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## Hospital Readmissions and Emergency Department Re-presentation of COVID-19 Patients- A Systematic Review

### Supplementary File

#### Supplemental Table A1. Literature search strategy

<p><b>Pubmed</b></p> <p>(((((((patient readmission[MeSH Terms]) OR (readmission[Title/Abstract])) OR (re-admission[Title/Abstract])) OR (readmit[Title/Abstract])) OR (readmitted[Title/Abstract])) OR (re-admit*[Title/Abstract])) OR (re-hospitali*[Title/Abstract])) OR (rehospitali*[Title/Abstract])) AND (((((coronavirus[Title/Abstract]) OR (COVID-19[Title/Abstract])) OR (COVID19[Title/Abstract])) OR (SARS-CoV-2[Title/Abstract])) OR (severe acute respiratory virus[Title/Abstract]))</p> <p>Years- 2020-2021      <b>#208</b></p>
<p><b>Embase – 04-20-2021</b></p> <p>('coronavirus disease 2019':ti,ab,kw OR 'sars cov 2':ti,ab,kw OR 'severe acute respiratory syndrome coronavirus 2':ti,ab,kw) AND ('hospital readmission':ti,ab,kw OR readmission:ti,ab,kw OR rehospitali*:ti,ab,kw OR 're hospitali*':ti,ab,kw OR 're admit*':ti,ab,kw OR readmitted:ti,ab,kw OR readmit:ti,ab,kw OR 're admission':ti,ab,kw)      <b># 141</b></p>
<p><b>LILACS- 04-272021-</b> (((("2019-2020" OR 2019 OR da:202*)) ("New Coronavirus" OR "Novel Coronavirus" OR "Nuevo Coronavirus" OR "Novo Coronavirus" OR "Coronavirus disease" OR "Enfermedad por Coronavirus" OR "severe acute respiratory syndrome coronavirus 2")) OR ((2019-ncov) OR (ncov 2019) OR 2019ncov OR covid19 OR (covid-19) OR covid2019 OR (covid-2019) OR (covid 2019)) OR ((srag-cov-2 OR sars-cov-2 OR sars2 OR (sars 2) OR (sars cov 2) OR cov19 OR cov2019 OR coronavirus* OR "Severe Acute Respiratory Infections" OR "Severe Acute Respiratory Infection" OR "Coronavirus 2" OR "acute respiratory disease" OR mh:betacoronavirus OR mh:"Coronavirus infections" OR mh:"sars virus")) AND (tw:2019 OR da:202*)) AND NOT da:201*) OR (wuhan market virus) OR (virus mercado wuhan) OR "Wuhan</p>



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**Supplemental Table A4. Study characteristics of the included studies**

Source	Country/State-Province	Total HF*	Tertiary/academic HF*	Study type	Index inpatient duration	Sample size	Study group
Teigell et al./2021(1)	Spain/ Madrid	1	1	Prospective cohort	March-Apr	314	ED discharge
Hernández-Biette et al./2020(2)	Spain/ Barcelona	1	1	Prospective cohort	March-April	74	ED discharge+ nonsevere
Kilaru et al./2020(3)	USA/ PA, NJ	5	NR	Retrospective cohort	March-May	1419	ED discharge+72hr readmission
López-Barbeito et al./2020(4)	Spain/ Barcelona	1	1	Retrospective observational study	March-April	925	ED discharge
Lanham et al. / 2021(5)	UK/London	1	1	Prospective Cohort	April	199	ED discharge

Suleyman et al./2020(6)	USA/ MI	5	5?	Retrospective review	March	262	Inpatient
Leijte et al./2020(7)	Netherland/ Heerlen	1	1	Retrospective	March- June	596	inpatient
Wang et al./2020(8)	China/ Wuhan	1	1	Prospective cohort	February	131	Inpatient
Ye et al./2021(9)	USA/ NY	1	1	Retrospective Case series	March- April	409	Inpatient
Saab et al./2021(10)	USA/ CA	1	1	Retrospective chart review	March- May	99	Inpatient
Atalla et al./2020(11)	USA/ RI	2	2	Retrospective review	March- April	279	Inpatient
Donnelly et al./2021(12)	USA/ National	132	NR	Retrospective	March - July	1775	Inpatient
Samuels et al./2021(13)	USA/ FL	Hospital system	NA	Retrospective	March- May	NR	Inpatient
Chaudhry et al./2021(14)	UK/ London	1	1	Retrospective	December	196	Inpatient
McCarthy et al./2020(15)	USA/ NE	3	3	Retrospective Case series	March	213	Inpatient
Richardson et al./2020(16)	USA/ NY	12/Health system	NA	Retrospective Case series	March-Apr	2081	Inpatient
Loerinc et al./2021(17)	USA/ GA	1	1	Retrospective Chart review	March- April	310	Inpatient
Patel et al./2021(18)	UK/ London	2	0	Retrospective cohort	NR (first wave)	109	Inpatient
Somani et al./2020(19)	USA/ NY	5	NA	Retrospective cohort	Feb-April	2864	Inpatient

