

Global HCQ/CQ studies

December 18, 2020

@CovidAnalysis

Early treatment

↓65%

100% of studies report positive effects.
65% improvement from meta analysis,
p<0.0001.

206 HCQ studies
140 peer reviewed

Late treatment

↓27%

78% of studies report positive effects.

Early treatment shows
high efficacy

12/16

Early,... Covid Analysis... meta-analysis HCQ is effective for COVID-19 when used ea...
• HCQ is effective for COVID-19. The probability that an ineffective treatment generated results as ...

12/16

Late Signes-Costa ... 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...

12/14

Late Orioli et al., Dia... 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 Naseem et al., ... 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 Tan et al., Viru... 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 Bielza et al., Jo... 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 Sogut et al., Th... 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 Jung et al., Cli... 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	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	Rodriguez-Gon...	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	van Halem et a...	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	Abbas et al., Int. J. Clin. Pract., doi:10...	Assessment of COVID-19 Treatment contain... Prospective study of 161 hospitalized patients in Iraq showing HCQ+AZ appears to help recovery. ...
11/23	Late	Qin et al., Thro...	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	Revollo et al., J...	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	Omrani et al., E...	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	Falcone et al., ...	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	Budhiraja et al...	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	Boari et al, Bio...	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	Sheshah et al., ...	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	Simova et al., ...	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	Simova et al., ...	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	Tchounga et al...	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	Águila-Gordo e...	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	Khamis et al., International Journal of ...		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	Self et al., JAM...	death, ↓7.0%, 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	Brown et al., Annals of the American T...		Hydroxychloroquine vs. Azithromycin for Ho... Small early terminated very late stage (86% on oxygen, 44% enrolled in the ICU) RCT comparing HCQ v
11/9	Late	Núñez-Gil et al...	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	Mathai et al., J...	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	Datta et al., Journal of Vaccines & Vac...		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	Dhibar et al., In...	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	Maldonado et ...	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	Rodriguez-Nav...	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	Early	Cadegiani et al...	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	Behera et al., ...	cases, ↓27.9%, p=...	Role of ivermectin in the prevention of COVI... Retrospective prophylaxis study for HCQ, ivermectin, and vitamin C with 372 healthcare workers, s...
11/2	Late	López et al., A...	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	Fonseca et al., ...	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., m...</i>	death, ↓46.0%, p...	A placebo-controlled double blind trial of hyd... 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>DISCOVERY Tri...</i>	death, ↓ 31.1% , p=...	DISCOVERY Trial Preliminary Results Early terminated DISCOVERY trial shows improvements in mortality and day 29 7-point ordinal sca...
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>Nachege 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% , p=...	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., I...</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...	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., Resea...</i>	meta-analysis	Hydroxychloroquine as Post-Exposure Proph... Reanalysis of Boulware et al. PEP trial data showing statistically significant improvements with HCQ.
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>Shoaibi 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, ↓86.7%, p...	Long-term hydroxychloroquine use in patient... Retrospective patients with rheumatologic conditions showing zero mortality with HCQ, odds ratio...
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., m...</i>	meta-analysis	Mortality outcomes with hydroxychloroquine... Meta analysis assigning 87% weight to the RECOVERY trial, producing the same result. The RECO...
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% , p<...	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, ↓ 25.6% , p=...	Characteristics and outcomes of admitted p... Prospective 56 patients in Uganda, 29 HCQ and 27 control, showing 25.6% faster recovery with HCQ, $p = 0.001$
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... <i>In Vitro</i> 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 ...
8/29	Late	<i>Castillo et al., Journal of Steroid Bioch...</i>		Effect of calcifediol treatment and best avail... RCT on calcifediol (25-hydroxyvitamin D) treatment for hospitalized COVID-19 patients showing si...
8/28	Late	<i>Fried et al., Cli...</i>	death, ↑27.0%, p<...	Patient Characteristics and Outcomes of 11,... Database analysis of 11,721 hospitalized patients, 4,232 on HCQ. Strong evidence for confoundin...
8/27	PrEP	<i>Ferri at al., Clin...</i>	cases, ↓63.0%, p<...	COVID-19 and rheumatic autoimmune syste... Analysis of 1641 systemic autoimmune disease patients showing csDMARD (HCQ etc.) RR 0.37, p<...
8/26	Late	<i>Fiolet et al., Cli...</i>	meta-analysis	Effect of hydroxychloroquine with or without ... Meta analysis of late stage studies (and one early treatment study with only 2 deaths), showing HCQ F
8/25	Early	<i>Ip et al., medR...</i>	hosp., ↓45.9%, p=...	Hydroxychloroquine in the treatment of outp... Retrospective 1,274 outpatients, 47% reduction in hospitalization with HCQ with propensity matchi...
8/25	Late	<i>Di Castelnuov...</i>	death, ↓30.0%, p<...	Use of hydroxychloroquine in hospitalised C... Retrospective 3,451 hospitalized patients, 30% reduction in mortality with HCQ after propensity ad...
8/24	Late	<i>Catteau et al., I...</i>	death, ↓32.0%, p<...	Low-dose Hydroxychloroquine Therapy and ... Retrospective 8,075 hospitalized patients, 4,542 low-dose HCQ, 3,533 control. 35% lower mortality...
8/21	Early	<i>Ly et al., Intern...</i>	death, ↓55.6%, p<...	Pattern of SARS-CoV-2 infection among dep... Retrospective analysis of retirement homes, HCQ+AZ >= 3 days mortality OR 0.37, p=0.02. 1690 el...
8/21	N/A	<i>Lane et al., The...</i>	safety analysis	Risk of hydroxychloroquine alone and in co... Retrospective study of RA patients using HCQ vs. sulfasalazine (another DMARD). HCQ treatment ...
8/21	Late	<i>Gonzalez et al....</i>	death, ↓26.6%, p<...	The Prognostic Value of Eosinophil Recovery... Retrospective study focused on eosinophil recovery with 9,644 hospitalized patients in Spain, sho...
8/20	Late	<i>Dubernet et al.,...</i>	ICU, ↓87.6%, p=0....	A comprehensive strategy for the early treat... Retrospective analysis of 36 hospitalized patients showing HCQ/AZ associated with lower ICU ad...
8/20	Early	<i>Prodromos, C.,...</i>	safety analysis	Hydroxychloroquine is protective to the hear...

