

Table S1. The top 25 prescribed medications.

Medication Name	Number of patients (N)	Prevalence (%)
Cholecalciferol	6,776	54%
ASA	5,283	42%
Atorvastatin	4,135	33%
Acetaminophen	3,507	28%
Amlodipine	3,231	26%
Docusate sodium	3,217	25%
Metoprolol	3,062	24%
Lisinopril	2,847	22%
Gabapentin	2,810	22%
Thyroxine	2,642	21%
Furosemide	2,629	21%
Pantoprazole	2,402	19%
Sennosides	2,396	19%
Metformin	2,263	18%
Vitamin B12	1,811	14%
Fluticasone	1,727	13%
Losartan	1,726	13%
Calcium carbonate	1,709	13%
Melatonin	1,591	12%
Sertraline	1,583	12%
Potassium chloride	1,521	12%
Trazodone	1,479	11%
Famotidine	1,422	11%
Omeprazole	1,395	11%
Hydrochlorothiazide	1,359	10%

Table S2. The most common diseases.

Disease name category	ICD10 code	Number of patients (N)	Prevalence (%)
Essential hypertension	I10	4567	36%
Hyperlipidemia	E78	4200	34%
Pain (acute pain due to trauma; other chronic pain; chronic pain syndrome; unspecified; pain hip or knee)	G89, R52, M25	4178	33%
Vitamin D deficiency	E55	3778	30%
Constipation (slow transit constipation; drug induced constipation)	K59	3759	30%
Type 2 diabetes mellitus (T2D; T2D with diabetic nephropathy; T2D with hyperglycemia; T2D with other specified complication; T2D with unspecified complications)	E11	3549	28%
Gastro-esophageal reflux disease (GERD)	K21	2942	23%
Depression (major depressive disorder, recurrent, moderate; recurrent severe without psychotic features; recurrent, in full remission; single episode, moderate; single episode, severe with psychotic features; single episode, in partial remission; single episode unspecified)	F33, F32	2405	19%
Rhinitis (vasomotor rhinitis; other seasonal allergic rhinitis)	J30	2036	16%
Chronic obstructive pulmonary disease (COPD) (with exacerbation; unspecified)	J44	1800	14%
Insomnia	G47	1587	12%
Hypothyroidism	E03	1521	12%
Anxiety (panic disorder; episodic paroxysmal anxiety; generalized anxiety disorder)	F41	1365	11%
Dry eye syndrome	H04	1361	10%
Coronary heart disease (atherosclerotic heart disease of coronary artery without angina pectoris; ischemic cardiomyopathy; atherosclerosis of coronary artery bypass graft(s) without angina pectoris; chronic total occlusion of coronary artery; chronic ischemic heart disease, unspecified)	I25	1328	10%
Heart failure (left ventricular failure, unspecified; chronic systolic congestive heart failure; combined systolic congestive and diastolic congestive heart failure)	I50	1141	9%
Radiculopathy (site unspecified; thoracic region; low back pain; other dorsalgia)	M54	1001	8%
Atrial fibrillation	I48	986	8%
Glaucoma	H40	982	8%
Osteoporosis (age-related without current pathological fracture)	M81	912	7%
Asthma	J45	785	6%
Benign prostatic hyperplasia	N40	767	6%

Table S3. Concomitant CYP2C8 interacting drugs including CYP2C8 inhibitors, CYP2C8 inducers and potential interacting CYP2C8 competitive substrates with HCQ or CQ.

CYP2C8 drug names	Number of patients, N (%)
Ibuprofen	224 (1.8%)
Loperamide	154 (1.2%)
Trimethoprim	138 (1.1%)
Pioglitazone	109 (0.9%)
Primidone	102 (0.8%)
Repaglinide	43 (0.4%)
Phenobarbital	35 (0.3%)
Gemfibrozil	32 (0.3%)
Teriflunomide	5 (0.3%)
Zafirlukast	5 (0.04%)
Abiraterone	3 (0.02%)
Rifampicin	1 (0.01%)

Table S4. The medication risk factor scores for each factor for the population under study at baseline and following the addition of COVID-19 repurposed drugs.

Drug Name	Mean (SD)	Median	<i>p</i> -values *
FDA Adverse Event Reporting System (FAERS) score [†]			
Baseline	3.3 (0.9)	3	
HCQ	3.5 (0.8)	4	<0.0001
HCQ + AZ	3.6 (0.7)	4	<0.0001
CQ	3.5 (0.8)	4	<0.0001
CQ + AZ	3.7 (0.7)	4	<0.0001
LPV/r	3.7 (0.7)	4	<0.0001
CYP450 drug interaction burden score			
Baseline	4.5 (3.2)	5	
HCQ	6.1 (2.9)	6	<0.0001
HCQ + AZ	6.1 (2.9)	6	<0.0001
CQ	5.5 (3.2)	5	<0.0001
CQ + AZ	5.5 (3.2)	5	<0.0001
LPV/r	9.6 (3.2)	10	<0.0001
Anticholinergic burden score			
Baseline	2.0 (1.8)	1	
HCQ	2.0 (1.8)	1	0.97
HCQ + AZ	2.0 (1.8)	1	0.97
CQ	2.0 (1.8)	1	0.97
CQ + AZ	2.0 (1.8)	1	0.97
LPV/r	2.0 (1.8)	1	0.97
Sedative burden score			
Baseline	2.8 (1.3)	3	
HCQ	2.8 (1.3)	3	0.94
HCQ + AZ	2.8 (1.3)	3	0.94
CQ	2.8 (1.3)	3	0.94
CQ + AZ	2.8 (1.3)	3	0.94
LPV/r	2.8 (1.3)	3	0.94
LQTS score			

Baseline	1.7 (2.5)	0	
HCQ	2.8 (3.0)	2	<0.0001
HCQ + AZ	4.4 (3.0)	7	<0.0001
CQ	2.8 (3.0)	2	<0.0001
CQ + AZ	4.4 (2.9)	7	<0.0001
LPV/r	3.0 (3.0)	2	<0.0001
Fexofenadine	1.7 (2.5)	0	1.0
Terfenadine	3.1 (3.0)	2	<0.0001
Terfenadine + AZ	4.5 (2.9)	7	<0.0001

* *p*-values. Wilcoxon signed-rank test analysis was used to compare composite individual risk score before and after addition of repurposed drugs for each participant. † The FAERS score uses the FDA Adverse Event Reporting System to compute risk of adverse drug events (ADE) which is based on computation of a drug regimen relative odds ratio for ADE using the FDA pharmacovigilance database. AZ, azithromycin; CQ, chloroquine; HCQ, hydroxychloroquine; LPV/r, lopinavir boosted with ritonavir; MRSTM, medication risk score; SD, standard deviation.