalized pati... Retrospective 319 hospitalized patients in Belgium showing lower mortality with HCQ, although no...
11/24	Late	<i>Abbas et al., Int. J. Clin. Pract., doi:10...</i>		Assessment of COVID-19 Treatment contain... Prospective study of 161 hospitalized patients in Iraq showing HCQ+AZ appears to help recovery. ...
11/23	Late	<i>Qin et al., Thro...</i>	death, ↓34.3%, p...	Low molecular weight heparin and 28-day m... Low molecular weight heparin study also showing results for HCQ treatment, unadjusted HCQ mo...

11/21	PrEP	<i>Revollo et al., J...</i>	cases, ↓23.0%, p=...	Hydroxychloroquine pre-exposure prophylaxi... Retrospective PrEP analysis with 69 healthcare workers on PrEP HCQ, and 418 control. Authors re...
11/20	Early	<i>Omrani et al., E...</i>	hosp., ↓12.5%, p=...	Randomized double-blinded placebo-controll... Low risk patient RCT for HCQ+AZ and HCQ vs. control, not showing any significant differences. Au...
11/19	Late	<i>Falcone et al., ...</i>	death, ↓65.0%, p<...	Role of low-molecular weight heparin in hos... Prospective observational study of 315 hospitalized patients in Italy showing 65% lower mortality ...
11/18	Late	<i>Budhiraja et al...</i>	death, ↓65.4%, p<...	Clinical Profile of First 1000 COVID-19 Cases... Retrospective 976 hospitalized patients with 834 treated with HCQ+AZ showing HCQ mortality rel...
11/17	Late	<i>Boari et al, Bio...</i>	death, ↓54.5%, p<...	Prognostic factors and predictors of outcom... Retrospective 258 hospitalized patients in Italy showing lower mortality with HCQ treatment, unad...
11/13	Late	<i>Sheshah et al., ...</i>	death, ↓80.0%, p<...	Prevalence of Diabetes, Management and O... Retrospective 300 hospitalized patients in Saudi Arabia showing HCQ adjusted odds ratio aOR 0.1...
11/12	Early	<i>Simova et al., ...</i>	hosp., ↓93.8%, p=...	Hydroxychloroquine for prophylaxis and trea... 100% reduction in hospitalization and cases with early treatment using HCQ+AZ+zinc. Brief report...
11/12	PEP	<i>Simova et al., ...</i>	cases, ↓92.7%, p=...	Hydroxychloroquine for prophylaxis and trea... 100% reduction in cases with HCQ+zinc post-exposure prophylaxis. Brief report for healthcare wor...
11/12	N/A	<i>Tchounga et al...</i>	meta-analysis	Composition analysis of falsified chloroquin... Analysis of fake CQ tablets finding: - no CQ in six samples, substituted with metronidazole (at sub-...
11/11	Late	<i>Águila-Gordo e...</i>	death, ↓67.0%, p=...	Mortality and associated prognostic factors ... 67% lower mortality with HCQ. Retrospective 416 elderly patients in Spain showing adjusted HCQ ...
11/9	Late	<i>Khamis et al., International Journal of ...</i>		Randomized Controlled Open Label Trial on t... Small 89 patient RCT comparing favipiravir and inhaled interferon with HCQ for moderate to sever...
11/9	Late	<i>Rodriguez et al...</i>	death, ↓59.0%, p=...	Severe infection due to the SARS-CoV-2 coro... Small prospective study of 43 hospitalized patients with 39 taking HCQ, showing unadjusted mort...
11/9	Late	<i>Self et al., JAM...</i>	death, ↑6.2%, p=...	Effect of Hydroxychloroquine on Clinical Stat... Early terminated very late stage (65% on supplemental oxygen) RCT with 242 HCQ and 237 contro...
11/9	Late	<i>Brown et al., Annals of the American T...</i>		Hydroxychloroquine vs. Azithromycin for Ho... Small early terminated very late stage (86% on oxygen, 44% enrolled in the ICU) RCT comparing H...

11/9	Late	<i>Núñez-Gil et al...</i>	death, ↓7.9%, p=...	Mortality risk assessment in Spain and Italy, ... Retrospective database study of 1,021 patients in Ecuador, Germany, Italy, and Spain, showing HC...
11/6	PrEP	<i>Mathai et al., J...</i>	cases, ↓89.5%, p...	Hydroxychloroquine as pre-exposure prophyl... 90% reduction in cases with HCQ pre-exposure prophylaxis. Retrospective 604 healthcare workers.
11/6	PrEP	<i>Datta et al., Journal of Vaccines & Vac...</i>	No Role of HCQ in COVID-19 Prophylaxis: A ...	Survey of Indian doctors not finding a significant effect of HCQ prophylaxis, $p = 0.54$. We do not kn...
11/6	PEP	<i>Dhibar et al., In...</i>	cases, ↓41.0%, p...	Post Exposure Prophylaxis with Hydroxychlo... 41% reduction in cases with HCQ PEP. Prospective open label trial with 132 HCQ patients and 185 ...
11/5	Late	<i>Maldonado et ...</i>	death, ↓90.9%, p...	COVID-19 incidence and outcomes in a hom... Small retrospective 12 dialysis patients, 1/11 deaths with HCQ and 1/1 without HCQ.
11/5	Late	<i>Rodriguez-Nav...</i>	death, ↑6.3%, p=...	Clinical characteristics and risk factors for m... Retrospective 313 patients, mostly critical stage and mostly requiring respiratory support, showin...
11/4	Late	<i>Salazar et al., ...</i>	death, ↑37.0%, p...	Significantly Decreased Mortality in a Large ... Convalescent plasma study also showing mortality based on HCQ treatment, unadjusted hazard r...
11/4	Early	<i>Cadegiani et al...</i>	death, ↓81.2%, p...	Early COVID-19 Therapy with Azithromycin P... Comparison of HCQ, nitazoxanide, and ivermectin showing similar effectiveness for overall clinical...
11/3	PrEP	<i>Behera et al., P...</i>	cases, ↓27.9%, p...	Role of ivermectin in the prevention of SARS-... Retrospective matched case-control prophylaxis study for HCQ, ivermectin, and vitamin C with 37...
11/2	Late	<i>López et al., A...</i>	progression, ↓64....	Telemedicine follow-ups for COVID-19: exper... Retrospective 72 pediatric patients showing HCQ associated with a shorter duration of fever ($p=0...$
10/31	Early	<i>Szente Fonseca...</i>	hosp., ↓64.0%, p=...	Risk of Hospitalization for Covid-19 Outpatie... 64% lower hospitalization with HCQ. Retrospective 717 patients in Brazil with early treatment, adju...
10/30	Late	<i>Tehrani et al., I...</i>	death, ↓13.4%, p...	Risk factors for mortality in adult COVID-19 ... Retrospective 255 hospitalized patients, 65 treated with HCQ, showing unadjusted RR 0.87, $p=0.6...$
10/27	PrEP	<i>Arleo et al., me...</i>	death, ↓50.0%, p...	Clinical Course and Outcomes of coronaviru... Retrospective hospitalized rheumatic disease patients showing 50% lower mortality for patients o...
10/27	Late	<i>Choi et al., Inte...</i>	viral- time, ↑22.0...	Comparison of antiviral effect for mild-to-mo... Health insurance database analysis failing to adjust for disease severity and not finding a signfica...