			Review concluding that HCQ/AZ does not cause Torsade de Pointes or related deaths, HCQ decre...
8/18	Late	<i>Pinato et al., C...</i>	death, ↓59.0%, p<... Clinical portrait of the SARS-CoV-2 epidemic ... Restrospective 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-El salam 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 HCQ (
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	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	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., Science China Life Sciences, ...</i>		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>Davidoff 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...		
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, ↓32.0%, 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>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., Research Square, doi:1...</i>		Prevalence and clinical features of COVID-19...
		Retrospective 199 sarcoidosis patients showing 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 foun...
7/16	Early	<i>Skipper et al., ...</i>	no recov., ↓20.0%...	Hydroxychloroquine in Nonhospitalized Adul... ~70 to 140 hour (inc. shipping) delayed outpatient treatment with HCQ reduced combined hospita...
7/16	Early	<i>Mitjà et al., Cli...</i>	hosp., ↓25.0%, p=...	Hydroxychloroquine for Early Treatment of A... This paper has inconsistent data - some of the values reported in Table 2 and the abstract corresp...
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 ...
7/14	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., Research Square, do...</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., me...</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 Lopinivir 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 al...</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 treate... 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	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 treate...
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 ass...
				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 po...
				Shows a correlation (Spearman test, $p = 0.017$) between the amount received from Gilead Science...
6/6	Early,...	<i>Million et al., N...</i>	meta-analysis	Clinical Efficacy of Chloroquine derivatives in...
				[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...
				RECOVERY trial finds no significant benefit for very late stage very sick patients. Results may be d...
6/3	PEP	<i>Boulware et al...</i>	cases, ↓17.0%, p...	A Randomized Trial of Hydroxychloroquine a...
				COVID-19 cases are reduced by [49%, 29%, 16%] respectively when taken within ~[70, 94, 118] hou...
6/1	N/A	<i>Al-Kofahi et al.,...</i>	dosing study	Finding the Dose for Hydroxychloroquine Pro...

	Analysis of HCQ dosing regimens, recommending: PrEP: 800mg loading dose followed by 400mg ...		
5/31	Early	<i>Guérin et al., A...</i>	death, ↓61.4%, p... Azithromycin and Hydroxychloroquine Accel... 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 Pneumo... 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 i... 4+ doses of HCQ associated with a significant decline in the odds of getting infected, dose-respon...
5/28	Late	<i>Huang et al., N...</i>	viral- time, ↓67.0... Preliminary evidence from a multicenter pro... 197 CQ patients, 176 control. Mean time to undetectable viral RNA and duration of fever significan...
5/27	Late	<i>Goldman et al.,...</i>	death, ↓22.3%, p... Remdesivir for 5 or 10 Days in Patients with ... Study focused on remdesivir but with results for HCQ in the supplementary appendix, showing 9% ...
5/28	Late	<i>Kuderer et al., ...</i>	death, ↑134.2%, ... Clinical impact of COVID-19 on patients with... 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 hospitalisati... Analysis of rheumatic disease patients showing no significant association between antimalarial th...
5/27	Early	<i>Risch, America...</i>	meta-analysis Early Outpatient Treatment of Symptomatic, ... Five studies, including two controlled clinical trials, have demonstrated significant outpatient treat...
5/25	Late	<i>Ip et al., medR...</i>	death, ↓1.0%, $p = ...$ Hydroxychloroquine and Tocilizumab Therap... Retrospective study of late stage use on 2,512 hospitalized patients showing no significant differe...
5/22	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	Macias et al., ...	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	Yu et al., Scien...	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	Mahévas et al.,...	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	Okour et al., Journal of Pharmacokinet...		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	Cassione et al. ...	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	Shabrawishi et...	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	Rosenberg et ...	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	Alberici et al., ...	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...	Grassin-Delyle ...	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	Carlucci et al., J. Med. Microbiol., Sep ...		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	Konig et al., An...	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...	Derendorf, H., 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	Geleris et al., N...	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...
5/1	N/A	<i>Mercuro 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>Bessière 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 ...
4/25	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	Early	<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 et 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 CQ,
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, ↓57.0%	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>	<i>in vitro</i>	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>	<i>in vitro</i>	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	N/A	<i>Yao et al., Clin. ...</i>	<i>in vitro</i>	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>	<i>in vitro</i>	Remdesivir and chloroquine effectively inhibi... <i>In vitro</i> study, not included in the study count or percentages. Remdesivir and CQ potentially 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 Hydroxychlor... 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>	<i>in vitro</i>	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>	<i>in vitro</i>	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>	<i>in vitro</i>	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>	<i>in vitro</i>	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>	<i>in vitro</i>	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.
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...