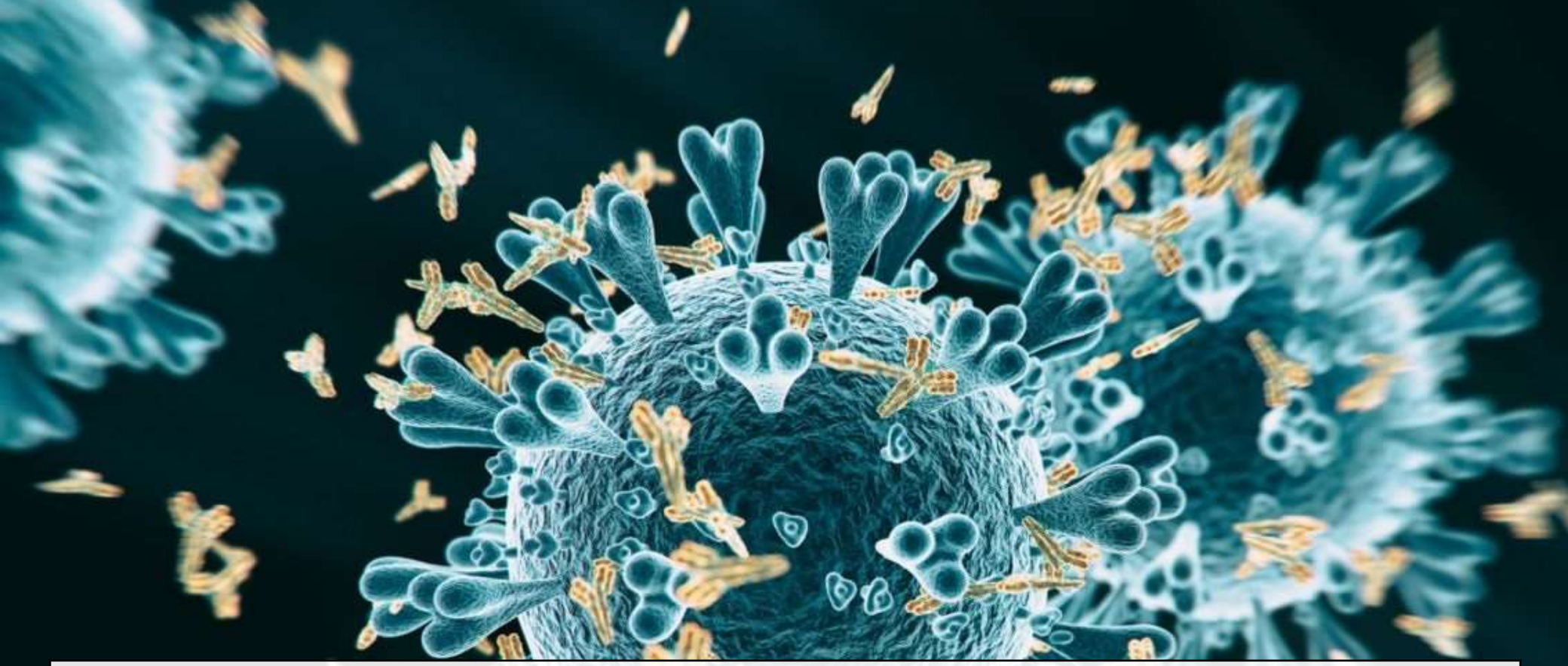


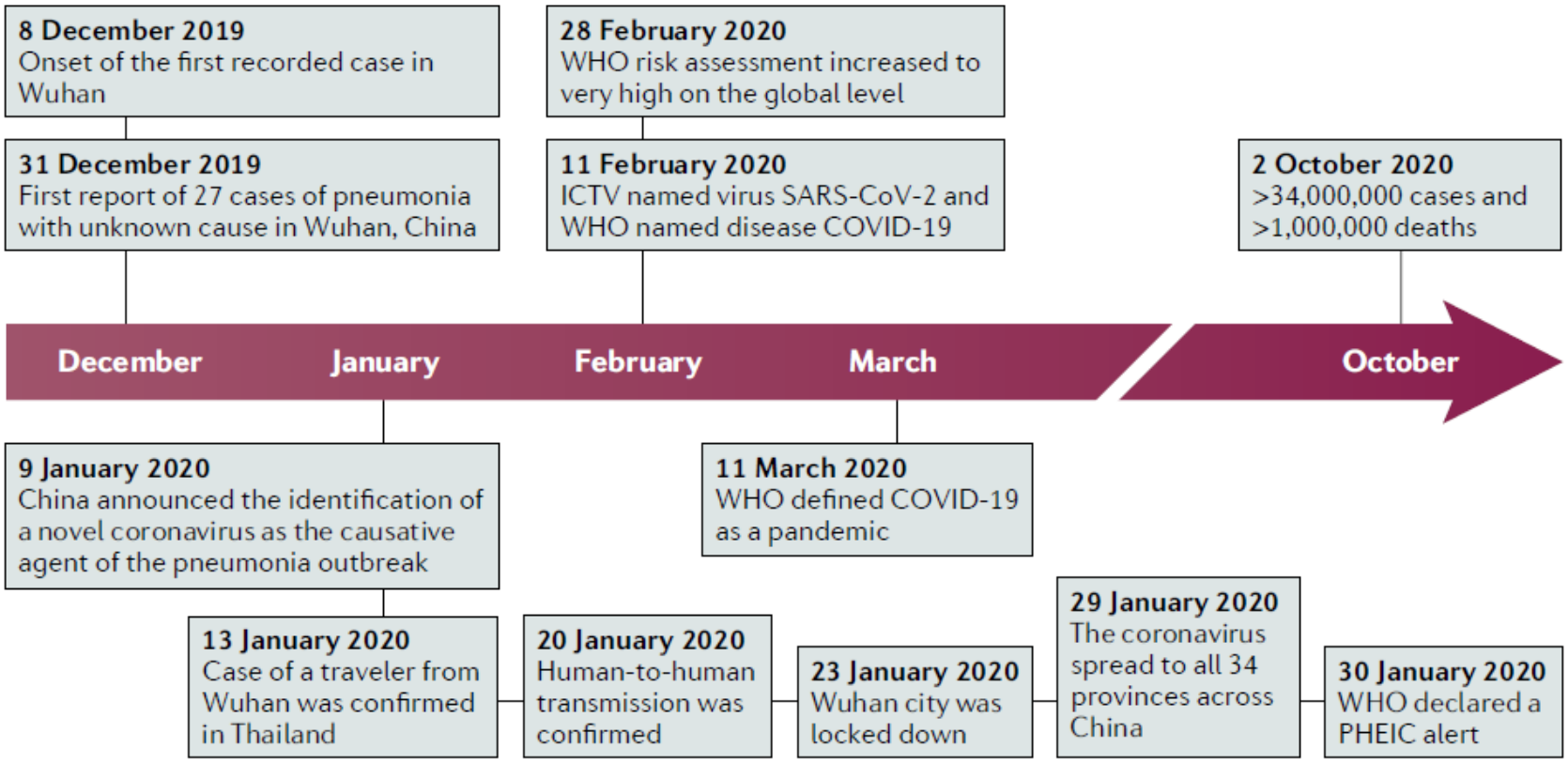
ARPEM: Association Romande des Praticiens en Expertises Médicales

COVID LONG

Date	Jeudi 6 Octobre 2022
	Prof Peter Vollenweider, Service de Médecine Interne, CHUV

COVID aigue

Rappel historique

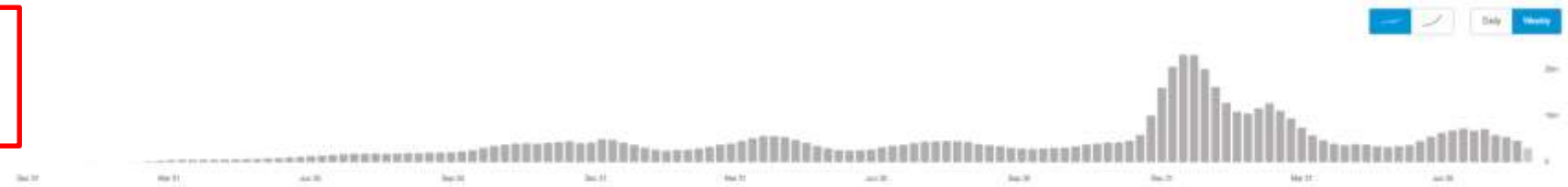


World Health Organization

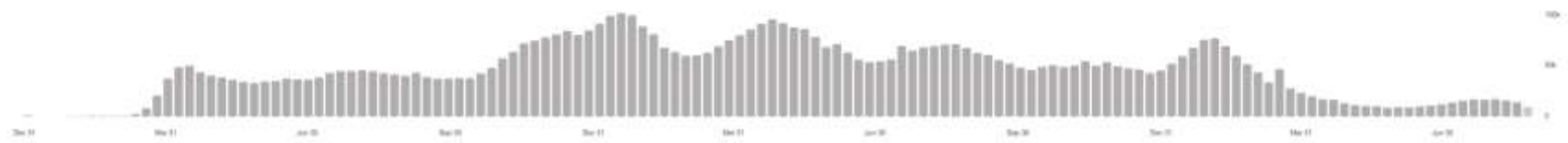
Globally, as of 6:33pm CEST, 2 September 2022, there have been 601 189 435 confirmed cases of COVID-19, including 6 475 346 deaths, reported to WHO. As of 24 August 2022, a total of 12 449 443 718 vaccine doses have been administered.