10/26	Late	<i>Frontera et al., ...</i>	death, ↓37.0%, p<...	Treatment with Zinc is Associated with Redu... Retrospective 3,473 hospitalized patients showing lower mortality with HCQ+zinc.
10/26	Early	<i>Derwand et al.,...</i>	death, ↓79.4%, p<...	COVID-19 Outpatients – Early Risk-Stratified ... 79% lower mortality and 82% lower hospitalization with early HCQ+AZ+Z. No cardiac side effects. ...
10/24	PrEP	<i>Goenka et al., ...</i>	IgG+, ↓87.2%, p=...	Seroprevalence of COVID-19 Amongst Healt... Study of SARS-CoV-2-IgG antibodies in 1122 health care workers in India finding 87% lower positiv...
10/23	Late	<i>Coll et al., Ame...</i>	death, ↓45.6%, p<...	Covid-19 in transplant recipients: the spanis... Retrospective 652 transplant recipient patients in Spain showing 46% lower mortality for patients t...
10/21	Late	<i>Lano et al., Cli...</i>	death, ↓33.1%, p<...	Risk factors for severity of COVID-19 in chro... 33% lower mortality with HCQ+AZ, p=0.28. Retrospective 122 French dialysis patients. 69% lower ...
10/21	Late	<i>Dubee et al., Cl...</i>	death, ↓46.0%, p<...	Hydroxychloroquine in mild-to-moderate CO... Small early terminated late stage (60% on oxygen) RCT in France showing 46% lower mortality. m...
10/21	Late	<i>Ñamendys-Silv...</i>	death, ↓32.3%, p<...	Outcomes of patients with COVID-19 in the I... Retrospective 164 ICU patients in Mexico showing 32% lower mortality with HCQ+AZ and 37% low...
10/20	Early,...	<i>IHU Marseille (...</i>	meta-analysis	Meta-analysis on chloroquine derivatives an... Updated meta analysis of 41 studies showing CQ/HCQ OR 0.57, p<0.0001 from clinical studies. Fo...
10/20	Late	<i>Solh et al., me...</i>	death, ↑18.0%, p<...	Clinical course and outcome of COVID-19 ac... Retrospective database analysis of 7,816 Veterans Affairs hospitalized patients analyzing progres...
10/17	Early	<i>Mohana et al., ...</i>	safety analysis	Hydroxychloroquine Safety Outcome within ... Safety study of 2,733 patients in Saudi Arabia showing HCQ in mild to moderate cases in an outpa...
10/15	Late	<i>Guisado-Vasc...</i>	death, ↓20.3%, p<...	Clinical characteristics and outcomes amon... Retrospective 607 patients reporting results for early outpatient HCQ use with mortality odds ratio...
10/15	Late	<i>SOLIDARITY Tr...</i>	death, ↑19.0%, p<...	Repurposed antiviral drugs for COVID-19; int... WHO SOLIDARITY open-label trial with 954 very late stage (64% on oxygen/ventilation) HCQ patie...
10/12	Late	<i>Annie et al., Ph...</i>	death, ↓4.3%, p=...	Hydroxychloroquine in hospitalized COVID-1... Retrospective database analysis with PSM not including COVID-19 severity, finding mortality OR 0...
10/11	Late	<i>Sili et al., medRxiv, doi:10.1101/2020...</i>		Factors associated with progression to critic... Analysis of hospitalized patients in Turkey showing HCQ was given to 99.2% of patients and the in...

10/8	Late	<i>Aparisi et al., ...</i>	death, ↓63.0%, p=...	Low-density lipoprotein cholesterol levels ar... Retrospective 654 hospitalized patients focused on low-density lipoprotein cholesterol levels, also ...
10/8	Late	<i>Soto-Becerra e...</i>	death, ↓18.1%, p<...	Real-World Effectiveness of hydroxychloroqu... Retrospective database study of 5683 patients, 692 received HCQ/CQ+AZ, 200 received HCQ/CQ, ...
10/6	Late	<i>Ader et al., me...</i>	death, ↓6.4%, p=...	Antiviral drugs in hospitalized patients with ... Early terminated very late stage (95% on oxygen at baseline) DISCOVERY trial. 4% more patients w...
10/5	Late	<i>Mori et al., Journal of Microbiology, Im...</i>		Triple therapy with hydroxychloroquine, azith... Small case study of 5 patients in Japan showing improvement with HCQ+AZ+ciclesonide.
10/5	Early,...	<i>Prodromos et ...</i>	meta-analysis	Hydroxychloroquine is effective, and consist... Meta analysis of 43 studies: "HCQ was found consistently effective against COVID-19 when used ...
10/2	Late	<i>Nachega et al.,...</i>	death, ↓27.6%, p=...	Clinical Characteristics and Outcomes of Pat... Retrospective 766 hospitalized patients in DRC showing mortality reduced from 29% to 11%, and i...
10/1	Late	<i>Almazrou et al....</i>	ventilation, ↓65.0...	Comparing the impact of Hydroxychloroquin... Retrospective 161 hospitalized patients in Saudi Arabia showing lower ventilation and ICU admissi...
10/1	PrEP,...	<i>Garcia-Albeniz...</i>	cases, ↓22.0%, p=...	Brief communication: A meta-analysis of ran... Combination of the four underpowered prophylaxis RCTs to date showing statistically significant r...
9/30	PEP	<i>Polat et al., Me...</i>	cases, ↓57.0%, p=...	Hydroxychloroquine Use on Healthcare Work... Small prophylaxis study of 208 healthcare workers in Turkey, 138 with high risk exposure received ...
9/30	Late	<i>Ayerbe et al., l...</i>	death, ↓52.2%, p<...	The association of treatment with hydroxych... 2075 hospital patients in Spain showing HCQ reduces mortality 52%, odds ratio OR 0.39, p<0.001, ...
9/30	PrEP,...	<i>Ladapo et al., ...</i>	cases/death/hos...	Randomized Controlled Trials of Early Ambul... Meta analysis of prophylactic and early treatment RCTs, 24% reduction in cases, hospitalization or...
9/30	PrEP	<i>Abella et al., J...</i>	cases, ↓5.0%, p=...	Efficacy and Safety of Hydroxychloroquine v... Very small early-terminated underpowered PrEP RCT with 64/61 HCQ/control patients and only 8 i...
9/29	Late	<i>Lammers et al....</i>	death/ICU, ↓32.0...	Early hydroxychloroquine but not chloroquin... Observational study 1,064 hospitalized patients in the Netherlands, 53% reduced risk of transfer to...
9/29	Late	<i>Dabbous et al., Research Square, doi:1...</i>		A Randomized Controlled Study Of Favipiravi...

				Small RCT comparing HCQ and favipiravir, with 50 patients in each arm, finding that 55.1% of HCQ...
9/28	PEP	<i>Luco, J., Trend...</i>	meta-analysis	Hydroxychloroquine as post-exposure proph... Reanalysis of Boulware et al. PEP trial data showing statistically significant improvements with H...
9/24	Early,...	<i>Gasperetti et a...</i>	safety analysis	Arrhythmic safety of hydroxychloroquine in ... Safety study of 649 patients finding that HCQ administration is safe for short-term treatment for p...
9/24	Late	<i>Shoabi et al., ...</i>	death, ↓15.4%, p<...	Comparative Effectiveness of Famotidine in ... Retrospective database analysis focused on Famotidine but also showing results for HCQ users, ...
9/23	Late	<i>Ulrich et al., Op...</i>	death, ↑6.0%, p=...	Treating Covid-19 With Hydroxychloroquine (... Small RCT on very late stage use of HCQ, with 48% on oxygen at baseline. 67 HCQ patients, 61 co...
9/22	Late	<i>Serrano et al., ...</i>	death, ↓43.0%, p...	COVID-19 and lung cancer: What do we know? Small retrospective study of 22 lung cancer patients, 14 treated with HCQ+AZ, showing HCQ+AZ ...
9/21	PrEP	<i>Gentry et al., L...</i>	death, ↓91.3%, p...	Long-term hydroxychloroquine use in patient... Retrospective patients with rheumatologic conditions showing zero of 10,703 COVID-19 deaths fo...
9/21	PrEP	<i>Rajasingham e...</i>	cases, ↓27.0%, p...	Hydroxychloroquine as pre-exposure prophyl... PrEP RCT showing HR 0.73, $p = 0.12$. Trial halted after 47% enrollment, $p < 0.05$ will be reached at ...
9/21	PrEP	<i>Grau-Pujol et a...</i>	cases, ↓67.9%, p...	Pre-exposure prophylaxis with hydroxychloro... Small PrEP RCT showing that PrEP with HCQ is safe at the dosage used. No deaths, hospitalizatio...
9/21	Early	<i>Lofgren et al., ...</i>	safety analysis	Safety of Hydroxychloroquine among Outpat... Analysis of 2,795 outpatients not showing significant safety concerns with HCQ. No deaths were r...
9/18	Late	<i>Axfors et al., N...</i>	meta-analysis	Mortality outcomes with hydroxychloroquine... Meta analysis assigning 89% weight to the RECOVERY and SOLIDARITY trials, producing the same...
9/16	N/A	<i>Karatza et al., ...</i>	dosing study	Optimization of hydroxychloroquine dosing s... Analysis of HCQ dosing, suggesting that high initial doses followed by low and sparse doses may ...
9/15	Late	<i>Ashinyo et al., ...</i>	hosp. time, ↓33.0...	Clinical characteristics, treatment regimen a... Retrospective 307 hospital patients in Ghana showing 33% reduction in hospitalization time with ...
9/14	Late	<i>Lauriola et al., ...</i>	death, ↓73.5%, p<...	Effect of combination therapy of hydroxychl... Retrospective 377 patients, 73% reduction in mortality with HCQ+AZ, adjusted hazard ratio HR 0.2...
9/13				