Verma et al./2021(20)	Canada/ Toronto, Ontario, Mississauga	7	5	Retrospective cohort	Nov 2019- June 2020	823	Inpatient
Ayoubkhani et al./2021(21)	UK/ National	NA	NA	Retrospective cohort	Jan- August 2020	47780	Inpatient
Monday et al./2020(22)	USA/ MI	1	NR	Retrospective observational	March- April	57	inpatient
Yeo et al./2021(23)	USA/ NY	1	1	Retrospective observational	March- April	1062	Inpatient
Patel et al./2021(24)	USA/ CO	Hospital system/12	NA	Retrospective Observational	Apr-June	422	Inpatient
Islam et al./2021(25)	UK/ Oxfordshire	>1	NR	Retrospective report	March- July	403	Inpatient
Lavery et al./2020(26)	USA/ National	865	NA	Retrospective report	March- July	106543	Inpatient+readmitted within 2months
Parra et al./2020(27)	Spain/ Madrid	1	1	Retrospective nested Case-control	Feb-April	1368	Inpatient+readmitted within 3weeks for COVID related
Jeon et al./2020(28)	Korea/National	NA	NA	Retrospective	till May	7590	Inpatient (7157) +ambulatory care (433)
Gunster et al./ 2021(29)	Germany/ National	NA	NA	Retrospective	Feb-April	6235	Inpatient
Swift et al./ 2021(30)	UK. Leicester	1	1	Prospective	November	65	Inpatient + virtual ward
Anesi et al./2021(31)	USA/ PA	Hospital System/5	NA	Retrospective cohort	March- May	250	Inpatient critical
Niu et al./2020(32)	USA/ FL	Health system	NA	Retrospective	March- May	64	Inpatient critical

Uyaroğlu et al./2021(33)	Turkey/ Ankara	1	1	Prospective Observational	March- April	154	Inpatient+ mild (20·1%), moderate (79·8%)
Louie et al./2021(34)	Australia/Sydney	1	1	Retrospective Case-series	March- May	19	Inpatient+community monitoring
Banerjee et al./2021(35)	USA/ CA	2	2	Retrospective Cohort	March- August	621	Inpatient+ED+home oxygen+homecare
Bowles et al./2021(36)	USA/ NY	64	NA	Retrospective cohort	April-June	1409	Inpatient+HHC
van Herwerden et al./2021(37)	Netherland/ Rotterdam	1	1	Retrospective Cohort	June- November	49	Inpatient+home oxygen
Rokadiya et al./2020(38)	UK/ London	1	0	Retrospective review	march- April	391	Inpatient+home referral care
Gordon et al./2020(39)	USA/ MA	5	2?	Retrospective analysis	April-June	225	Inpatient+remote program
Maghrabi et al./2021(40)	UK/ Manchester	1	NR	Retrospective report?	NR	300	Inpatient+virtual ward
Li et al./2020(41)	China/Chengdu	1	0	Retrospective review	Apr-May	105	Readmitted
Durmus et al./2020(42)	Turkey/ Sakarya	1	1	Retrospective	March- May	60	Readmitted
Cao et al./2020(43)	China/Wuhan	1	1	Retrospective review	Feb-April	8	Readmitted
Chen et al./2020(44)	China/ Hubei	1	1	Retrospective review	March	11	Readmitted

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**Supplemental Table A5. Type of care during index admission and following readmission.**