Global Situation

601 189 435
confirmed cases

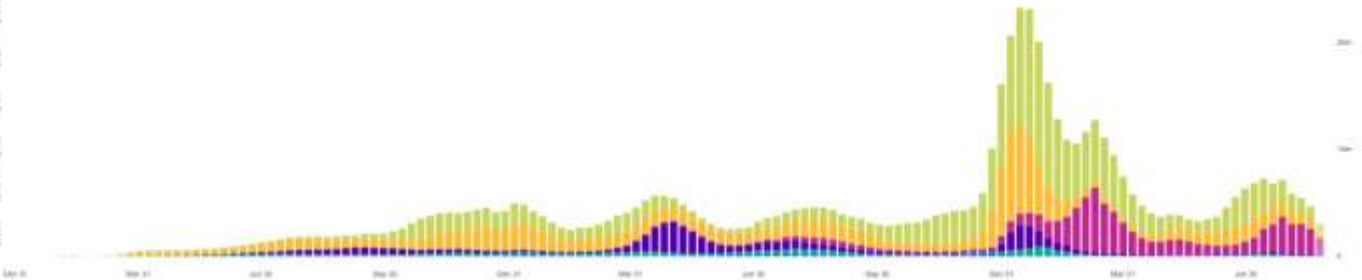


6 475 346
deaths

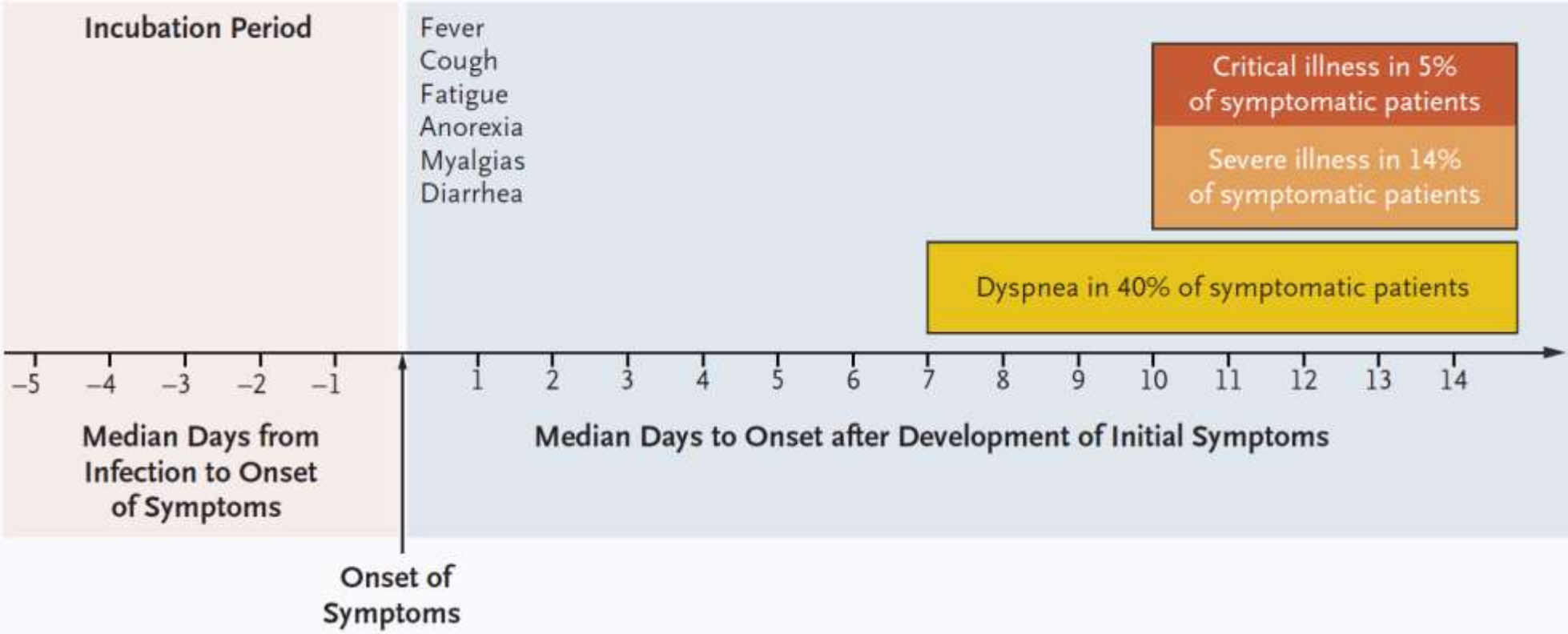


Situation by WHO Region

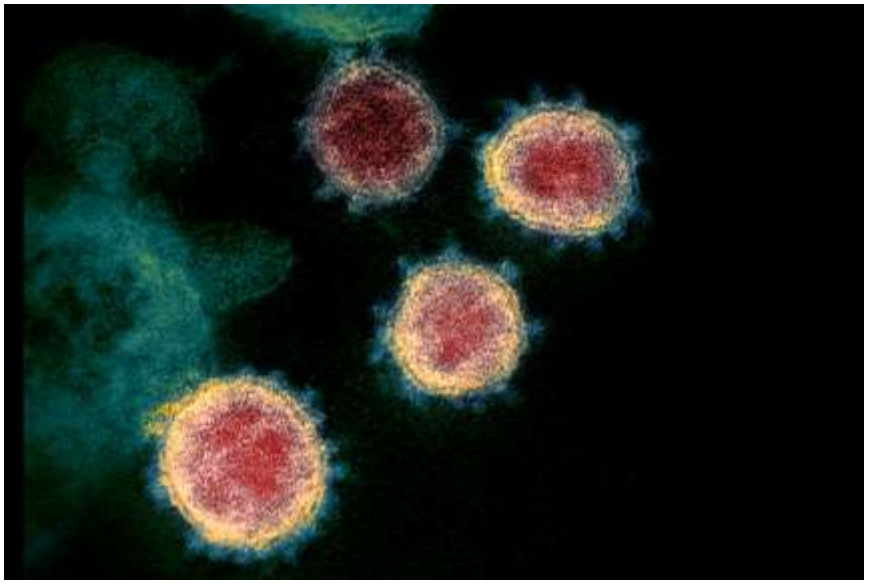
Europe	248 289 286
Americas	175 912 685
Western Pacific	84 676 840
South-East Asia	60 028 380
Eastern Mediterranean	22 987 228
Africa	9 294 252

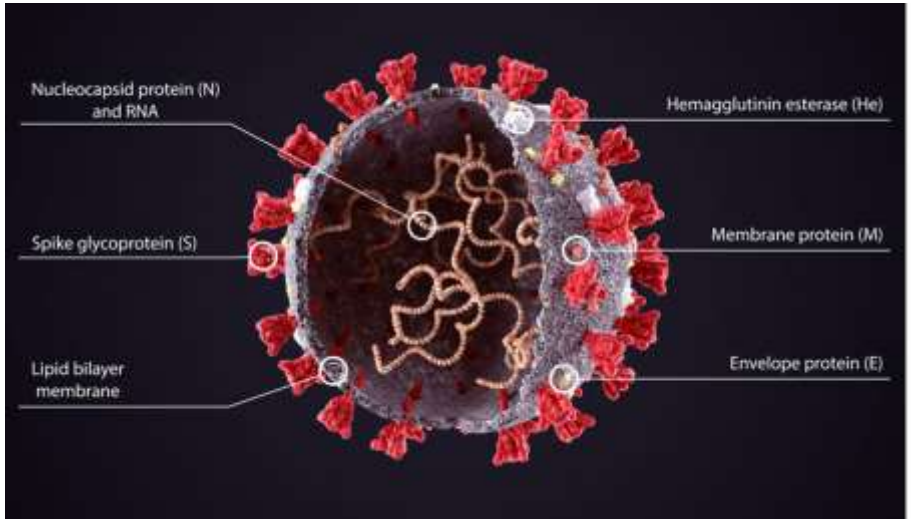


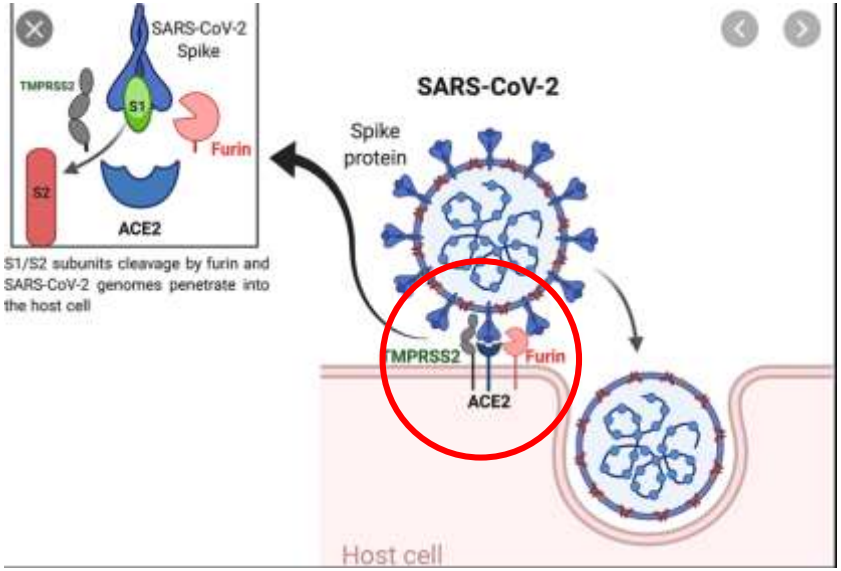
Présentation clinique COVID 19



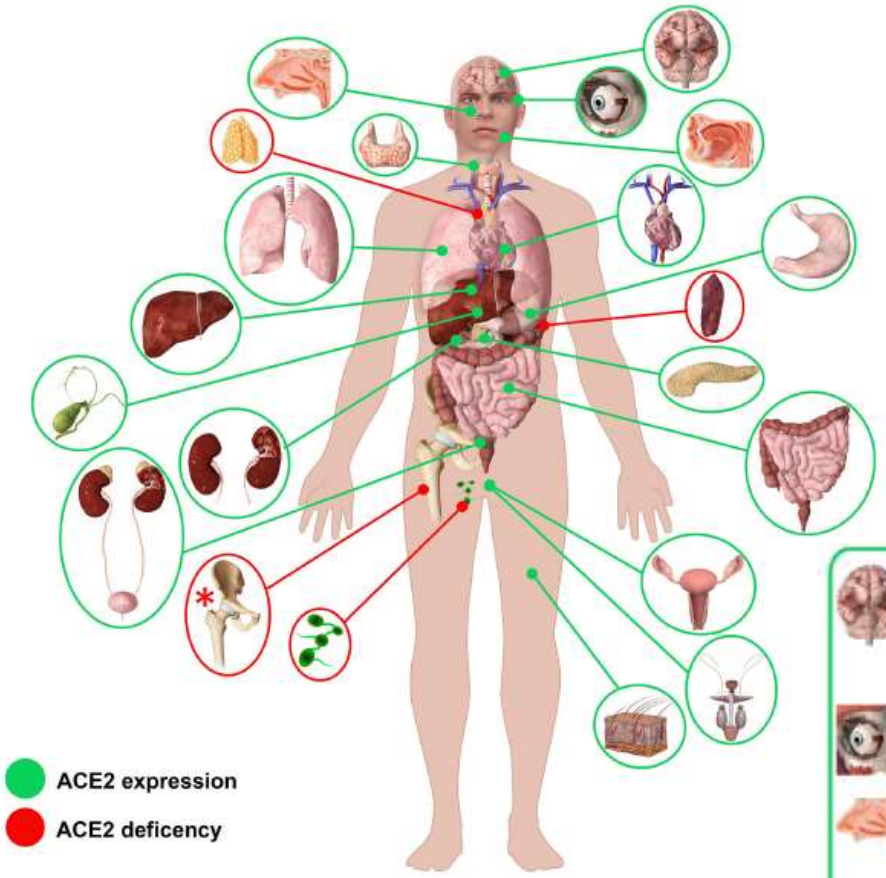
Virus SARS-CoV-2







Expression tissulaire de ACE2 (Angiotensin Converting Enzyme 2)



Brain: nuclei involved in the central regulation of cardiovascular function (brainstem cardiorespiratory neurons), non-cardiovascular areas (motor cortex and raphe)

Eyes: luminal surface of epithelial cells, retinal and retinal pigment epithelium

Nasal cavity: mucosal surface of the airway, basal layer of the non-keratinizing squa mous epithelium

Oral cavity: basal layer of the non-keratinizing squamous epithelium, tongue, buccal mucosa, saliva, gingiva, lymphocytes within oral mucosa, and oral cavity

Thyroid: Glandular cells

Heart and blood vessels: Pericytes, endothelial and smooth muscle cells of intra-myocardial vessels, thoracic aorta, carotid arteries, and veins. Endothelial cells from small and large arteries and veins

Lungs: Type I and II alveolar epithelial cells, bronchiolar epithelial cells, endothelial cells and arterial smooth muscle cells

Liver: Epithelial cells of the bile duct, perinuclear hepatocytes, cholangiocytes

Gallbladder: Gallbladder epithelium

Kidneys and bladder: Proximal tubular brush border, proximal renal tubular epithelium, distal tubules, bladder urothelial cells, luminal surface of tubular epithelial cells, glomeruli

Stomach: Esophagus upper and stratified epithelial cells

Pancreas: Exocrine gland (duct cells and acinar cells), and pancreatic islets (alpha, beta, delta and PP cells)