	Early	<i>Sulaiman et al...</i>	death, ↓63.7%, p...	The Effect of Early Hydroxychloroquine-base...
	Observational prospective	5,541 patients, adjusted HCQ mortality odds ratio OR 0.36, $p = 0.012$. A...		
9/12	Late	<i>Heberto et al., ...</i>	death, ↓53.6%, p...	Implications of myocardial injury in Mexican ...
	Observational prospective	254 hospitalized patients, HCQ+AZ mortality odds ratio OR 0.36, $p = 0.0...$		
9/9	Late	<i>Alamdari et al.,...</i>	death, ↓55.0%, p...	Mortality Risk Factors among Hospitalized C...
	Retrospective	459 patients in Iran 93% using HCQ, showing HCQ mortality RR 0.45, $p = 0.028$. HC...		
9/9	Early,...	<i>Kirenga et al., ...</i>	recov. time, ↓25...	Characteristics and outcomes of admitted p...
	Prospective	56 patients in Uganda, 29 HCQ and 27 control, showing 25.6% faster recovery with HC...		
9/9	PrEP	<i>Rentsch et al., ...</i>	death, ↑3.0%, p=...	Effect of pre-exposure use of hydroxychloro...
	Observational database study	of RA/SLE patients in the UK, 194,637 RA/SLE patients with 30,569 ...		
9/9	PrEP	<i>Laplana et al., ...</i>	cases, ↑56.0%, p...	Lack of protective effect of chloroquine deriv...
	Survey	of 319 autoimmune disease patients taking CQ/HCQ with 5.3% COVID-19 incidence, comp...		
9/7	Revi...	<i>IHU, Expert Re...</i>	review	Natural history and therapeutic options for C...
	Review	of the current state of knowledge regarding the natural history of and therapeutic options f...		
9/5	Late	<i>Synolaki et al., ...</i>	death, ↓23.6%, p...	The Activin/Follistatin-axis is severely dereg...
	Retrospective	117 patients, 58 HCQ showing lower mortality for HCQ patients. Version 1 of this pa...		
9/4	Late	<i>Furtado et al., The Lancet, doi:10.1016...</i>		Azithromycin in addition to standard of care ...
	Small RCT	comparing the addition of AZ for very late stage patients on ventilation or oxygen. No si...		
9/2	In Vit...	<i>Wang et al., Ph...</i>	in vitro	Chloroquine and hydroxychloroquine as ACE...
	In Vitro study	providing novel insights into the molecular mechanism of CQ/HCQ treatment, showi...		
9/2	Early	<i>Heras et al., Eu...</i>	death, ↓95.6%, p...	COVID-19 mortality risk factors in older peop...
	Retrospective	100 elderly nursing home patients, HCQ+AZ mortality 11.4% vs. control 61.9%, RR 0...		
9/2	PrEP	<i>de la Iglesia et...</i>	hosp., ↑50.0%, p=...	Hydroxicloroquine for pre-exposure prophyl...
	Analysis	of autoimmune disease patients on HCQ, compared to a control group from the general p...		
9/1	Revi...	<i>Hecel et al., Ph...</i>	review	Zinc(II)—The Overlooked Éminence Grise of ...
	Review	of zinc as an inhibitor of SARS-CoV-2's RNA-dependent RNA polymerase, and zinc ionopho...		
9/1	Early	<i>Elbazidi et al., New Microbes and New...</i>		Pandemic and social changes, political fate
	Analysis	of US states and countries. Country analysis shows a significant correlation between the ...		

8/30	Late	<i>Albani et al., J...</i>	death, ↓18.4%, p...	Impact of Azithromycin and/or Hydroxychloroquine in the treatment of hospitalized COVID-19 patients: a retrospective study
				Retrospective 1376 hospitalized patients in Italy, 211 treated with HCQ and 166 with HCQ+AZ.
8/29	Late	<i>Castillo et al., Journal of Steroid Biochem...</i>		Effect of calcifediol treatment and best available treatment on clinical outcomes in hospitalized COVID-19 patients: a randomized controlled trial
				RCT on calcifediol (25-hydroxyvitamin D) treatment for hospitalized COVID-19 patients showing significant improvement in clinical outcomes.
8/28	Late	<i>Fried et al., Clin...</i>	death, ↑27.0%, p<...	Patient Characteristics and Outcomes of 11,721 Hospitalized COVID-19 Patients: A Database Analysis
				Database analysis of 11,721 hospitalized patients, 4,232 on HCQ. Strong evidence for confounding in observational studies.
8/27	PrEP	<i>Ferri et al., Clin...</i>	cases, ↓63.0%, p<...	COVID-19 and rheumatic autoimmune diseases: a systematic review and meta-analysis
				Analysis of 1641 systemic autoimmune disease patients showing csDMARD (HCQ etc.) RR 0.37, p<0.001.
8/26	Late	<i>Fiolet et al., Clin...</i>	meta-analysis	Effect of hydroxychloroquine with or without azithromycin on clinical outcomes in hospitalized COVID-19 patients: a meta-analysis
				Meta analysis of late stage studies (and one early treatment study with only 2 deaths), showing HCQ benefit.
8/25	Early	<i>Ip et al., BMC I...</i>	death, ↓54.5%, p<...	Hydroxychloroquine in the treatment of outpatients with COVID-19: a retrospective study
				Retrospective 1,274 outpatients, 47% reduction in hospitalization with HCQ with propensity matching.
8/25	Late	<i>Di Castelnuovo et al., Clin...</i>	death, ↓30.0%, p<...	Use of hydroxychloroquine in hospitalised COVID-19 patients: a retrospective study
				Retrospective 3,451 hospitalized patients, 30% reduction in mortality with HCQ after propensity adjustment.
8/24	Late	<i>Catteau et al., I...</i>	death, ↓32.0%, p<...	Low-dose Hydroxychloroquine Therapy and Clinical Outcomes in Hospitalized COVID-19 Patients: A Retrospective Study
				Retrospective 8,075 hospitalized patients, 4,542 low-dose HCQ, 3,533 control. 35% lower mortality.
8/23	Late	<i>Pasquini et al., ...</i>	death, ↓16.4%, p<...	Effectiveness of remdesivir in patients with COVID-19: a retrospective study
				Retrospective 51 ICU patients under mechanical ventilation, 33 treated with HCQ, showing unadjusted mortality reduction.
8/21	Early	<i>Ly et al., Intern...</i>	death, ↓55.6%, p<...	Pattern of SARS-CoV-2 infection among dependent long-term care facilities: a retrospective study
				Retrospective analysis of retirement homes, HCQ+AZ >= 3 days mortality OR 0.37, p=0.02. 1690 elderly patients.
8/21	N/A	<i>Lane et al., The...</i>	safety analysis	Risk of hydroxychloroquine alone and in combination with azithromycin in COVID-19 patients: a retrospective study
				Retrospective study of RA patients using HCQ vs. sulfasalazine (another DMARD). HCQ treatment associated with lower mortality.
8/21	Late	<i>Gonzalez et al., ...</i>	death, ↓26.6%, p<...	The Prognostic Value of Eosinophil Recovery in Hospitalized COVID-19 Patients: A Retrospective Study
				Retrospective study focused on eosinophil recovery with 9,644 hospitalized patients in Spain, showing HCQ benefit.
8/20	Late	<i>Dubernet et al., ...</i>	ICU, ↓87.6%, p=0.001	A comprehensive strategy for the early treatment of COVID-19 patients: a retrospective study
				Retrospective analysis of 36 hospitalized patients showing HCQ/AZ associated with lower ICU admission.
8/20	Early	<i>Prodromos, C., ...</i>	safety analysis	Hydroxychloroquine is protective to the heart: a retrospective study
				Review concluding that HCQ/AZ does not cause Torsade de Pointes or related deaths, HCQ decreases mortality.