	Type of care at index hospitalization in readmitted patients	Type of care at readmission
UyaroĖlu et al./2021 <sup>17</sup>	HCQ+AZT 81·1%, FAV 9·1%	Mild 18·1%, Moderate 81·9%, HCQ+AZT 9% (1/11), FVP
Atalla et al./2020 <sup>25</sup>	ICU 10·5%, O <sub>2</sub> 42·1%, HCQ+AZT 21%, AZT 5·2%, Remdesivir 10·5%, increased d-dimers 36·3%, lower ICU utilization (p=0·032), intubation rate (p=0·03)	ICU 31·6%, MV 15·8%, O <sub>2</sub> 36·8%, HCQ 5·2%, HCQ/AZT 5·2%, convalescent plasma 5·2%, increased d-dimers 42·1%
Chaudhry et al./2021 <sup>22</sup>	Corticosteroids (dexamethasone) 55%. 10 patients received 1-3 days of corticosteroids.	O <sub>2</sub> 85%, corticosteroids 85%, respiratory support 30%
Somani et al./2020 <sup>27</sup>	NA	ICU 10·7%
Parra et al./2020 <sup>26</sup>	Pneumonia 86·9%, ICU 4·9%	ICU 4·9%
Yeo et al./2021 <sup>24</sup>	HCQ 83·3%, Tocilizumab 4·2%	NA

ICU=intensive care unit, HCQ=hydroxychloroquine, AZT=azithromycin, MV=mechanical ventilation, NA=not applicable, O<sub>2</sub>=oxygen

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**Supplemental Table A6: Factors and reasons for readmission in long-term studies and studies not reporting a study follow-up time.**

	Factors associated with readmissions			Reasons for readmission
	Clinical	Operational	Sociodemographic	
Islam et al./ 2021 <sup>30</sup>	NA	NA	Females vs males (ratio 2·25 (95% CI: 1·05-4·18)), 65 yrs vs < 65 yrs (ratio 2·21 (1·45-3·56))	NA
Lavery et al./ 2020 <sup>18</sup>	COPD (OR = 1·4), HF (OR = 1·6), Diabetes (OR = 1·2), and CKD (OR = 1·6).	Previous hospitalization 3 months preceding index (2·6)	SNF (OR = 1·4) or home health organization support (OR = 1·3). Non-Hispanic White, age ≥65 years,	NA
Leijte et al./ 2020 <sup>33</sup>	COPD (OR: 2·2; 95% CI: 1·2-4·0),		Male (OR: 1·9; 95% CI: 1·1-3·3), discharge to a nursing home or rehabilitation facility	Respiratory insufficiency 31%, AT 12%, venous thrombosis 4%, bacterial infections 10%, chronic illness 14%

Bowles et al./ 2021 <sup>34</sup>	Diabetes with complications (HR, 1·71), HF (HR, 2·12)	2 or more ED visits in the past 6 months (HR, 1·78)	Male (HR, 1·45); White patients (HR, 1·74, pain daily or all the time (HR, 1·46), cognitive impairment (HR, 1·49), functional dependencies (HR, 1·09).	NA
van Herwerden et al./ 2021 <sup>41</sup>	Fever on discharge (p=0·01), lower saturation on discharge (p=0·02)	NA	NA	NA
Donnelly et al./ 2021 <sup>21</sup>	NA	NA	NA	COVID-19 30·2%, sepsis 8·5%, pneumonia 3·1%, HF 3·1%.
Gunster et al./ 2021 <sup>19</sup>	IMV	NA	Male	COVID related 60·6%
Ayoubkhani et al./ 2021 <sup>7</sup>	NA	NA	NA	Respiratory 100% (new onset 21·5% (6085/14140))
Durmus et al./2020 <sup>40*</sup>	NA	NA	NA	Positive PCR 100%
Chen et al./2020 <sup>42*</sup>	NA	NA	NA	Cough 54·6%, fever 27·3%, feeble 27·3%
Li et al./2020 <sup>38*</sup>	NA	NA	NA	Positive PCR
Cao et al./2020 <sup>39*</sup>	NA	NA	NA	PCR positive 100%, no other symptoms,
Samuels et al. / 2021 <sup>43*</sup>	Immunosuppressant use (OR=9·57; p=0·034)	NA	Age (OR = 1·05; p= 0·010), Hispanic (OR=7·23; p=0·017).	NA
Jeon et al./ 2020 <sup>20*</sup>	HTN, Diabetes, dementia, Parkinson's disease, higher CCI score. Kaletra use (OR: 1·388), <b>CT-chest</b> (OR: 1·591), CT taken (OR: 1·330, 95% CI: 1·031–1·717), <b>HCQ had a lower readmission rate.</b>	short LOS (OR: 0·945)	Male (OR: 1·34), 65 and older (OR: 2·235), having medical benefits (OR:2·757)	NA
Rokadiya et al./2020 <sup>44*</sup>	NA	NA	NA	Dyspnea 56%. Median oxygen saturations (SpO2) on re-admission 90·5%, and 82% in the dyspnea sub-group.
Louie et al./2021 <sup>32*</sup>	NA	NA	NA	Tachycardia 33·3% (1/3), increasing dyspnea 33·3% (1/3), severe HTN 33·3% (1/3)
Loerinc et al./2021 <sup>37*</sup>	NA	NA	NA	COVID-related 68·8%, worsening pneumonia or bacterial superinfection 1·3%. PE 0·3%, Pneumonia 1·3%, Sepsis 1%, Subjective dyspnea 0·6%, Pleurisy 0·6%
McCarthy et al./2020 <sup>36*</sup>	NA	NA	NA	Persistent COVID-19 18·2%, pneumonia 3·6%, PE 9·1%