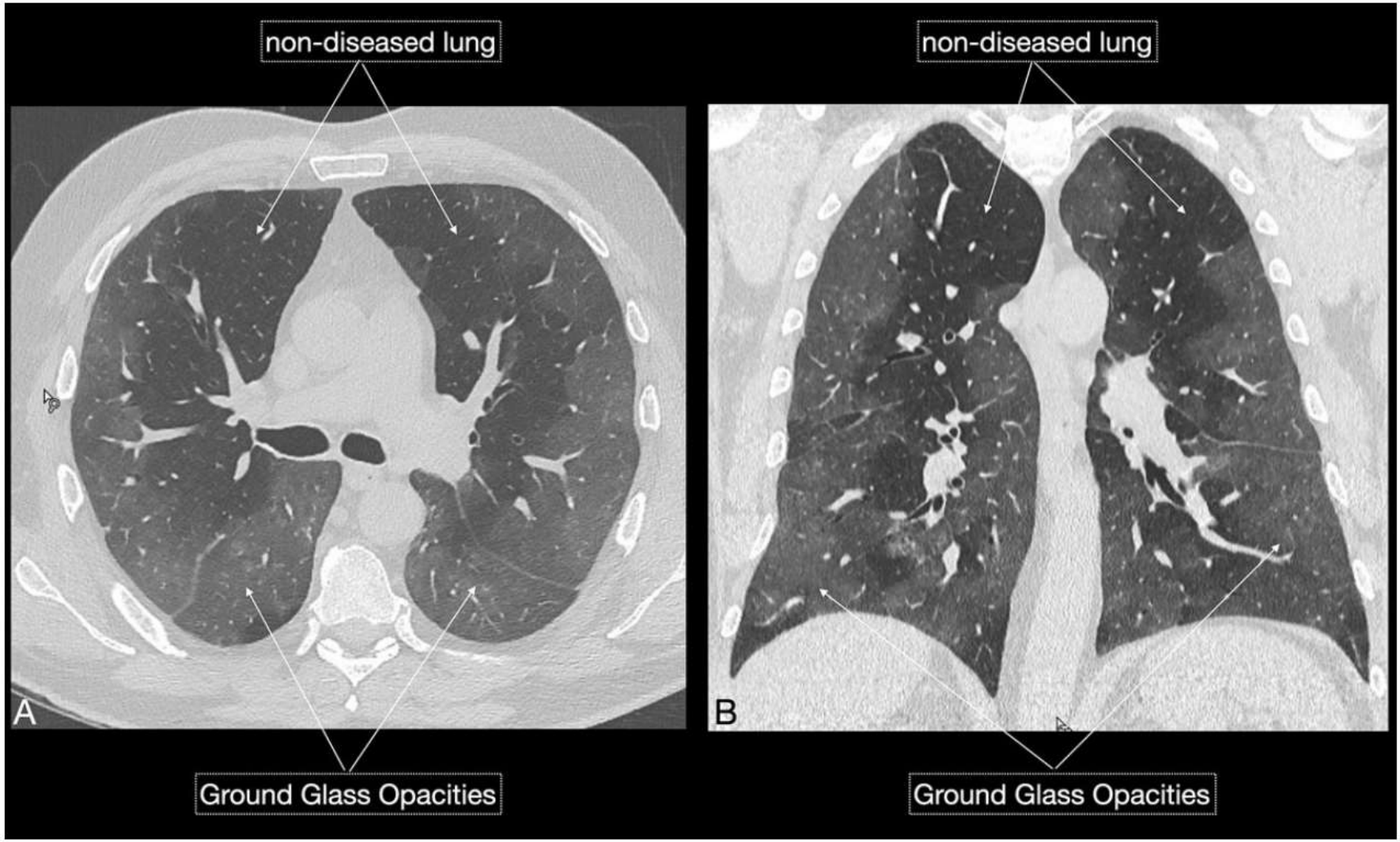
Intestines: intestinal epithelial cells, enterocytes of the small intestine, duodenum, absorptive enterocytes from ileum and colon, rectum endothelial cells

Reproductive system
Female: ovary, oocyte, uterus, vagina, placenta

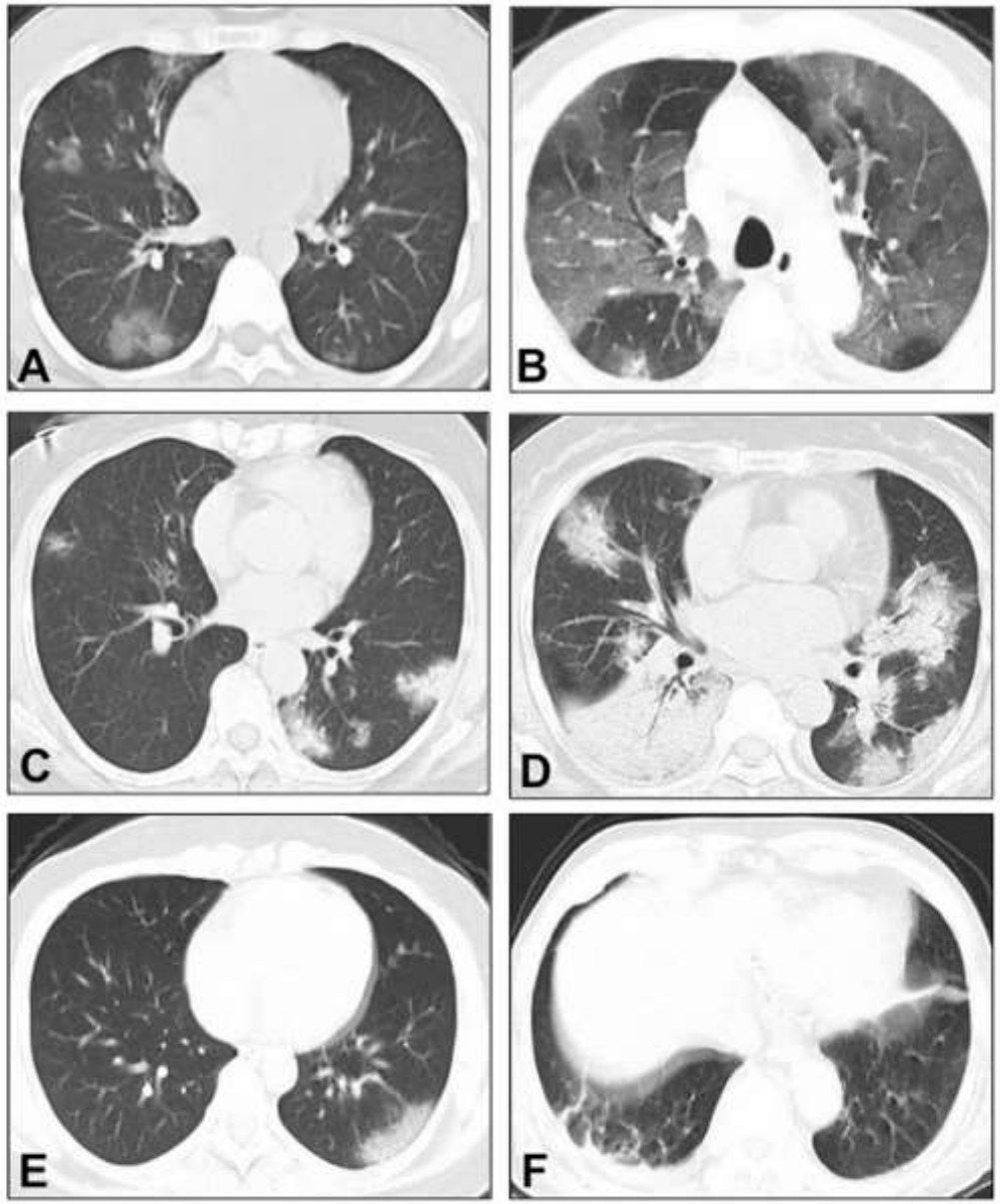
Male: adult Leydig cells in the testis and in cells in the seminiferous ducts in testis

Skin: Basal epidermal layers and in sebaceous gland cells

Présentation radiologique COVID 19



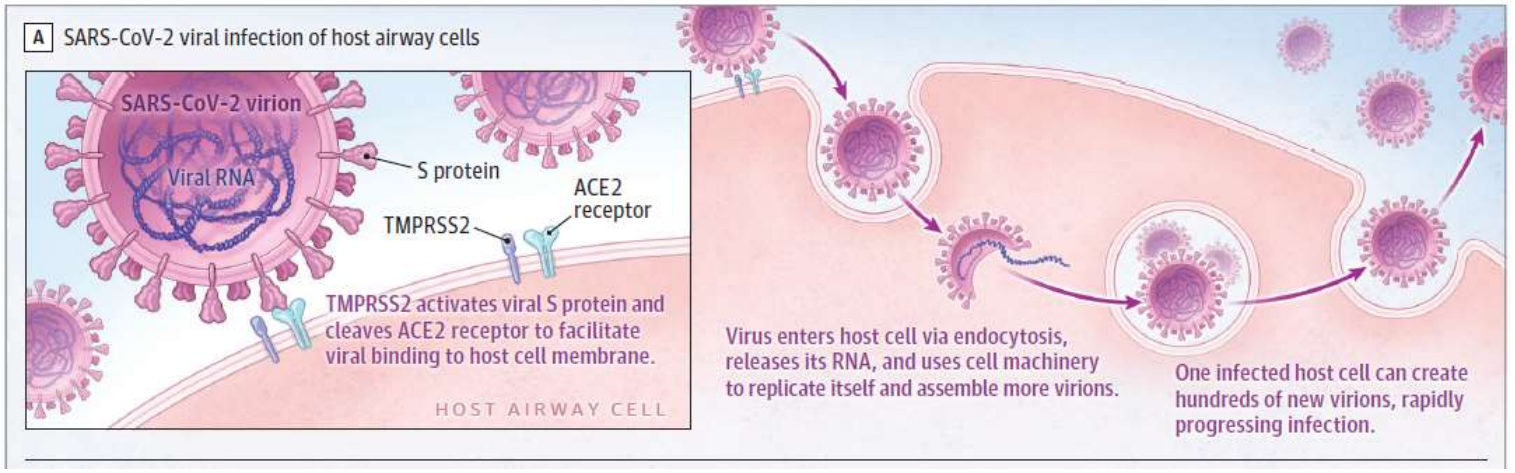
Présentation radiologique pulmonaire COVID 19: Evolution temporelle

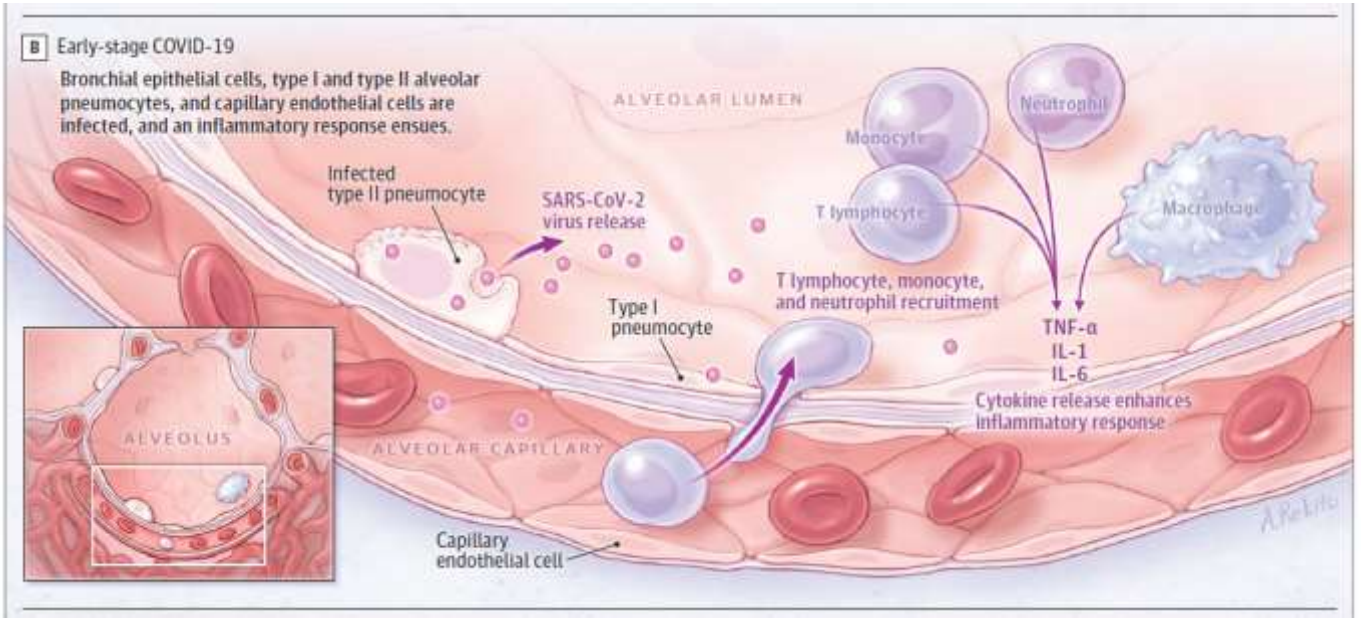


SCIENTIFIC REPORTS | (2020) 10:10263 | https://doi.org/10.1038/s41598-020-66895-w