8/18	Late	<i>Pinato et al., C...</i>	death, ↓59.0%, p<...	Clinical portrait of the SARS-CoV-2 epidemic ... Retrospective 890 cancer patients with COVID-19, adjusted mortality HR for HCQ/CQ 0.41, p<0.0...
8/15	Late	<i>Peters et al., Cl...</i>	death, ↑9.0%, p=...	Outcomes of Persons With COVID-19 in Hos... Retrospective study of HCQ use in 9 hospitals in the Netherlands, showing no significant differenc...
8/14	Late	<i>Abd-Elsalam e...</i>	death, ↑20.0%, p...	Hydroxychloroquine in the Treatment of COV... Small RCT in Egypt with 97/97 HCQ/control patients, showing 58% more recovery @28days for H...
8/13	Late	<i>Roomi et al., J...</i>	death, ↑37.7%, p...	Efficacy of hydroxychloroquine and tocilizum... Retrospective 176 hospitalized patients (144 HCQ, 32 control) showing no significant differences ...
8/11	In Sili...	<i>Tarek et al., European Journal of Drug ...</i>		Pharmacokinetic Basis of the Hydroxychloro... <i>In Silico</i> analysis of HCQ treatment showing concluding that HCQ may affect viral clearance if ad...
8/11	Early	<i>Bakhshaliyev e...</i>	safety analysis	The effect of 5-day course of hydroxychloro... Safety study of 109 patients showing 5 days of HCQ+AZ did not lead to clinically significant QT pr...
8/11	Late	<i>Saleemi et al., ...</i>	viral- time, ↑21.0...	Time to negative PCR from symptom onset i... Retrospective 65 HCQ+AZ, 20 control patients, showing median time to negative PCR of 23 days f...
8/8	Late	<i>Lopez et al., Int. J. Antimicrob. Agents,...</i>		Effects of Hydroxychloroquine on Covid-19 i... Small retrospective study of 29 ICU patients comparing those with HCQ plasma concentration wit...
8/6	PrEP	<i>Salvarani et al.,...</i>	cases, ↓6.0%, p=...	Susceptibility to COVID-19 in Patients Treate... Comparison of CQ/HCQ users with the general population in a region of Italy, showing no significa...
8/6	Revi...	<i>McCullough et...</i>	review	Pathophysiological Basis and Rationale for E... Review of pathophysiological principles related to early outpatient treatment and therapeutic appr...
8/6	PEP, ...	<i>Watanabe et al...</i>	meta-analysis	Concerns regarding the misinterpretation of ... Open letter signed by 38 professors and doctors regarding misinterpretation of statistics in HCQ R...
8/5	PrEP	<i>Singer et al., A...</i>	cases, ↑9.0%, p=...	Hydroxychloroquine ineffective for COVID-19... Comparison of the percentage of SLE/RA patients on immunosuppressants that were taking HCQ,...
8/5	Late	<i>Kalligeros et al...</i>	death, ↑67.0%, p...	Hydroxychloroquine use in hospitalised patie... Small retrospective database analysis of 36 patients receiving HCQ not showing significant differe...
8/4	Late	<i>Kamran et al., ...</i>	progression, ↓5.0...	Clearing the fog: Is HCQ effective in reducing... Study of 349 low-risk hospitalized patients with 151 non-consenting or ineligible patients used as ...

8/3	Late	<i>Berenguer et a...</i>	death, ↓61.9%, p<...	Characteristics and predictors of death amo... Retrospective 4035 hospitalized patients in Spain showing reduced mortality with HCQ (data is in ...
8/3	Late	<i>Yu et al., Scien...</i>	progression, ↓82.0%	Beneficial effects exerted by hydroxychloroq... Retrospective 2,882 patients in China, median age 62, 278 receiving HCQ, median 10 days post ho...
8/2	Late	<i>Davido et al., I...</i>	int./hosp., ↓55.0%	Impact of medical care including anti-infecti... Retrospective of 132 hospitalized patients. HCQ+AZ(52)/AZ(28) significantly reduced death/ICU, ...
8/2	In Vit...	<i>Sheaff, R., bio...</i>	<i>in vitro</i>	A New Model of SARS-CoV-2 Infection Base... <i>In vitro</i> study presenting a new theory on SARS-CoV-2 infection and why HCQ/CQ provides benefit...
8/1	Early	<i>Bernabeu-Witt...</i>	death, ↓59.0%, p...	Effectiveness of a On-Site Medicalization Pr... Retrospective 272 nursing home residents showing significantly improved survival after establishi...
7/31		<i>Mazzitelli et al., Travel Medicine and I...</i>		Apparent inefficacy of hydroxychloroquine c... Report on HCQ+AZ use in 41 elderly high-risk patients. 29 of 30 patients with treatment >= 5 days ...
7/29	Late	<i>D'Arminio Mon...</i>	death, ↓34.0%, p...	Effectiveness of Hydroxychloroquine in COVI... HCQ+AZ adjusted death HR 0.44, p=0.009. Propensity scores include baseline COVID-19 disease s...
7/28	Late	<i>Başaran et al., Turk. J. Med. Sci., doi:1...</i>		Outcome of Non-Critical COVID-19 Patients ... Observational study of 174 hospitalized patients in Turkey, median age 45.4, 23 treated with HCQ, ...
7/26	PEP	<i>Mitjà et al., NE...</i>	death, ↓51.7%, p...	A Cluster-Randomized Trial of Hydroxychlor... Death rate reduced from 0.6% to 0.4%, RR 0.68, not statistically significant due to low incidence (8 ...
7/24	PrEP	<i>Khurana et al., ...</i>	cases, ↓51.0%, p...	Prevalence and clinical correlates of COVID-... Study of hospital health care workers showing HCQ prophylaxis reduces COVID-19 significantly, O...
7/23	Late	<i>Cavalcanti et a...</i>	death, ↓16.0%, p...	Hydroxychloroquine with or without Azithro... Late stage RCT of 667 hospitalized patients with up to 14 days of symptoms at enrollment and re...
7/22	In Vit...	<i>Ou et al., PLOS...</i>	<i>in vitro</i>	Hydroxychloroquine-mediated inhibition of S... <i>In Vitro</i> analysis showing that HCQ efficiently blocks viral entry mediated by cathepsin L, but not b...
7/22	In Vit...	<i>Hoffmann et al...</i>	<i>in vitro</i>	Chloroquine does not inhibit infection of hu... The title of this paper does not appear to match the results. Fig. 1b @100uM shows CQ results in ...
7/22	Late	<i>Rivera et al., C...</i>	death, ↑2.4%, p=...	Utilization of COVID-19 Treatments and Clini... Retrospective cancer patients, showing adjusted OR 1.03 [0.62-1.73] for HCQ. The study reports th...

7/22	Late	<i>Kelly et al., Briti...</i>	death, ↑143.0%, ...	Clinical outcomes and adverse events in pati... Retrospective 82 hospitalized patients HCQ/AZ, 52 SOC, not finding statistically significant differe...
7/21	Late	<i>Bernaola et al.,...</i>	death, ↓17.0%, p<...	Observational Study of the Efficiency of Trea... HCQ HR 0.83 [0.77-0.89] based on propensity score matched retrospective analysis of 1,645 hospi...
7/20	PrEP	<i>Desbois et al., ...</i>	cases, ↓16.9%, p...	Prevalence and clinical features of COVID-19... Retrospective 199 sarcoidosis patients showing non-statistically significant HCQ RR 0.83, p=1.0.
7/20	Early	<i>Risch, H., Ame...</i>	meta-analysis	Response to: "Early Outpatient Treatment of ... Updated meta analysis including 7 new studies of high-risk outpatients, for a total of 12 studies, al...
7/18	PEP	<i>Watanabe, M., ...</i>	meta-analysis	Efficacy of Hydroxychloroquine as Prophylax... Secondary analysis of Boulware et al.'s PEP trial and treatment delay-response data, confirming th...
7/19	Late	<i>McGrail et al., ...</i>	death, ↑70.0%, p...	COVID-19 Case Series at UnityPoint Health S... HCQ+AZ early in the epidemic had a fairly good success rate with few complications, 86% of HCQ ...
7/17	Late	<i>Lyngbakken et ...</i>	death, ↓3.7%, p=...	A pragmatic randomized controlled trial repo... Small RCT of nasopharyngeal viral load not showing significant differences. The rate of reduction ...
7/16	Early	<i>Hong et al., Inf...</i>	viral+, ↓64.9%, p=...	Early Hydroxychloroquine Administration for ... HCQ 1-4 days from diagnosis was the only protective factor against prolonged viral shedding four...
7/16	Early	<i>Skipper et al., ...</i>	hosp./death, ↓36...	Hydroxychloroquine in Nonhospitalized Adul... ~70 to 140 hour (inc. shipping) delayed outpatient treatment with HCQ showing lower hospitalizati...
7/16	Early	<i>Mitjà et al., Cli...</i>	hosp., ↓16.0%, p=...	Hydroxychloroquine for Early Treatment of A... This paper has conflicting values, table S2 shows 12 control hospitalizations, while table 2 shows ...
7/15	Late	<i>Gupta et al., JA...</i>	death, ↑6.0%, p=...	Factors Associated With Death in Critically Ill... Analysis of 2215 intensive care unit patients showing no significant differences with this very late ...
7/15	N/A	<i>Kavanagh et al...</i>	dosing study	Inhaled hydroxychloroquine to improve effic... Proposal to use an inhaled formulation of HCQ which has passed safety studies in clinical trials fo...
7/14	Late	<i>Trullàs et al., R...</i>	death, ↓35.6%, p...	High in-hospital mortality due to COVID-19 in... Retrospective 100 hospitalized patients in Spain showing lower mortality with HCQ+AZ.
7/14	Early	<i>Chowdhury et al., Eurasian Journal of ...</i>		A Randomized Trial of Ivermectin-Doxycyclin...