Maghrabi et al./2021 <sup>35*</sup>	NA	NA	NA	RF 10·7%, increasing O2 requirement 17·8%, PE 28·5%, other 42·8%
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\*Studies not reporting the duration of follow-up of COVID-19 survivors from discharge to readmissions.

RF=respiratory failure, PE=pulmonary emboli, VTE=venous thromboembolism, PTE=pulmonary thromboembolism, HF=heart failure, AKF=acute kidney failure, CKD=chronic kidney disease, HTN=hypertension, AZT=azithromycin, HCQ=hydroxychloroquine, CCI=Charlson comorbidity index, IMV=invasive mechanical ventilation, NA=not applicable, PCR, polymerase chain reaction

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**Supplemental TableA7: Type of care and therapeutics used in index hospitalization of readmitted patients and during their readmission.**

Source	Type of care in index admission in readmitted patients	Type of care in readmitted patients
Donnelly et al./2021(12)	ICU 23·7%, MV 5·1%, Vasopressor 6·7%	ICU 22·6%, MV 7·1%, vasopressor 7·9%
van Herwerden et al./2021(37)		ICU for bacterial superinfection 16·7%
Niu et al./2020(32)		ICU 14%
Louie et al./2021(34)		Treatment for mild (66·7%) or severe (33·3%) symptoms
Rokadiya et al./2020(38)		ICU 8%
Loerinc et al./2021(17)	Antibiotics 7%, New O2 68·8%, HCQ 43·8%, Remdesivir 6·3%, ICU 12·5%, Intubation 18·8%, Sepsis 12·5%, Renal electrolyte abnormalities 25%, AKI 37·5%	MV 6·2%
Cao et al./2020(43)	Treatment for moderate (75%) or severe (25%) symptoms	Antiviral treatment, Chinese herbs, and thymopeptides

ICU: intensive care unit, MV: mechanical ventilation, HCQ: hydroxychloroquine

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**Supplemental Table A8: Outcomes of COVID-19 patients discharged from an index ED visit.**

	Country	Sample size	ED representation	Reason for ED representation	Inpatient admission	Risk factors/ Reasons for admission
Lanham et al. / 2021 <sup>16</sup>	UK	199	22%	NA	6%	NA
Hernández-Biette et al./ 2020 <sup>14</sup>	Spain	74	26%	NA	23%	< 6 days from symptom onset and first ED visit
Teigell et al./2021 <sup>15</sup>	Spain	314	19.7%	50% medical criteria	6.40%	HTN (OR 4.99), >38 °C in ED (OR 9.03), leukopenia (OR 4.92), increased LDH (OR 6.62)
Kilaru et al./2020 <sup>46</sup>	USA	1419	3.9%	NA	4.70%	Hypoxia (aOR 2.9), 41- 59 years (aOR = 2.1), fever aOR 2.4), abnormal chest radiograph (aOR 2.4), HTN (aOR = 1.5), obesity (aOR = 1.5)
López-Barbeito et al./2020 <sup>45</sup>	Spain	925	20.5%	H/o rheumatic disease (OR2.97, p=0.03), digestive (OR1.73, p=0.01), >20 RR (OR1.03, p=0.05), steroids (OR, 7.78, p=0.01)	7.10%	>48 years (OR, 2.57, p=0.002), fever (OR, 4.73, p=0.001).