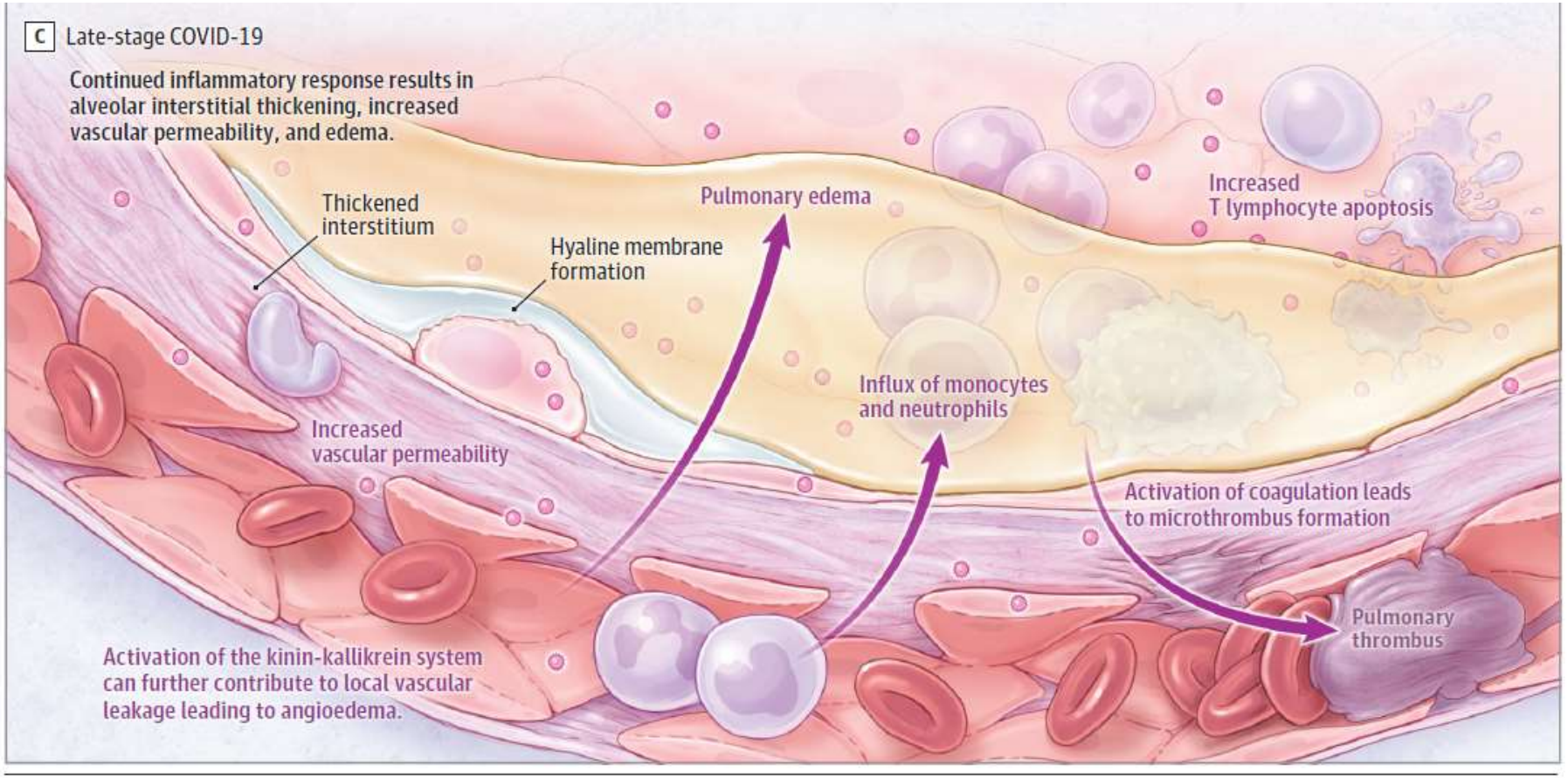
Physiopathologie de l'atteinte tissulaire lors de COVID 19

Figure 2. Immunopathogenesis of Coronavirus Disease 2019 (COVID-19)



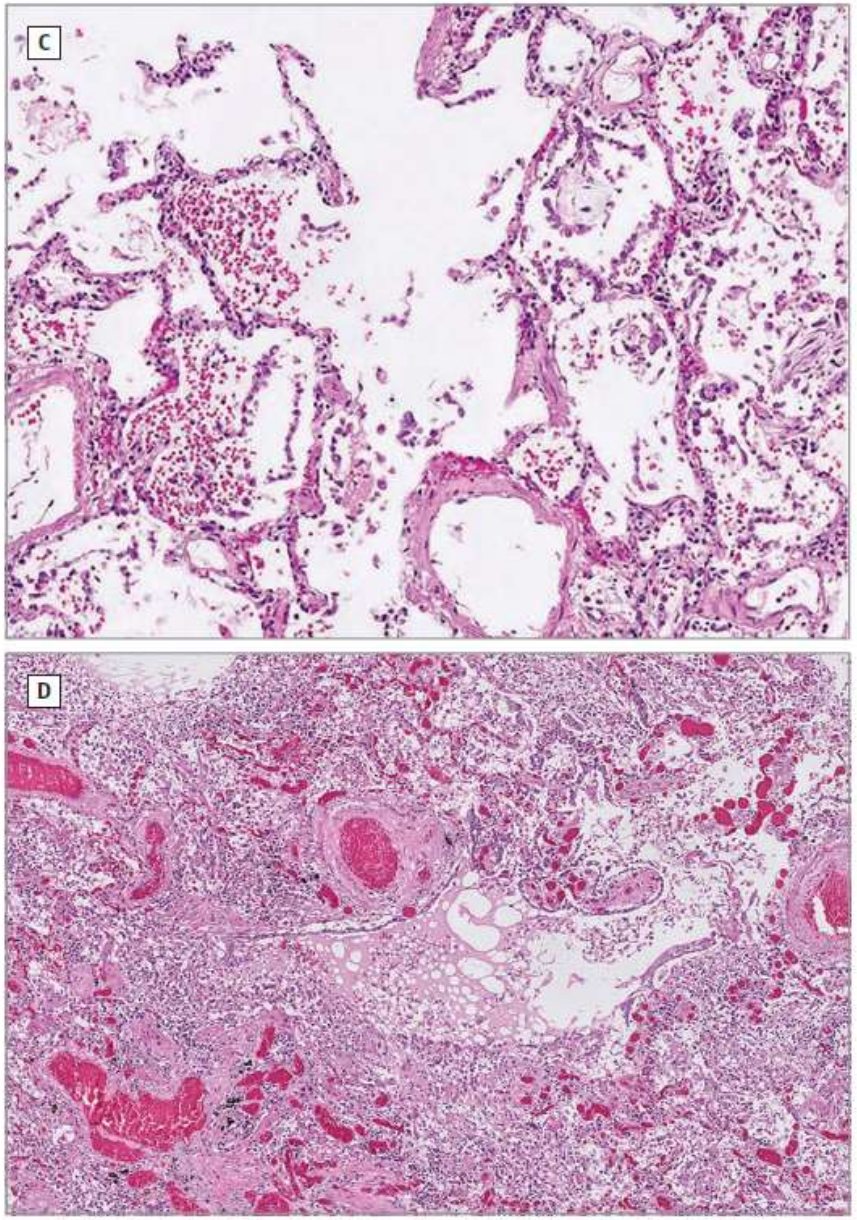


Physiopathologie de l'atteinte tissulaire lors de COVID 19

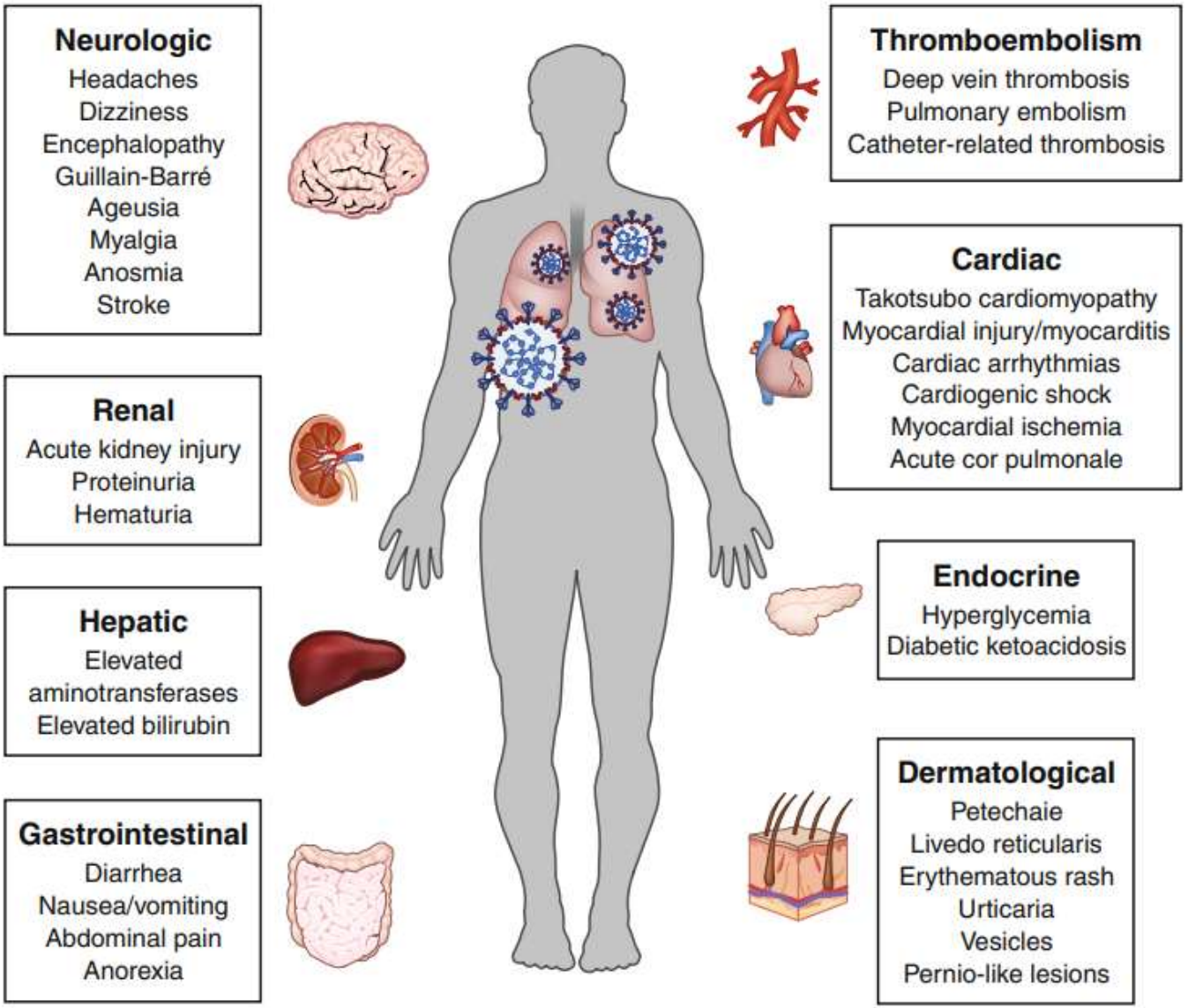


JAMA August 25, 2020 Volume 324, Number 8

Atteinte tissulaire lors de COVID 19



Atteintes extra-pulmonaires lors d'une infection à SARS-COV2



NATURE MEDICINE | VOL 26 | JULY 2020 | 1017–1032 | www.nature.com/naturemedicine

Lorsque les symptômes de l’infection à SARS-CoV 2 se prolongent

Les patients moteurs dans la reconnaissance du long COVID

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: http://www.elsevier.com/locate/socscimed