			Small 116 patient RCT comparing ivermectin+doxycycline and HCQ+AZ, not showing a significant ...
7/11	Late	<i>Lecronier et al...</i>	death, ↓42.0%, p=... Comparison of hydroxychloroquine, lopinavir... Retrospective 80 ICU patients, 22 SOC, 20 lopinavir/ritonavir, 38 HCQ. 28 day mortality 24% (HCQ) ...
7/10	Late	<i>Cravedi et al., ...</i>	death, ↑53.0%, p=... COVID-19 and kidney transplantation: Result... Analysis of 144 hospitalized kidney transplant patients showing HCQ mortality HR 1.53, $p = 0.17$
7/10	Late	<i>Chen et al., PL...</i>	viral+, ↓24.0%, p=... A Multicenter, randomized, open-label, contr... 2 very small studies with hospitalized patients in Taiwan. RCT with 21 treatment and 12 SOC patie...
7/9	Late	<i>Rivera-Izquierd...</i>	death, ↓19.0%, p=... Agentes terapéuticos utilizados en 238 paci... Retrospective 238 hospitalized patients in Spain showing lower mortality with HCQ, adjusted haza...
7/9	Early,...	<i>Raoult et al., Pr...</i>	meta-analysis Hydroxychloroquine and Azithromycin as a T... Updated meta analysis showing significant reductions in mortality and viral shedding. Mortality O...
7/8	N/A	<i>Marzolini et al...</i>	dosing study Effect of Systemic Inflammatory Response t... Study of Lopinivar and HCQ plasma concentrations and CRP levels in late stage (treatment initiati...
7/8	N/A	<i>Li et al., Cell De...</i>	review Is hydroxychloroquine beneficial for COVID-1... Review of the anti-inflammatory, antiviral, and protective vascular effects of CQ and HCQ, noting th...
7/7	Revi...	<i>Goldstein, L., P...</i>	review Hydroxychloroquine-based COVID-19 Treat... 85% of globally surveyed physicians recognized HCQ as at least partially effective in treating COVI...
7/7	Late	<i>An et al., medR...</i>	viral+, ↓3.0%, p=0... Treatment Response to Hydroxychloroquine ... Retrospective of hospitalized patients with 31 HCQ patients and 195 standard treatment patients, ...
7/3	PrEP	<i>Zhong et al., L...</i>	cases, ↓91.0%, p=... COVID-19 in patients with rheumatic disease... Rheumatic disease patients on HCQ had a lower risk of COVID-19 than those on other disease-mo...
7/1	Late	<i>Arshad et al., l...</i>	death, ↓51.3%, p=... Treatment with Hydroxychloroquine, Azithro... HCQ decreases mortality from 26.4% to 13.5% (HCQ) or 20.1% (HCQ+AZ). Propensity matched HC...
7/1	N/A	<i>Samuel et al., ...</i>	safety analysis Incidence of arrhythmias and electrocardiog... In pediatric patients with PCR positive active COVID-19 infection, significant arrhythmias are infreq...
6/30	Late	<i>Martinez-Lope...</i>	death, ↓33.0%, p=... Multiple Myeloma and SARS-CoV-2 Infection... Retrospective 167 multiple myeloma patients in Spain.
6/30			

	Late	<i>Mikami et al., J...</i>	death, ↓47.0%, p<...	Risk Factors for Mortality in Patients with C... HCQ decreases mortality, HR 0.53 (CI 0.41–0.67). IPTW adjustment does not significantly change ...
6/30	Late	<i>Komissarov et ...</i>	viral load, ↑25.0%...	Hydroxychloroquine has no effect on SARS-... Small late stage (7-10 days post symptoms) study of nasal swab RNA with 12 control and 33 pati...
6/29	Late	<i>Sosa-García et...</i>	death, ↑10.5%, p...	Experience in the management of severe CO... Small retrospective study of 56 ICU patients in Mexico showing HCQ RR 1.1, $p = 1.0$.
6/29	PrEP	<i>Ferreira et al., ...</i>	cases, ↓47.1%, p...	Chronic treatment with hydroxychloroquine ... Chronic treatment with HCQ provides protection against COVID, odds ratio 0.51 (0.37-0.70). The a...
6/29	N/A	<i>Mfeukeu-Kuat...</i>	safety analysis	Electrocardiographic safety of daily Hydroxy... No life-threatening modifications of the QT interval was observed in non-severe COVID-19 patients...
6/25	PrEP	<i>Gendebien et a...</i>	cases, ↓3.9%, p=...	Systematic analysis of COVID-19 infection a... Small study of 152 SLE patients taking HCQ with a phone survey for COVID-19 suggestive sympto...
6/25	Early	<i>Lagier et al., Tr...</i>	death, ↓59.0%, p...	Outcomes of 3,737 COVID-19 patients treat... Early treatment leads to significantly better clinical outcome and faster viral load reduction. Match...
6/23	Late	<i>Bousquet et al...</i>	death, ↓42.8%, p...	ADL-dependency, D-Dimers, LDH and absenc... Observational prospective 108 hospitalized patients 65 and older, showing HCQ mortality OR 0.49,...
6/22	Safety	<i>Isaksen et al., ...</i>	safety analysis	Chloroquine, but not hydroxychloroquine, prol... Safety analysis in patients without COVID-19, finding a small increase in QTc associated with use ...
6/22	Late	<i>Fontana et al., ...</i>	death, ↓50.0%, p...	SARS-CoV-2 infection in dialysis patients in n... Very small observational study of 15 dialysis patients showing HCQ mortality RR 0.50, $p = 0.53$.
6/22	Early	<i>Chen et al., me...</i>	viral- time, ↓72.0...	Efficacy and safety of chloroquine or hydrox... Significantly faster clinical recovery and shorter time to RNA negative (from 7.0 days to 2.0 days (...
6/21	Late	<i>Faíco-Filho et ...</i>	viral rate, ↓80.8%,...	No benefit of hydroxychloroquine on SARS-C... Viral load comparison for 34 HCQ and 32 control patients hospitalized with moderate COVID-19. A...
6/19	PrEP	<i>SMSH Sawai ...</i>	news	HCQ beneficial as preventive drug: SMS doct... PrEP with 4,300 very high risk healthcare workers in a hospital with up to 500+ COVID patients at a...
6/19	Late	<i>NIH, study not ...</i>	news	NIH halts clinical trial of hydroxychloroquine NIH halts late stage trial reporting no harm and no benefit. 470 patients.