ED=emergency department, HTN=hypertension, LDH=lactate dehydrogenase, OR=odds ratio, aOR=adjusted odds ratio, NA=not applicable

This table was prepared by authors from the results of this study, based on published data.

**Supplemental Table A9. Discharge criteria/ eligibility for COVID-19 patients at symptoms at discharge**

Source	Discharge criteria/ eligibility to discharge	Patients at discharge
Teigell et al./2021(1)*	ED discharge- (no major criteria should be met, ≤5 minor criteria are allowed)- Major criteria Age>70 years, SaO2<95% and/or positive walking-test,	

	<p>Bronchospasm, Radiological affection &gt;50%, CPR &gt;100 mg/L, d-dimer &gt;1,000 ng/mL, Lymphocytes &lt;800/μL, CURB score ≥1. Minor criteria Age 50–70 years, Comorbidities (1 point each, maximum allowed 3, if non-severe), Aminotransferases &gt;2×the upper limit of normal, Increased LDH above upper limit of normal, CPR 50–100 mg/L, d-dimer 500–1,000 ng/mL, Lymphocytes 800–1,200/μL. According to the protocol, a chest radiograph was performed on all patients with fever and/or other symptoms suggesting COVID-19. Those with no pathological findings in the radiograph were discharged whenever their clinical status allowed for it. In radiologically dubious cases, chest CT or lung ultrasound were performed.</p>	
Hernández-Biette et al./2020(2)*	<p>mild airway infection or low-risk pneumonia with little comorbidity (Charlson index &lt;4) and without immunosuppression. Low-risk pneumonia was defined as presence of infiltrates or consolidations on x-ray simple chest in the absence of criteria for COVID-19 grade 1: peripheral oxygen saturation (measured by pulse oximetry –SpO<sub>2</sub>–) equal or more 93%, respiratory rate (RR) &lt;30 / min and a PAFI index (relation between the arterial pressure of oxygen and the fraction of inspired oxygen -PaO<sub>2</sub> / FIO<sub>2</sub>–) &gt; 300.</p>	
Wang et al./2020(8)	<p>afebrile for at least three days, respiratory symptoms significantly improved, improvement in the radiological abnormalities on chest radiograph or CT, and two consecutive negative SARS-CoV-2 tests more than 24 hours apart</p>	<p>Any symptom 40·05%, cough 29·01%, fatigue 7·63%, expectoration 6·11%, chest tightness 6·11%, dyspnea 3·82%, chest pain 3·05% palpitation 1·53%</p>
UyaroĖlu et al./2021(33)	<p>not had any fever and need for oxygen within the last 48-72 hours and who fulfil the criteria for home monitoring may be discharged after their treatment is determined by the consultant physician. Their home isolation may be terminated on the 14th day, following the date of discharge provided not to manifest any symptoms or fever</p>	
Cao et al./2020(43)	<p>(a) the body temperature returned to normal for more than 3 days, (b) respiratory symptoms improved significantly, (c) inflammation of the lungs showed obvious signs of resolution, and (d) respiratory nucleic acid was negative for two consecutive times (24 hours sampling time interval at least</p>	