Short communication

How and why patients made Long Covid

Felicity Callard [a,*], Elisa Perego [b]

[a] University of Glasgow School of Geographical and Earth Sciences, University of Glasgow, United Kingdom
[b] University College London Institute of Archaeology, UCL, United Kingdom

ARTICLE INFO

Keywords:
Chronic illness
Citizen science
COVID-19
Long Covid
Long-hauler
Patient activism
Patient groups
SARS-CoV-2

ABSTRACT

Patients collectively made Long Covid – and cognate term 'Long-haul Covid' – in the first months of the pandemic. Patients, many with initially 'mild' illness, used various kinds of evidence and advocacy to demonstrate a longer, more complex course of illness than laid out in initial reports from Wuhan. Long Covid has a strong claim to be the first illness created through patients finding one another on Twitter: it moved from patients, through various media, to formal clinical and policy channels in just a few months. This initial mapping of Long Covid – by two patients with this illness – focuses on actors in the UK and USA and demonstrates how patients marshalled epistemic authority. Patient knowledge needs to be incorporated into how COVID-19 is conceptualised, researched, and treated.

LONG COVID SCHWEIZ SUISSE SVIZZERA SWITZERLAND

L'ASSOCIATION NEWS MALADIE RESSOURCES UTILES CONTACT & MÉDIAS

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Goals
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LONG COVID EUROPE

LONG COVID ALLIANCE

About Our Work Impact Partners Media Contact

LONG COVID HAS

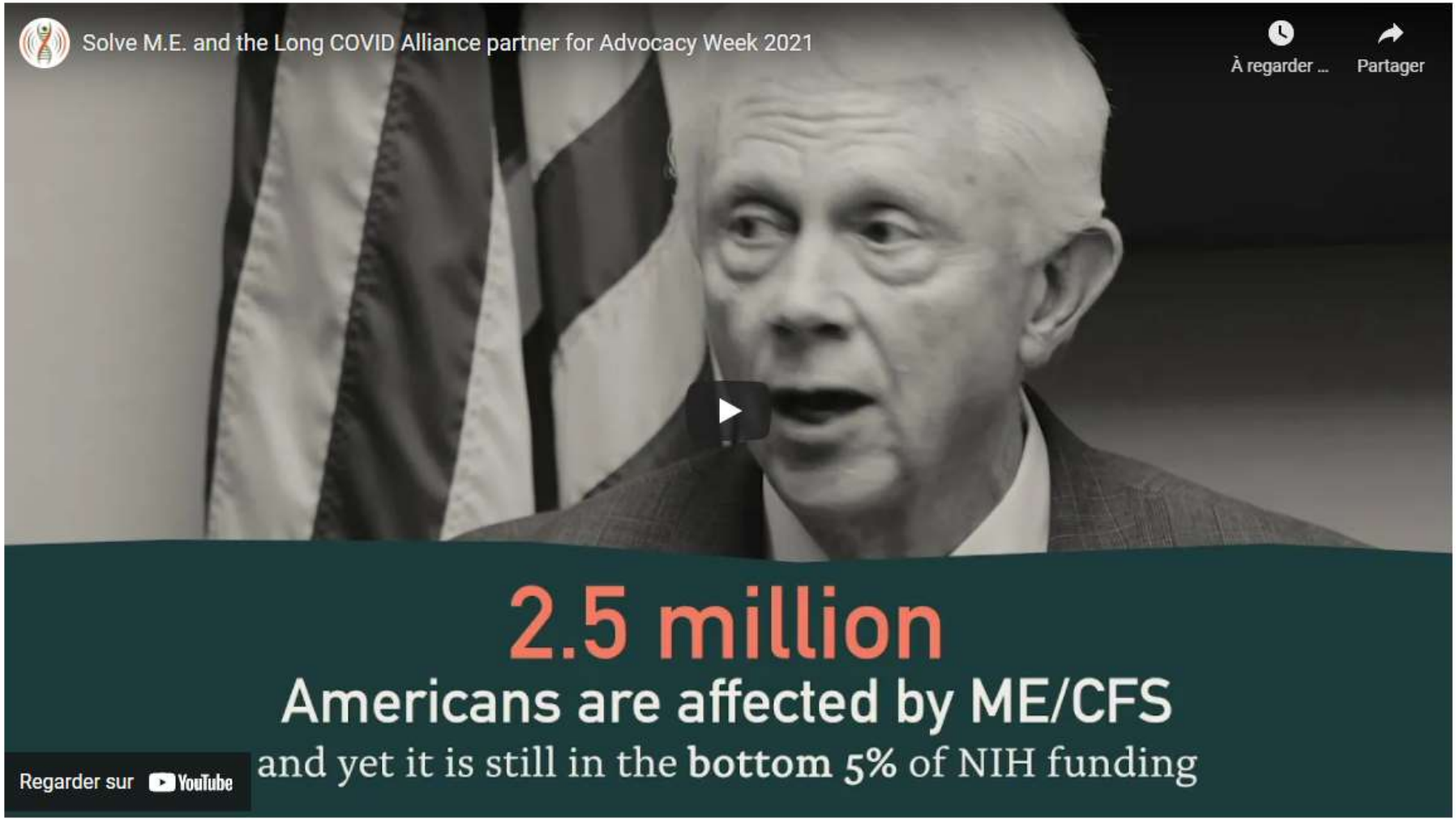
impacted

23M

Americans...and counting.

TAKE ACTION NOW >

Rôle important des Patients' Advocacy groups



Définitions
Nomenclatures

Long COVID

Long COVID is broadly defined as signs, symptoms, and conditions that continue or develop after initial COVID-19 or SARS-CoV-2 infection. The signs, symptoms, and conditions

- are present four weeks or more after the initial phase of infection;
- may be multisystemic;
- and may present with a relapsing–remitting pattern and progression or worsening over time, with the possibility of severe and life-threatening events even months or years after infection.

Long COVID is not one condition. It represents many potentially overlapping entities, likely with different biological causes and different sets of risk factors and outcomes.

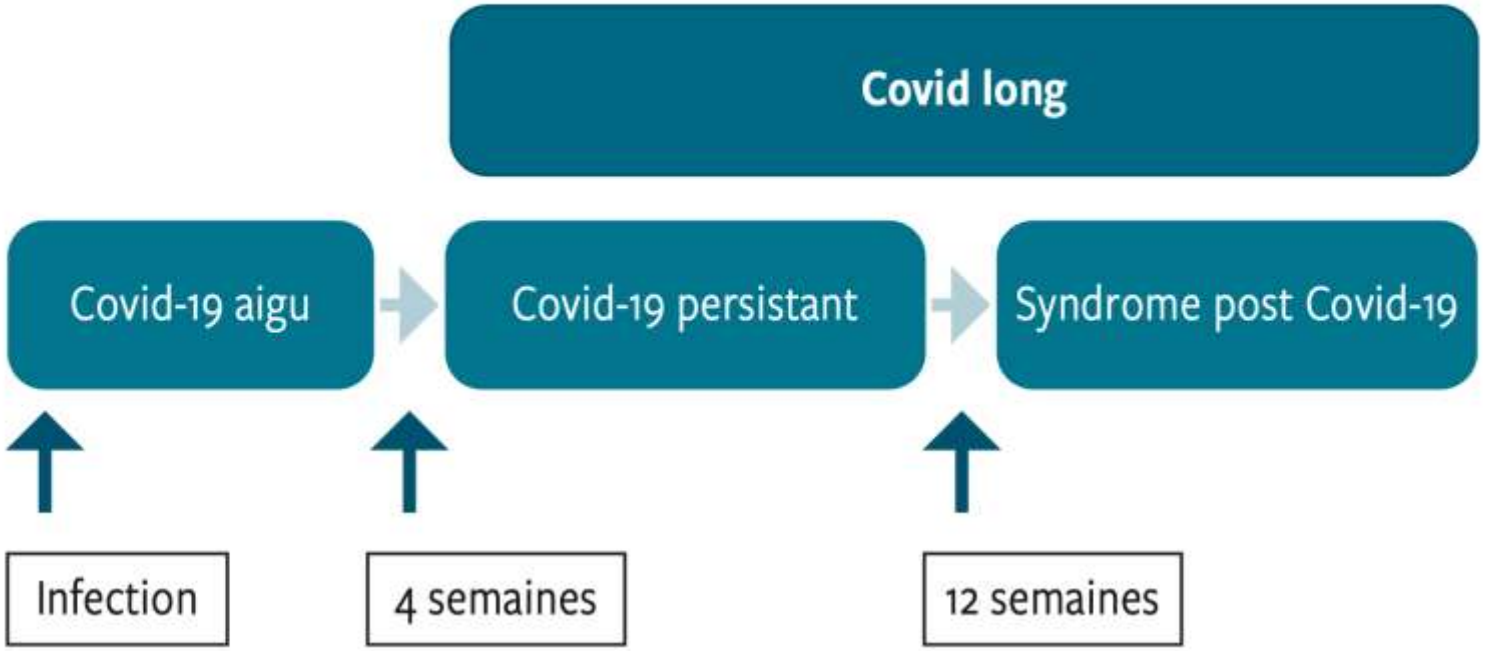
National Research Action Plan on Long COVID Août 2022

Définition OMS du COVID long

L'état post COVID-19 survient chez les personnes ayant des antécédents d'infection probable ou confirmée du SARS-CoV-2, généralement 3 mois après le début des symptômes qui durent au moins 2 mois et ne peuvent pas être expliqués par un autre diagnostic.

Les symptômes les plus fréquents incluent la fatigue, l'essoufflement, les troubles cognitifs mais aussi d'autres qui ont généralement un impact sur le fonctionnement quotidien. Les symptômes peuvent être une nouvelle apparition, après le rétablissement initial d'un épisode aigu de COVID-19, ou peuvent persister après la maladie initiale. Les symptômes peuvent également fluctuer ou réapparaitre avec le temps. Une définition distincte peut s'appliquer aux enfants.

Définitions du COVID aigu et long COVID



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Département fédéral de l'intérieur DFI
Office fédéral de la statistique OFS

14 Santé

Communication officielle 2021 nº 1
Codage COVID-19

3 décembre 2020

1.2. Nouveaux codes U dans la CIM-10-GM 2021

Cette section n'énumère que les nouveaux codes de la CIM-10-GM relatifs au contexte de la pandémie de Sars-CoV-2. (Les codes des rubriques U07.- et U99.-! toujours existants ne sont pas répétés ici.)