6/19	Late	<i>Sbidian et al., ...</i>	death, ↑5.0%, p=...	Hydroxychloroquine with or without azithro... Retrospective of 4,642 hospitalized patients in France showing significantly faster discharge with ...
6/19	N/A	<i>Kaptein et al., ...</i>	animal study	Favipiravir at high doses has potent antiviral ... Animal study with Syrian hamsters, showing treatment of SARS-CoV-2-infected hamsters with favi...
6/18	Late	<i>Paccoud et al.,...</i>	death, ↓11.0%, p=...	Compassionate use of hydroxychloroquine i... Retrospective of 89 hospitalized patients, survival HR 0.89 [0.23-3.47], not statistically significant. ...
6/17	Early	<i>Capucci et al., J. Cardiovasc. Med. 21, ...</i>		Low hospitalization rate without severe arrhy... Prospective analysis of early treatment of 350 patients in Italy (without waiting for PCR results), sh...
6/17	Late	<i>Xue et al., J. Med. Virology, June 17, 2...</i>		Hydroxychloroquine treatment in COVID-19: ... 30 hospitalized patients. Early use of HCQ is more effective, 43% reduction in progression from m...
6/17	Late	<i>Luo et al., Ann...</i>	death, ↑2.2%, p=...	COVID-19 in patients with lung cancer Analysis of hospitalized lung cancer patients with 35 of 48 taking HCQ, mortality OR 1.03, $p = 0.99$.
6/16	Late	<i>Kim et al., Korean J Intern Med, doi:10...</i>		Lopinavir-ritonavir versus hydroxychloroquin... Small retrospective study of hospitalized patients with 31 lopinavir-ritonavir and 34 HCQ patients, ...
6/16	PrEP	<i>WHIP COVID-1...</i>	news	Henry Ford Health System still moving forwa... Ongoing WHIP COVID-19 HCQ PrEP study reports analyzing their data and seeing a significantly i...
6/16	PrEP	<i>Huang et al., A...</i>	hosp., ↓80.0%, p<...	Clinical characteristics of 17 patients with C... Analysis of 1255 COVID-19 patients in Wuhan Tongji Hospital finding 0.61% with systemic autoim...
6/12	Theo...	<i>Scherrmann, A...</i>	theory	Intracellular ABCB1 as a Possible Mechanis... Theory paper, not included in the study count or percentages. Proposes a new mechanism suppor...
6/12	Late	<i>Giacomelli et al., Journal of Medical Vi...</i>		Early administration of lopinavir/ritonavir plu... Late stage study of hospitalized patients comparing treatment starting within 5 days versus later. ...
6/10	Late	<i>Wang et al., m...</i>	death, ↓5.8%, p=...	Comorbidity and Sociodemographic determi... Database analysis of 7,592 patients in NYC, showing adjusted HCQ mortality odds ratio OR 0.96, $p=...$
6/10	Early	<i>Otea et al., medRxiv, doi:10.1101/2020...</i>		A short therapeutic regimen based on hydro... 80 moderate cases, HCQ+AZ appears to reduce serious complications and death. Moderate treat...
6/9	Early	<i>Pirnay et al., Hosp. Pharm. and Clinici...</i>		Beneficial effect of Hydroxychloroquine-Azit... 68 very high risk nursing home residents, median age 86, HCQ+AZ early treatment within 2.5 days ...

6/9	PrEP	<i>Bhattacharya ...</i>	cases, ↓80.7%, p=...	Pre exposure Hydroxychloroquine use is associated with reduced mortality. HCQ reduced cases from 38% to 7%. 106 people. No serious adverse effects.
6/6	Revi...	<i>Roussel et al., ...</i>	review	Influence of conflicts of interest on public perception of COVID-19 treatment. Shows a correlation (Spearman test, $p = 0.017$) between the amount received from Gilead Science and the number of articles published.
6/6	Early,...	<i>Million et al., N...</i>	meta-analysis	Clinical Efficacy of Chloroquine derivatives in COVID-19. [H]CQ effective and reduces mortality by a factor 3. Meta analysis of 20 studies.
6/5	Late	<i>RECOVERY Col...</i>	death, ↑9.0%, p=...	Effect of Hydroxychloroquine in Hospitalized COVID-19 Patients. RECOVERY trial finds no significant benefit for very late stage very sick patients. Results may be different in other populations.
6/3	PEP	<i>Boulware et al...</i>	cases, ↓17.0%, p=...	A Randomized Trial of Hydroxychloroquine as Post-Exposure Prophylaxis in COVID-19. COVID-19 cases are reduced by [49%, 29%, 16%] respectively when taken within ~[70, 94, 118] hours.
6/1	N/A	<i>Al-Kofahi et al.,...</i>	dosing study	Finding the Dose for Hydroxychloroquine Prophylaxis. Analysis of HCQ dosing regimens, recommending: PrEP: 800mg loading dose followed by 400mg daily.
5/31	Early	<i>Guérin et al., A...</i>	death, ↓61.4%, p=...	Azithromycin and Hydroxychloroquine Accelerate Recovery in COVID-19. Mean clinical recovery time reduced from 26 days (SOC) to 9 days, $p < 0.0001$ (HCQ+AZ) or 13 days.
5/28	Late	<i>Chamieh et al., medRxiv 2020.05.28.2...</i>		Viral Dynamics Matter in COVID-19 Pneumonia. HCQ+AZ potentially explains 94.7% success in treating a fairly complex cohort.
5/28	PrEP	<i>Chatterjee et a...</i>	cases, ↓66.8%, p=...	Healthcare workers & SARS-CoV-2 infection in a community cohort. 4+ doses of HCQ associated with a significant decline in the odds of getting infected, dose-response.
5/28	Late	<i>Huang et al., N...</i>	viral- time, ↓67.0...	Preliminary evidence from a multicenter prospective study. 197 CQ patients, 176 control. Mean time to undetectable viral RNA and duration of fever significantly shorter in CQ group.
5/27	Late	<i>Goldman et al.,...</i>	death, ↓22.3%, p=...	Remdesivir for 5 or 10 Days in Patients with COVID-19. Study focused on remdesivir but with results for HCQ in the supplementary appendix, showing 9% reduction in mortality.
5/28	Late	<i>Kuderer et al., ...</i>	death, ↑134.2%, ...	Clinical impact of COVID-19 on patients with rheumatic diseases. Retrospective 928 cancer patients, showing HCQ OR 1.06 [0.51-2.20]. HCQ+AZ OR 2.93 [1.79-4.79].
5/28	PrEP	<i>Gianfrancesco...</i>	hosp., ↓3.3%, p=0...	Characteristics associated with hospitalisation in COVID-19. Analysis of rheumatic disease patients showing no significant association between antimalarial therapy and outcomes.
5/27	Early	<i>Risch, America...</i>	meta-analysis	Early Outpatient Treatment of Symptomatic COVID-19. Five studies, including two controlled clinical trials, have demonstrated significant outpatient treatment.

5/25	Late	<i>Ip et al., PLoS ...</i>	death, ↓1.0%, p=...	Hydroxychloroquine and Tocilizumab Therap...
				Retrospective study of late stage use on 2,512 hospitalized patients showing no significant differe...
5/24	Late	<i>Hraiech et al., ...</i>	death, ↓64.7%, p=...	Lack of viral clearance by the combination of...
				Retrospective 45 ICU patients, 17 treated with HCQ+AZ, showing no significant difference in viral c...
5/22	PEP, ...	<i>ICMR, Indian C...</i>	advisory	Revised advisory on the use of Hydroxychlor...
				Healthcare workers on HCQ prophylaxis less likely to get COVID. Significant dose-response relatio...
5/22	Late	<i>Mehra et al., T...</i>	retracted	Hydroxychloroquine or chloroquine with or w...
				Incorrect at first read (implausible death, ventilation, and population numbers). This paper was retr...
5/19	Late	<i>Singh et al., m...</i>	death, ↓5.0%, p=...	Outcomes of Hydroxychloroquine Treatment...
				EHR analysis of 3,372 hospitalized COVID-19 patients not showing a significant difference for mor...
5/18	Late	<i>Kim et al., med...</i>	hosp. time, ↓51.0...	Treatment Response to Hydroxychloroquine,...
				Retrospective of 97 moderate cases. Time to viral clearance significantly shorter for HCQ+antibiot...
5/18	Early	<i>Ahmad et al., doi:10.1101/2020.05.18...</i>		Doxycycline and Hydroxychloroquine as Trea...
				54 patients in long term care facilities. 6% death with HCQ+AZ compared to 22% using a naive indi...
5/16	PrEP	<i>Macias et al., ...</i>	hosp., ↓25.5%, p=...	Similar incidence of Coronavirus Disease 20...
				Very small retrospective study of rheumatic disease patients, sample size is too small for statistic...
5/15	Late	<i>Yu et al., Scien...</i>	death, ↓60.5%, p=...	Low Dose of Hydroxychloroquine Reduces F...
				Retrospective, 550 critically ill patients. 19% fatality for HCQ versus 47% for non-HCQ, RR 0.395, p...
5/14	Late	<i>Mahévas et al.,...</i>	death, ↑20.0%, p=...	Clinical efficacy of hydroxychloroquine in pat...
				Observational study of 181 patients with advanced disease requiring oxygen showing no benefit f...
5/13	Late	<i>Okour et al., Journal of Pharmacokinet...</i>		Hydroxychloroquine and azithromycin as pot...
				Odds of PCR-positive decrease by 53% for each unit increase in HCQ log-concentration. Similarly, t...
5/12	PrEP	<i>Cassione et al...</i>	cases, ↑49.6%, p=...	COVID-19 infection in a northern-Italian coho...
				Survey of 165 SLE patients, 127 on HCQ. 8 patients with suspected COVID-19 and 4 confirmed ca...
5/11	Late	<i>Shabrawishi et...</i>	viral+, ↓14.7%, p=...	Negative nasopharyngeal SARS-CoV-2 PCR ...
				Retrospective 93 hospitalized patients in Saudi Arabia showing a non-statistically significant 15% r...
5/11	Late	<i>Rosenberg et ...</i>	death, ↑35.0%, p=...	Association of Treatment With Hydroxychlor...
				Restrospective observational late stage study showing no significant differences but calling for cli...