Li et al./2020(41)	(I) body temperature should remain normal for more than 3 days; (II) obvious alleviation of respiratory symptoms; (III) remarkable absorption of infection signs on chest CT images; (IV) two consecutive (after a 24-hour interval) negative reverse transcription polymerase chain reaction (RT-PCR) tests.	Cough 33·3% (in readmitted)
van Herwerden et al./2021(37)	2 liters per minute during the 24 hours prior to discharge with a minimal peripheral oxygen saturation of 94%.	Fever 20%
Atalla et al./2020(11)	based on clinical improvement including improvement of the temperature curve. Ability to maintain oxygen saturation and weaning off the supplemental oxygen was another parameter taken into consideration. Moreover, timing of discharge relied on practical considerations, such as organizing transition care for vulnerable populations like the elderly or homeless patients	
Patel et al./2021(24)	high-risk (1) clinical improvement, (2) afebrile for 48 hours, (3) stable oxygen requirement for 48 hours, and (4) a downtrend of inflammatory markers including C-reactive protein, lactate dehydrogenase, and d-dimer. Lower risk (<55 years, no significant comorbidity, not immunocompromised) (1) clinical improvement, (2) afebrile for 24 hours, (3) stable oxygen requirement for 24 hours, and (4) stable or a downtrend in inflammatory markers including C-reactive protein, lactate dehydrogenase, and d-dimer.	
Banerjee et al./2021(35)	Improving clinical trajectory, Comfortable at rest and with minimal exertion (e.g., able to get out of bed, ambulate to bathroom and back), Stable heart rate ( $\leq 110$ beats/min) and respiratory rate ( $\leq 22$ breaths/min), Stable oxygen saturation of at least 92%, with at least 3L/min of supplemental home oxygen, Patients with fevers, myalgias, and cough are all OK to send home (just like patients with influenza) so long as patients are hemodynamically stable (see above) and can maintain an SaO <sub>2</sub> >92-94% while on 1-3L of supplemental oxygen. No other reasons for continued evaluation and management in acute care setting. Housing of Persons under investigation (PUI) and COVID-positive patients: <ul style="list-style-type: none"> <li>▪ Need to self-isolate or go to isolation unit</li> <li>• Work with SW if homeless and need isolation unit</li> <li>• OK to go home and live with family/roommates IF they are also symptomatic</li> </ul>	
Parra et al./2020(27)	No specific discharge criteria, use of community pneumonia were. Fever 48hours at discharge was significant for readmission 18%, no or worsening radiological evidence in readmitted 42·9% and 32·7%. used, such as disappearance of fever, improvement of the general condition and respiratory failure.	Fever 48 hours at discharge in readmitted 18% p<0·001, Afebrile at discharge 5 median days, Oxygen saturation 93·7%, Radiological evolution - No change 42·9%, Worsening 32·7%, Improving 24·4%. readmitted due to a thrombotic event (8 patients, 13·1%)

		presented a higher level of D-dimer at discharge of initial admission.
Chaudhry et al./2021(14)	SpO2 ≥92% on air or within their target range	O2 ≥92% on air or within their target range 100%
Ye et al./2021(9)	<p>Vital signs • Stable measured respiratory rate (&lt; 20 breaths per minute) • Stable blood pressure • Temperature afebrile or improving fever curve • Resting oxygen saturation ≥ 92% on room air</p> <p>Social considerations • Access to resources such as food, pharmacy, and other necessities for daily living • Access to appropriate caregivers if limited ability to engage in self-care • Transmission risk within the home (e.g., the availability of a separate bedroom to minimize sharing of immediate living spaces with others, ability to adhere to home isolation, respiratory and hand hygiene, and the presence of household members at increased risk for COVID-19 complications)</p> <p>Risk enhancers • Age ≥ 60 years • Comorbid illnesses (chronic lung disease, heart disease, poorly controlled diabetes mellitus, body mass index (BMI) ≥ 40kg/m2, chronic kidney disease (stage 3 or higher), immunosuppression—e.g., transplant, other immunosuppression (transplant, other immunosuppressive medications, poorly controlled HIV, malignancy if patient underwent chemotherapy or surgery in the past month)</p>	<p>≥ 100·4 °F 6·6%, ≥ 20 RR 23·5%, ≥ 100 PR 11%, O2 &lt; 95% 37·3%</p>

\*Criteria for discharge from Emergency Department, ED: emergency department

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**Supplemental Table A10. Interventions for patients following hospitalization with COVID-19.**

	Interventions	Inpatient readmissions
Maghrabi et al./UK <sup>35</sup>	10% Pulse oximeters (if O <sub>2</sub> <92%), Virtual Ward O <sub>2</sub> 53%. daily tracking board+ phone calls. if cause for concern was raised, same-day review, predetermined community pathways for transfer	9·30%
Ye et al./USA <sup>23</sup>	53·1% (217/409) remote monitoring	7·60%
Gordon et al./USA <sup>48</sup>	App (O <sub>2</sub> , symptoms, temperature), pulse oximeter, thermometer. Remote Patient Monitoring program.	1·30%
Parra et al./Spain <sup>26</sup>	Glucocorticoid 49·2%, Anticoagulants 26·2%	4·40%