U08.9 Antécédents personnels de COVID-19, sans autre précision

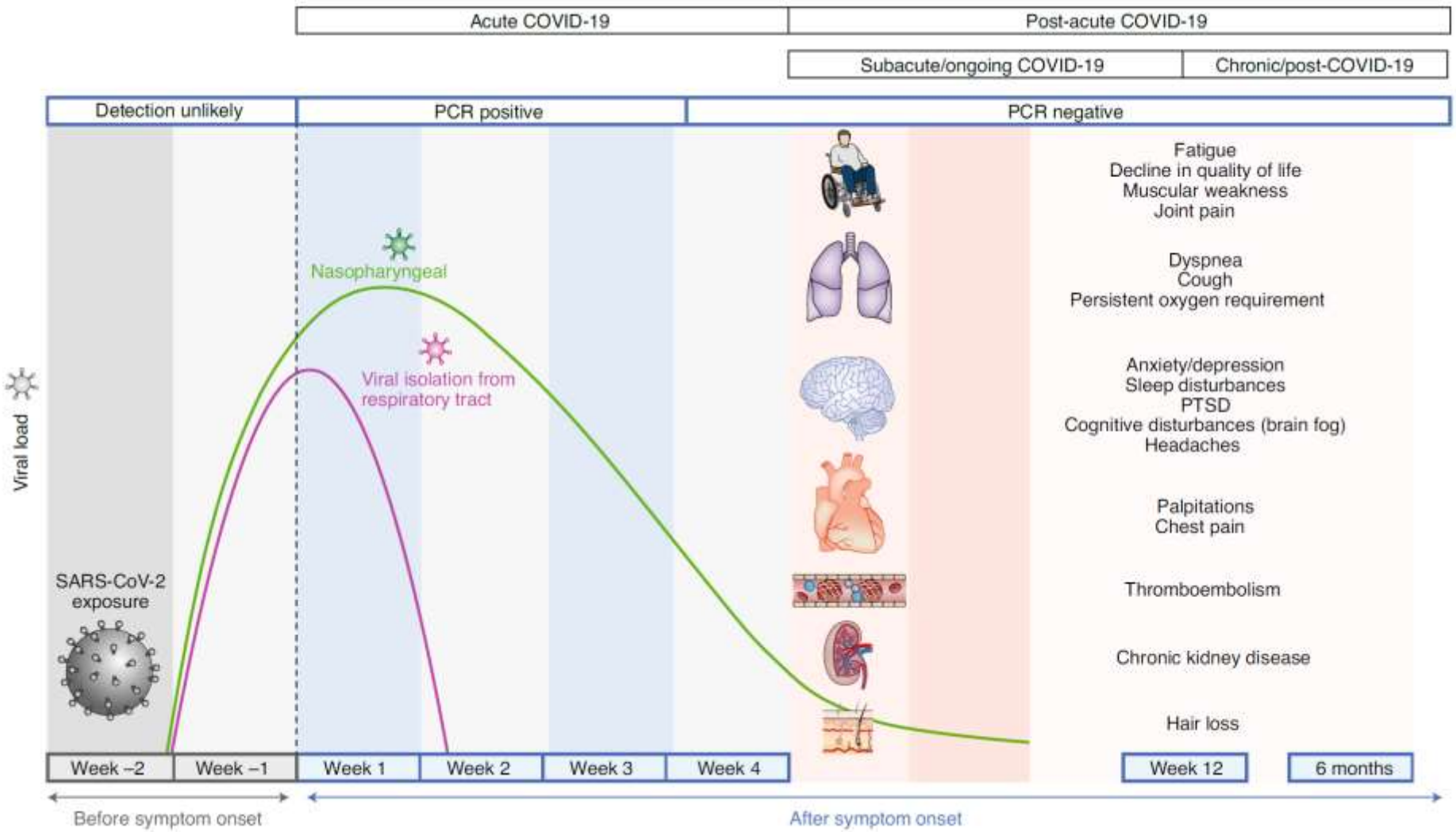
Utilisez ce code pour coder une maladie à coronavirus 2019 (COVID-19) antérieure confirmée influant sur l'état de santé d'une personne ou entraînant un recours aux services de santé, alors que la personne ne souffre plus du COVID-19.

U09.9! État post-COVID-19, sans autre précision

Ce code doit être utilisé lorsqu'il faut indiquer qu'un trouble classé ailleurs est en lien avec une maladie à coronavirus 2019 (COVID-19) antérieure. Ce code ne doit pas être utilisé, si le patient est encore atteint du COVID-19.

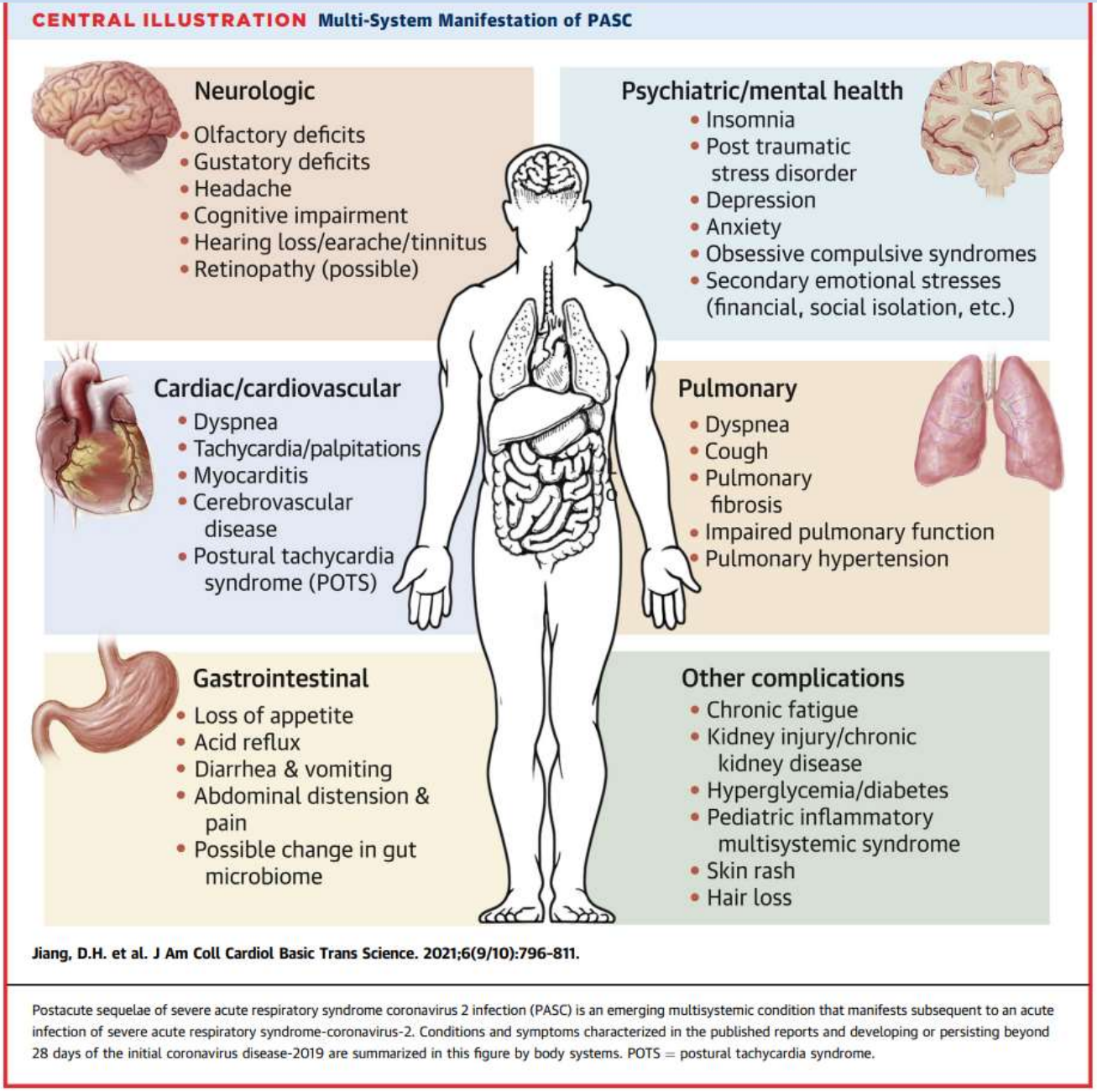
Symptômes et clinique du long COVID

De l'infection aigue aux symptômes chroniques de l'infection à SARS- CoV 2



NATURE MEDICINE | www.nature.com/naturemedicine

Atteinte mutisystémique et fluctuante



Prévalence des symptômes

Etudes sur les symptômes chroniques de l'infection à SARS-CoV 2

TABLEAU 1 Symptômes persistants après une infection à SARS-CoV-2

[a]Valeurs estimées à partir de graphiques; NR: non rapporté.

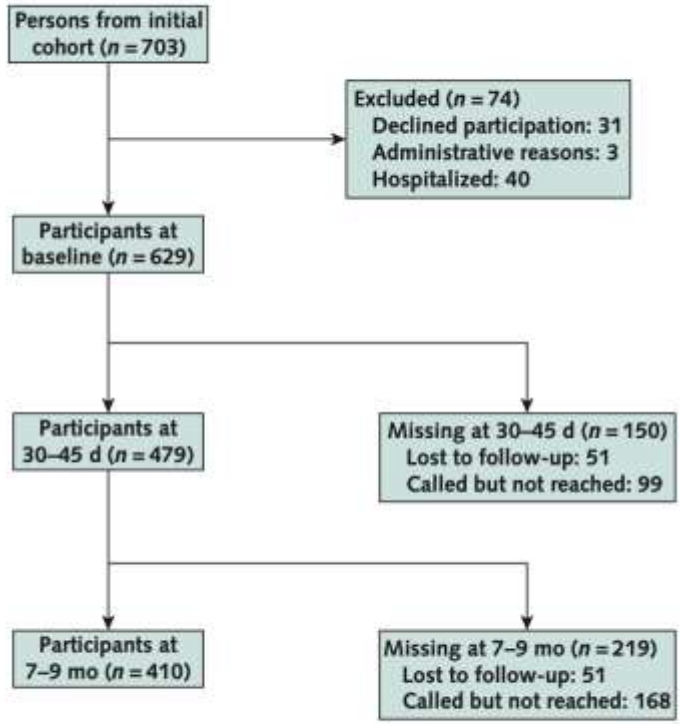
	Carfi, et coll.[5]	Arnold, et coll.[6]	Huang, et coll.[7]	Chopra, et coll.[8]	Stavem, et coll.[9]	Nehme, et coll.[10]
Pays	Italie	Angleterre	Chine	États-Unis	Norvège	Suisse
Nombre de patients	143	110	1733	488	451	669
Patients hospitalisés ou ambulatoires	Hospitalisés	Hospitalisés	Hospitalisés	Hospitalisés	Ambulatoires	629 patients ambulatoires (40 hospitalisés)
Temps entre diagnostic et évaluation	60 jours	8-12 semaines	6 mois	60 jours	1,5 à 6 mois	30 à 45 jours
Au moins 1 symptôme persistant	87%	74%	76%	32%	41%	32%
Dyspnée	43,4%	39%	26%	22%	15%[a]	8%[a]
Toux	17%[a]	10%[a]	NR	15%	7%[a]	4%[a]
Anosmie	14%[a]	10%[a]	11%	13%	13%[a]	10%[a]
Fatigue et/ou faiblesse	53,1%	39%	63%	NR	NR	10%[a]
Arthralgies et/ou myalgies	27,3%	25%[a]	10%	NR	9%[a]	NR
Douleurs thoraciques	21,7%	12%[a]	5%	NR	NR	NR
Troubles du sommeil	NR	22%[a]	26%	NR	NR	NR

ORIGINAL RESEARCH Annals of Internal Medicine

Prevalence of Symptoms More Than Seven Months After Diagnosis of Symptomatic COVID-19 in an Outpatient Setting

Mayssam Nehme, MD; Olivia Braillard, MD; François Chappuis, MD, PhD; Delphine S. Courvoisier, PhD; and Idris Guessous, MD, PhD; on behalf of the CoviCare Study Team*