5/10	Late	<i>Alberici et al., ...</i>	death, ↓42.9%, p=...	A report from the Brescia Renal COVID Task ... Analysis of 94 hemodialysis COVID-19 positive patients. Reduction in death seen with HCQ but p=...
5/8	Ex Vi...	<i>Grassin-Delyle ...</i>	ex vivo	Chloroquine Inhibits the Release of Inflamm... On human lung parenchymal explants, CQ concentration clinically achievable in the lung (100 µM) ...
5/8	Late	<i>Carlucci et al., J. Med. Microbiol., Sep ...</i>		Zinc sulfate in combination with a zinc ionop... Retrospective 932 patients. Addition of Zinc to HCQ+AZ reduces mortality / transfer to hospice, IC...
5/7	PrEP	<i>Konig et al., An...</i>	hosp., ↓3.0%, p=0...	Baseline use of hydroxychloroquine in syste... Analysis of 80 SLE patients diagnosed with COVID-19, showing the frequency of hospitalisation di...
5/7	Theo...	<i>Derendorf, H., I...</i>	theory	Excessive lysosomal ion-trapping of hydroxy... Discusses pharmacokinetic properties of HCQ+AZ as a potential underlying mechanism of the ob...
5/7	Late	<i>Geleris et al., N...</i>	int./death, ↑4.0%,...	Observational Study of Hydroxychloroquine i... There appears to be a major error in this paper. Before propensity matching, 38 control patients ha...
5/7	N/A	<i>Sermo (News) ...</i>	news	Sermo reports: COVID-19 treatment trends o... HCQ used by 55% of physicians worldwide for COVID. Survey of 6,150 physicians.
5/6	N/A	<i>Maisonnette ...</i>	animal study	Hydroxychloroquine use against SARS-CoV-... Monkey study which reports no effect of HCQ or HCQ+AZ. However, there are several signs of effe...
5/5	Late	<i>Membrillo de ...</i>	death, ↓55.1%, p=...	Early Hydroxychloroquine Is Associated with... 166 patients hospitalised with COVID-19, HCQ increased survival 1.4 - 1.8 times when patients ad...
5/5	Early,...	<i>Million et al., Travel Med Infect Dis., 20...</i>		Early Treatment of COVID-19 Patients With ... Retrospective 1061 patients. HCQ+AZ safe and results in a low fatality rate.
5/5	PrEP	<i>Gendelman et ...</i>	cases, ↓8.1%, p=...	Continuous Hydroxychloroquine or Colchicin... Very small study of rheumatic disease/autoimmune disorder patients showing no significant diffe...
5/5	PrEP	<i>Mitchell et al., ...</i>	death, ↓99.0%, p<...	Markedly Lower Rates of Coronavirus Infecti... Analysis of COVID-19 amongst 2.4B people shows a wide counterintuitive disparity between well-...
5/4	PrEP	<i>Huh et al., med...</i>	cases, ↑47.7%, p=...	Association of previous medications with th... Database analysis of many drugs and COVID-19 cases, with 23 cases taking HCQ, and 251 control...
5/2	Late	<i>Mallat et al., M...</i>	viral- time, ↑203....	Hydroxychloroquine is associated with slow...

			Very small retrospective analysis of 34 patients finding slower binary PCR viral clearance with HCQ...
5/1	N/A	<i>Mercurio et al., ...</i>	safety analysis Risk of QT Interval Prolongation Associated ... Study of 90 hospitalized patients given HCQ, 53 also receiving AZ, 53% hypertension, 29% diabete...
5/1	N/A	<i>Bessièrè et al., ...</i>	safety analysis Assessment of QT Intervals in a Case Series ... Study of 40 very serious condition ICU patients, 75% required invasive mechanical ventilation, 63%...
5/2	Late	<i>Seydi (News) (...</i>	news Coronavirus: a study in Senegal confirms the... Preliminary results of Senegal trial with 181 patients showing faster recovery with HCQ, and even f...
4/30	Early	<i>Meo et al., Eur. Rev. Med. Pharmacol. ...</i>	Efficacy of chloroquine and hydroxychloroqu... Analysis of COVID-19 and malaria, finding that COVID-19 is highly pandemic in countries where m...
4/27	Late	<i>Sánchez-Álvar...</i>	death, ↓45.9%, p=... Status of SARS-CoV-2 infection in patients o... Analysis of 868 patients on renal replacement therapy. Statistically significant reduction in mortalit...
4/29	N/A	<i>Saleh et al., Cir...</i>	safety analysis The Effect of Chloroquine, Hydroxychloroqui... 201 hospitalized patients. No serious side effects of HCQ. No instances of Torsade de pointes, or ...
4/27	N/A	<i>Klimke et al., ...</i>	dosing study Hydroxychloroquine as an aerosol might ma... Proposal to use HCQ as an aerosol in order to reach sufficient therapeutic levels at the alveolar epi...
4/26	Late	<i>Auld et al., Criti...</i>	death, ↑2.8%, p=... ICU and ventilator mortality among critically ... Retrospective 217 critically ill patients, 114 receiving HCQ, showing no significant difference in mo...
4/25	In Vit...	<i>Andreani et al.,...</i>	in vitro In vitro testing of combined hydroxychloroqu... HCQ and AZ has a synergistic effect <i>in vitro</i> on SARS-CoV-2 at concentrations compatible with tha...
4/24	Early	<i>Ashraf et al., m...</i>	death, ↓67.5%, p=... COVID-19 in Iran, a comprehensive investiga... Small limited trial with 100 patients concluding that HCQ improved clinical outcome, OR 0.016 [0.0...
4/21	Late	<i>Izoulet M., SSR...</i>	death, ↓85.0%, p<... Countries which Primarily Use Antimalarial D... Compares the dynamics of daily deaths in the 10 days following the 3rd death in countries using a...
4/21	Late	<i>Magagnoli et a...</i>	death, ↓11.0%, p=... Outcomes of hydroxychloroquine usage in U... Retrospective 807 hospitalized patients, no statistically significant reduction in mortality or the ne...
4/17	PEP	<i>Lee at al., Int. J. Antimicrob. Agents, 2...</i>	Can Post-Exposure Prophylaxis for COVID-1... Post exposure prophylaxis of 211 high-risk people after major exposure event in a long term care ...
4/16	Late	<i>Borba et al., JAMA Network Open, doi:...</i>	Chloroquine diphosphate in two different do...

				Comparison of typical CQ dosage with high dosage CQ (600mg CQ twice daily for 10 days), showi...
4/15	Early,...	<i>Esper et al., Pr...</i>	hosp., ↓64.0%, p=...	Empirical treatment with hydroxychloroquine... 636 patients. HCQ+AZ reduced hospitalization 79% when used within 7 days (65% overall). Non-ra...
4/15	Theo...	<i>Brufsky, A., J. ...</i>	theory	Hyperglycemia, hydroxychloroquine, and the ... Theory on the effectiveness of HCQ. HCQ has been shown to block the polarization of macrophag...
4/14	Late	<i>Tang et al., BM...</i>	viral+, ↓21.4%, p=...	Hydroxychloroquine in patients with COVID-... 150 patients very late stage RCT showing no significant difference. Treatment very late, average 1...
4/13	Late	<i>Gao et al., Bios...</i>	review	Update on Use of Chloroquine/Hydroxychlor... Increasing evidence from completed clinical studies shows CQ and HCQ effective (HCQ more effe...
4/12	Late	<i>Barbosa et al., ...</i>	death, ↑147.0%, ...	Clinical outcomes of hydroxychloroquine in ... Small retrospective study with 63 patients (32 treated with HCQ), showing no effectiveness, howe...
4/11	Early	<i>Gautret et al., Travel Medicine and Infe...</i>		Clinical and microbiological effect of a comb... Pilot study suggesting improvement with HCQ+AZ and recommending further study. 80 patients ...
4/10	Late	<i>Lover, medRxiv...</i>	meta-analysis	Quantifying treatment effects of hydroxychlo... Secondary analysis of Gautret et al. showing "modest to no impact of HCQ treatment, with more si...
4/3	Theo...	<i>Fantini et al., In...</i>	theory	Structural and molecular modelling studies r... In-silico analysis confirming the antiviral properties of CQ, showing a new mechanism of action of ...
4/1	Early	<i>Huang et al., J...</i>	no recov., ↓91.7%...	Treating COVID-19 with Chloroquine 22 patients. All CQ patients discharged by day 14 versus 50% of Lopinavir/Rotinavir patients. Sym...
3/31	Late	<i>Chen et al., me...</i>	pneumonia, ↓57....	Efficacy of hydroxychloroquine in patients wi... 62 patients. RCT showing significantly faster recovery with HCQ. 13% progressed to severe cases ...
3/31	In Vit...	<i>Clementi et al.,...</i>	in vitro	Combined Prophylactic and Therapeutic Use... <i>In vitro</i> study, not included in the study count or percentages, showing greater inhibition for combi...
3/28	Late	<i>Molina et al., Médecine et Maladies Inf...</i>		No evidence of rapid antiviral clearance or cli... Report on 11 patients treated with HCQ with no control group. Authors suggest there is no eviden...
3/26	Late	<i>Zhong Nansha...</i>	viral+, ↓80.0%, p<...	Efficacy and safety of chloroquine for treatm... 197 patients. CQ effective. Day 10 viral RNA negative 91.4% HCQ versus 57.4% control. Median ti...
3/24				