Patel et al./USA <sup>29</sup>	High-risk - monitoring wearable device for 8-days post discharge + vital sign monitoring 4 hourly + daily phone calls. ED-dispensed Home Oxygen+ portable pulse oximeter, associated supplies. Facility-based RN/MD phone calls within 12-18 hrs, DME vendor f/u with patients within 24 hrs to ensure equipment working	4%
Saab et al./USA <sup>28</sup>	Home O <sub>2</sub> 31·3%	5%
Banerjee et al./USA <sup>47</sup>	Home oxygen met EP criteria 100% discharged. Supplemental O <sub>2</sub> , educational resources, nurse phone call within 12-18 hrs. Facility dispenses equipment (pulse oximeter, oxygen tank, concentrator), vendor also provides ongoing support	8·50%
van Herwerden et al./Netherland <sup>41</sup>	Home oxygen-2L/min/24 hrs SO <sub>2</sub> 94%, 11days median/patient +thromboprophylaxis if O <sub>2</sub> was given. Dexamethasone x 10days. Telemonitoring	12·20%
Rokadiya et al./UK <sup>44</sup>	Home Referral Team (HRT) phone calls daily or every 3 days if discharged to non-care home/treatment center.	6·40%
McCarthy et al./USA <sup>36</sup>	Newly prescribed antipsychotics 8·5% (8), benzodiazepines 3·3% (7), methadone 1·9% (4), opioids 2·3% (5)	10·30%
Li et al./China <sup>38</sup>	PCR every 2 weeks	NA
Atalla et al./USA <sup>25</sup>	Post-discharge f/u call	6·80%
Wang et al./China <sup>13</sup>	Chest CT 59·5%, PCR tests	2·29%
Loerinc et al./USA <sup>37</sup>	Telemedicine 23·5%. Home O <sub>2</sub> 24·2% (31·3%receiving home O <sub>2</sub> was readmitted). new short-term medications 66·8% (> 6 months) - antitussives, bronchodilators (frequently albuterol), antipyretics (acetaminophen), short-term anticoagulation, short-term statin for anti-inflammatory properties, antibiotics. new long-term medications 23·2% - antihypertensives, antidiabetic medications	5·20%
Chaudhry et al./UK <sup>22</sup>	Virtual clinical 27%, corticosteroids 5·1%	10·20%

O<sub>2</sub>=oxygen, PCR= polymerase chain reaction, ED=emergency department, NA=not applicable

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### Supplemental TableA11: Oxygen saturation at discharge and home oxygen therapy

Source	Oxygen requirement at discharge and home oxygen therapy
UyaroĖlu et al./2021(33)	No O <sub>2</sub> requirement last 48-72 hours at discharge
Maghrabi et al./2021(40)	VW O <sub>2</sub> 53% (158/300)
Banerjee et al./2021(35)	100% (n=621) home O <sub>2</sub> . Oxygen requirements are 0-3L NC to keep SaO <sub>2</sub> >= 94% or improving clinical trajectory with SaO <sub>2</sub> >=92%, and without accessory muscle use
Monday et al./2020(22)	22 (39%) home O <sub>2</sub>
Loerinc et al./2021(17)	24·2% (75/310) home O <sub>2</sub> , 31·3% receiving home O <sub>2</sub> was readmitted
Saab et al./2021(10)	31% (33/99) home O <sub>2</sub> ambulation or at rest
van Herwerden et al./2021(37)	6·1% (n=3) home O <sub>2</sub> . 2L/min/ 24hr, min SO <sub>2</sub> 94% at discharge.
Atalla et al./2020(11)	Ability to maintain SO <sub>2</sub> + weaning supplemental O <sub>2</sub> at discharge

Patel et al./2021(24)	High-risk- stable oxygen requirement for 48 hours, low-risk -stable oxygen requirement for 24 hours
Ye et al./2021(9)	Resting SO <sub>2</sub> ≥ 92% on room air at discharge
Teigell et al./2021(1)	SaO <sub>2</sub> >95% and/or negative walking-test at discharge
Chaudhry et al./2021(14)	SpO <sub>2</sub> ≥92% on air or within their target range at discharge
Hernández-Biette et al./2020(2)	SpO <sub>2</sub> equal or more 93%, PaO <sub>2</sub> / FIO <sub>2</sub> -> 300 at discharge

This table was prepared by authors from the results of this study, based on published data.

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