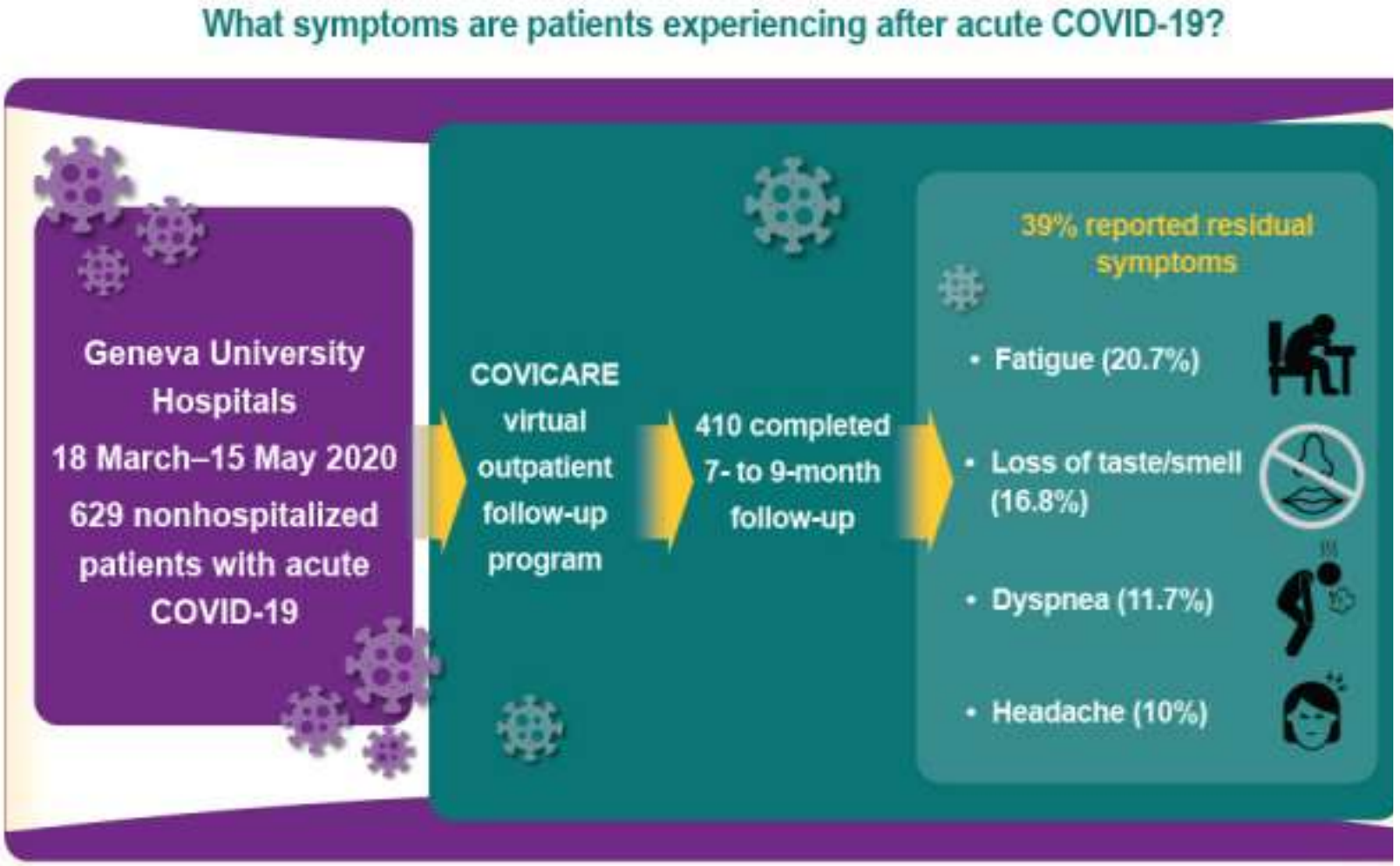
Figure 1. Flow chart describing participation rate at each follow-up.



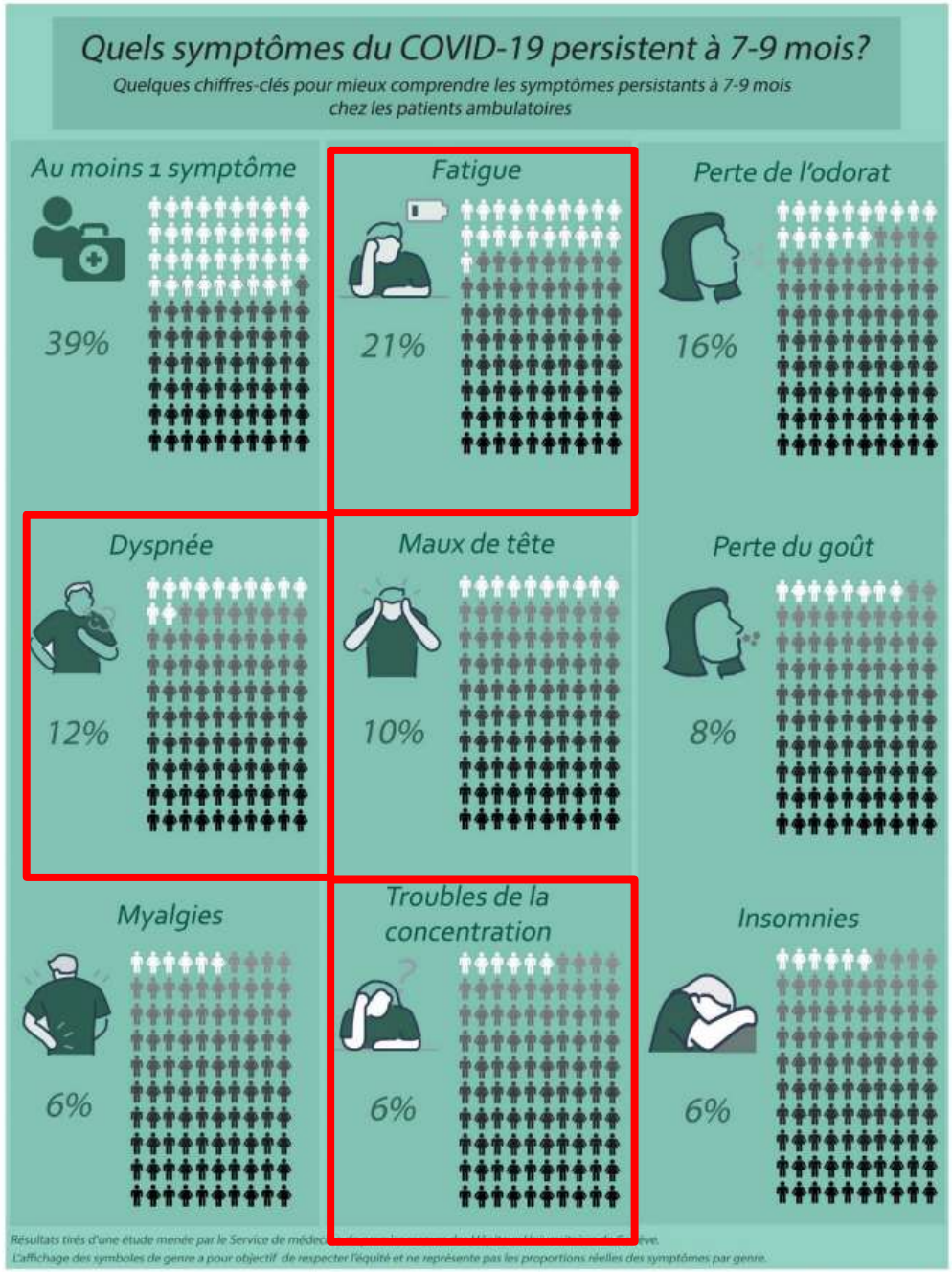
Only outpatients were included. Missing participants were called but not reached at 30 to 45 d or 7 to 9 mo, and 51 were completely lost to follow-up at 30 to 45 d and 7 to 9 mo.

Etude COVICARE, GE

Résumé

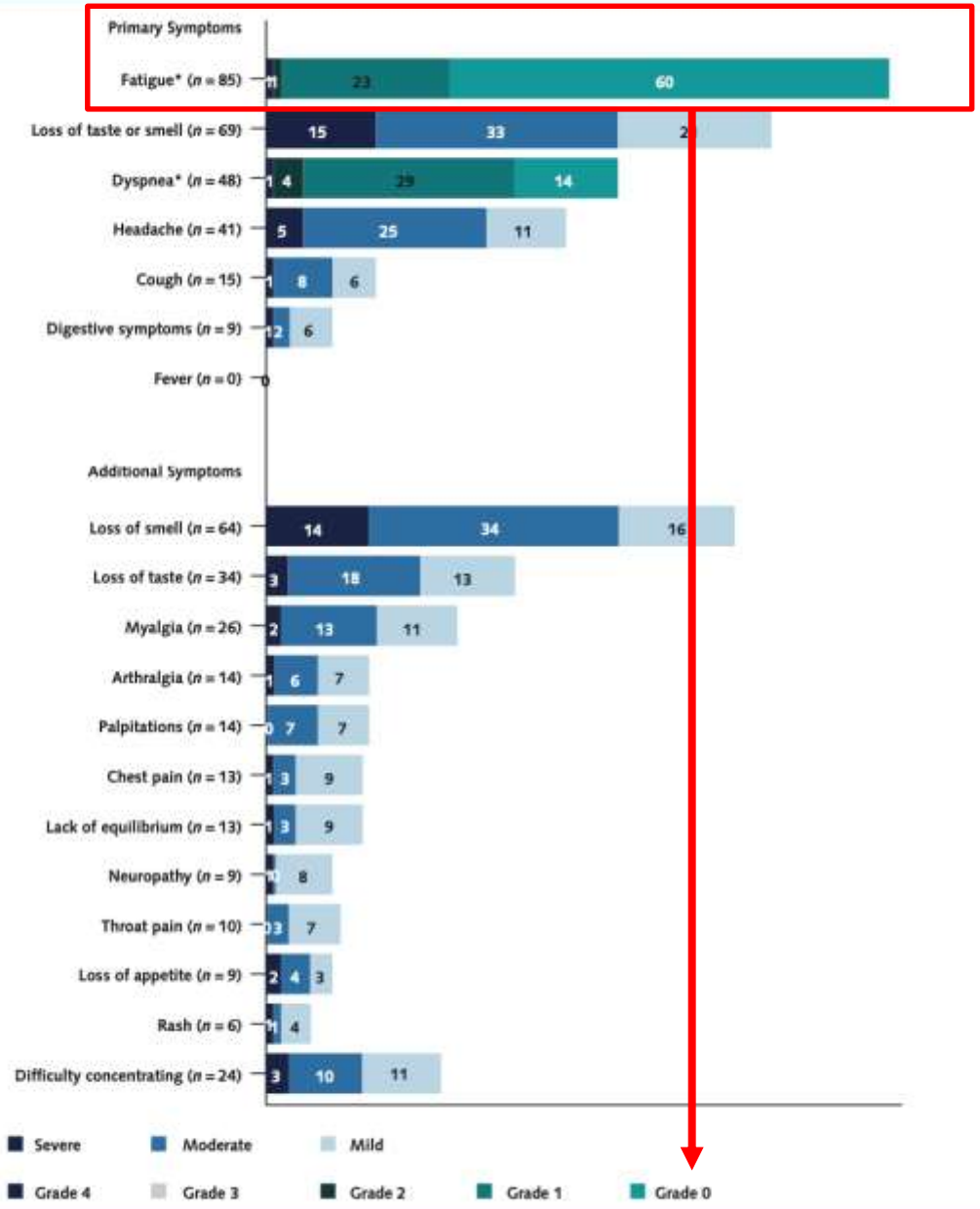


Ann Intern Med. 2021;174:1252-1260. doi:10.7326/M21-0878 **Annals.org**



*Résultats tirés de l'étude menée par COVICARE team- Service de médecine de premier recours - HUG[8]