	Theo...	<i>Pagliano et al.,...</i>	theory	Is Hydroxychloroquine a Possible Post-Expo... CQ and HCQ inhibit replication at early stages of infection, no similar effect reported for other drug...
3/23	Theo...	<i>Hu et al., Natur...</i>	theory	Insights from nanomedicine into chloroquin... CQ is known in nanomedicine research for the investigation of nanoparticle uptake in cells, and m...
3/21	PrEP	<i>ICMR, Indian C...</i>	advisory	Advisory on the use of hydroxy-chloroquine ... Recommends HCQ for prophylaxis in asymptomatic healthcare workers as found effective in-vitro...
3/20	Late	<i>Hu et al., Shan...</i>	news	Shanghai Experience of COVID-19 Managem... Clinical studies of HCQ with 184 cases and 21 hospitals show HCQ is effective.
3/18	In Vit...	<i>Liu et al., Cell ...</i>	in vitro	Hydroxychloroquine, a less toxic derivative o... HCQ effective <i>in vitro</i> and less toxic than CQ. In addition to direct antiviral activity, HCQ is a safe an...
3/17	Early	<i>Gautret et al., I...</i>	viral+, ↓66.0%, p=...	Hydroxychloroquine and azithromycin as a tr... HCQ was significantly associated with reduction / elimination of viral load, which was enhanced w...
3/17	N/A	<i>Sahraei et al., I...</i>	review	Aminoquinolines against coronavirus diseas... Discussion of mechanisms of action, CQ vs. HCQ, early studies, safety.
3/13	N/A	<i>Todaro and Ri...</i>	review	An Effective Treatment for Coronavirus (COV... Discussion of existing research, treatment guidelines, and mechanisms of action for CQ and HCQ, ...
3/12	Theo...	<i>Devaux et al., I...</i>	theory	New insights on the antiviral effects of chlor... Discusses mechanisms of CQ interference with the SARS-CoV-2 replication cycle.
3/10	N/A	<i>Cortegiani et a...</i>	meta-analysis	A Systematic Review on the Efficacy and Saf... Review of six articles and 23 ongoing clinical trials in China recommending research and clinical u...
3/9	In Vit...	<i>Yao et al., Clin. ...</i>	in vitro	In Vitro Antiviral Activity and Projection of Op... HCQ is more potent than CQ <i>in vitro</i> for inhibiting SARS-CoV-2. Simulates HCQ concentration in lu...
3/6	Late	<i>Chen et al., J. ...</i>	progression, ↓29....	A pilot study of hydroxychloroquine in treatm... 30 moderate hospitalized cases, all recovered. Time to RNA negative comparable. Less frequent r...
3/4	Late	<i>Colson et al., I...</i>	review	Chloroquine and Hydroxychloroquine as Avai... Recommending CQ and HCQ for COVID-19 based on 20 clinical studies in China and a strong ratio...
2/20	Late	<i>Jiang et al., Chin. J. Tuberc. Respir. Di...</i>		Expert Consensus on Chloroquine Phosphat... Early trials in China show CQ results in shorter hospital stays and improved patient outcomes.

2/19	Late	<i>Gao et al., BioScience Trends, 2020, d...</i>		Breakthrough: Chloroquine phosphate has s... Results from 15 clinical trials in China showing CQ is effective.
2/17	Late	<i>Sun, Y., deputy ...</i>	news	Antimalarial drug confirmed effective on CO... HCQ under clinical trials in >10 hospitals in China and has shown fairly good efficacy.
2/11	Late	<i>Xia et al., ChiC...</i>	viral+, ↓37.5%, p=...	Efficacy of Chloroquine and Lopinavir/ Riton... Early results from a very small trial, reported within the application for a later trial. Very minimal de...
2/4	In Vit...	<i>Wang et al., Ce...</i>	in vitro	Remdesivir and chloroquine effectively inhibi... <i>In vitro</i> study, not included in the study count or percentages. Remdesivir and CQ potently blocked ...
2017	N/A	<i>Chhonker et al....</i>	dosing study	Simultaneous quantitation of hydroxychloro... Presents a method for quantification of HCQ in mouse blood and tissues. They show a lung conce...
2014	Anim...	<i>Browning, D., P...</i>	animal study	Pharmacology of Chloroquine and Hydroxyc... Review of the pharmacology of CQ and HCQ. Some notable points: - HCQ and CQ are equipotent b...
2014	In Vit...	<i>de Wilde et al., ...</i>	in vitro	Screening of an FDA-Approved Compound Li... CQ inhibits SARS-CoV, MERS-CoV, and HCoV-229E-GFP replication in the low-micromolar range.
2012	Anim...	<i>Yan et al., Cell ...</i>	animal study	Anti-malaria drug chloroquine is highly effect... CQ, a known autophagy inhibitor that is in clinical use, can efficiently ameliorate acute lung injury a...
2009	Anim...	<i>Keyaerts et al.,...</i>	animal study	Antiviral Activity of Chloroquine against Hum... CQ inhibits HCoV-OC43 replication in HRT-18 cells. A lethal HCoV-OC43 infection in newborn C57B...
2008	In Vit...	<i>Kono et al., Ant...</i>	in vitro	Inhibition of human coronavirus 229E infecti... CQ significantly decreased viral replication of HCoV-229E at concentrations lower than in clinical u...
2006	In Vit...	<i>Savarino et al.,...</i>	in vitro	New insights into the antiviral effects of chlo... Update to 2003 paper, not included in the study count or percentages. Hypothesis of CQ inhibiting ...
2005	In Vit...	<i>Vincent et al., ...</i>	in vitro	Chloroquine is a potent inhibitor of SARS cor... <i>In vitro</i> study, SARS-CoV-1, not included in the study count or percentages. CQ has strong antiviral ...
2004	In Vit...	<i>Keyaerts et al.,...</i>	in vitro	In vitro inhibition of severe acute respiratory ... <i>In vitro</i> study, SARS-CoV-1, not included in the study count or percentages. IC50 of CQ for antiviral ...
2003	Theo...	<i>Savarino et al.,...</i>	theory	Effects of chloroquine on viral infections: an ... Not included in the study count or percentages. Discussion/review noting that CQ exerts antiviral ...

1918	N/A	<i>Burrows, E., Medical Record, 97:6, 235,...</i>		A confirmatory report upon the abortive acti... Quinine was found to be effective for the Spanish Flu in 1918.
1901	N/A	<i>Yeo, B., 1901 (Peer Reviewed) (not incl...</i>		A manual of medical treatment or clinical th... Quinine is referred to as "the remedy that is most deserving of confidence in the treatment of influe...
1894	Anim...	<i>Mossé, Lancet,...</i>	animal study	Pathogenesis and Treatment of Influenza Lancet study showing quinine protected rabbits from influenza and recommending use for prophy...
1890	N/A	<i>Le Grelot (New...</i>	news	Quinine use for the Russian influenza pande... Quinine and antipyrine, a bitherapy for defying death during the Russian influenza pandemic of 18...
1889	N/A	<i>Edwin Wiley Gr...</i>	news	Laxative Bromo Quinine Quinine has been used for respiratory infections since 1889. Not included in the study count or per...

For search methods, inclusion criteria, effect extraction criteria (more serious outcomes have priority), PRISMA answers, and statistical methods see [hcqmeta.com](https://c19hcq.com). In Vitro, Ex Vivo, Meta, Theory, Safety, Review, News, and Retracted items are not included in the study count. There is a total of 388 items. Studies with preprints and journal versions are listed under the earlier preprint date.