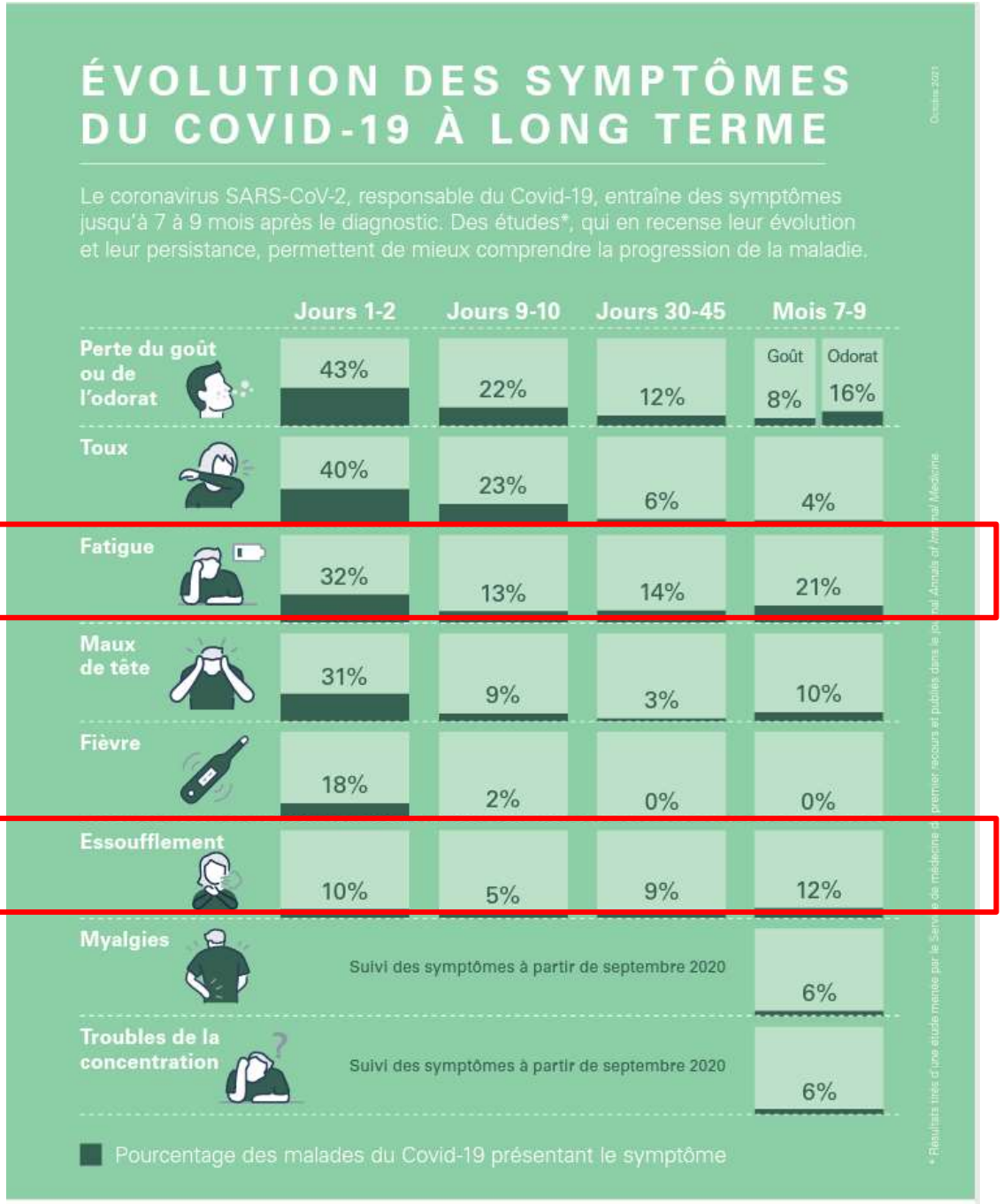
Figure 3. Symptoms of COVID-19, with the severity of each symptom in absolute numbers at 7 to 9 months from diagnosis.



* Fatigue intensity is based on the Eastern Cooperative Oncology Group performance scale (17), and dyspnea intensity is based on the modified Medical Research Council scale (18).

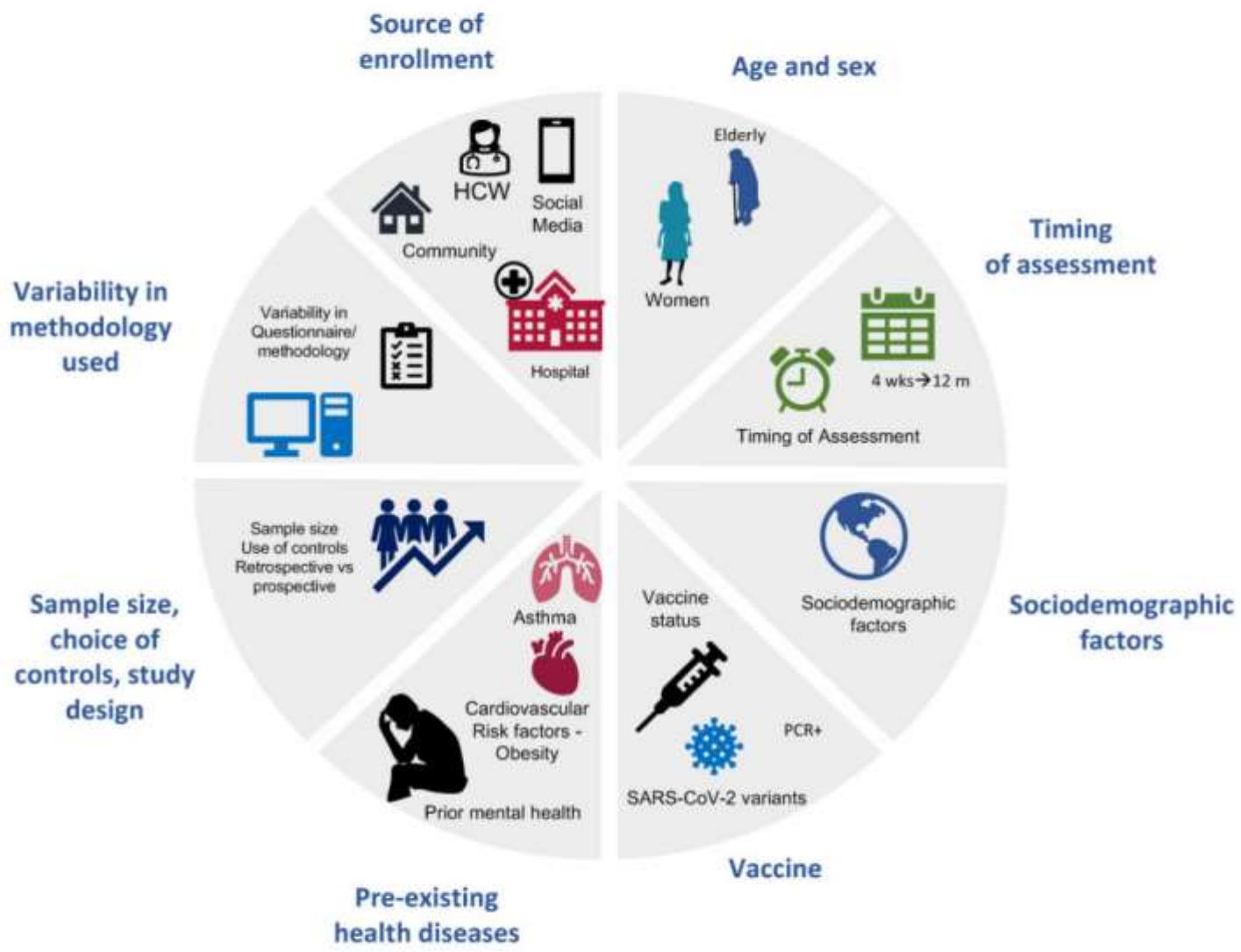
Grade 0 ECOG
= pas de limitation

Les symptômes évoluent au cours du temps!



Prévalence du COVID Long (CIM-10)

Factors that contribute to variability in prevalence estimates of Long COVID



European Heart Journal (2022) **43**, 1157–1172
https://doi.org/10.1093/eurheartj/ehac031

Coding Long COVID: Characterizing a new disease through an ICD-10 lens

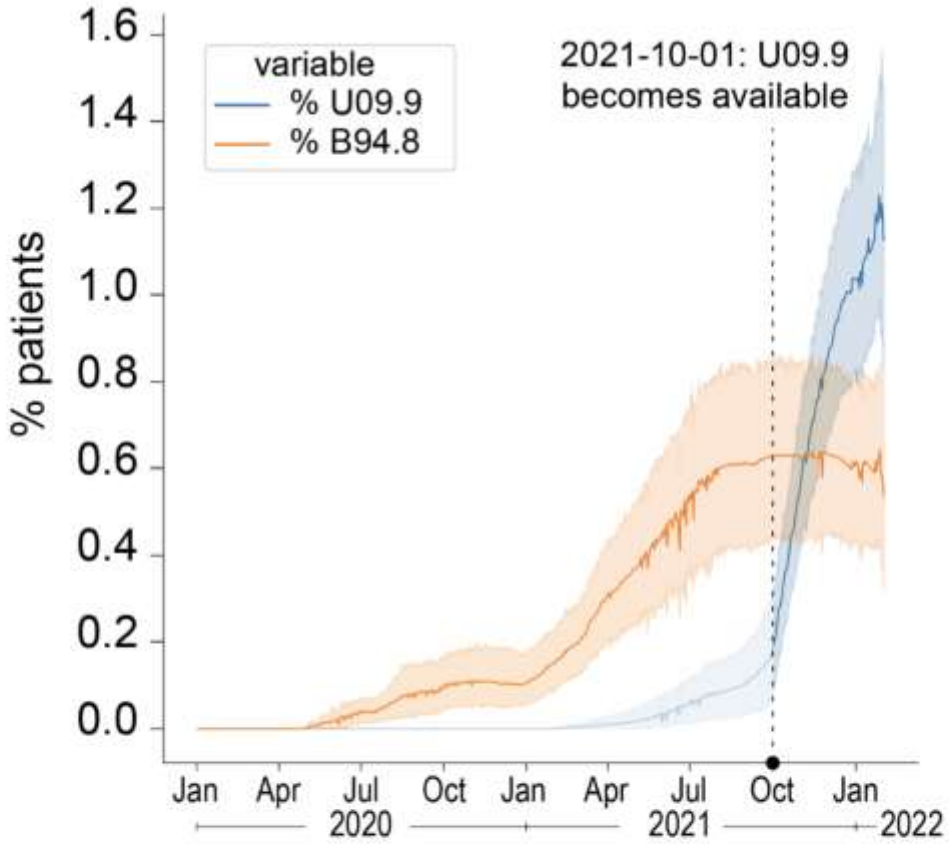


Figure 3. Clinical use of B94.8 levels off as U09.9 becomes available. Prior to U09.9's release, the CDC recommended use of B94.8 ("Sequelae of other specified infectious and parasitic diseases") as a placeholder code to signify Long COVID. Among the 28 sites using U09.9, we plotted the use of B94.8 (orange line) as a percentage of patients who had an acute COVID index (to exclude instances of B94.8, a general purpose code, used for non-COVID-related purposes). Compare this trajectory with U09.9's (blue line), which quickly ramps up in use after October 1, 2021. (U09.9 codes shown prior to that date have been retroactively applied to patients' records.)

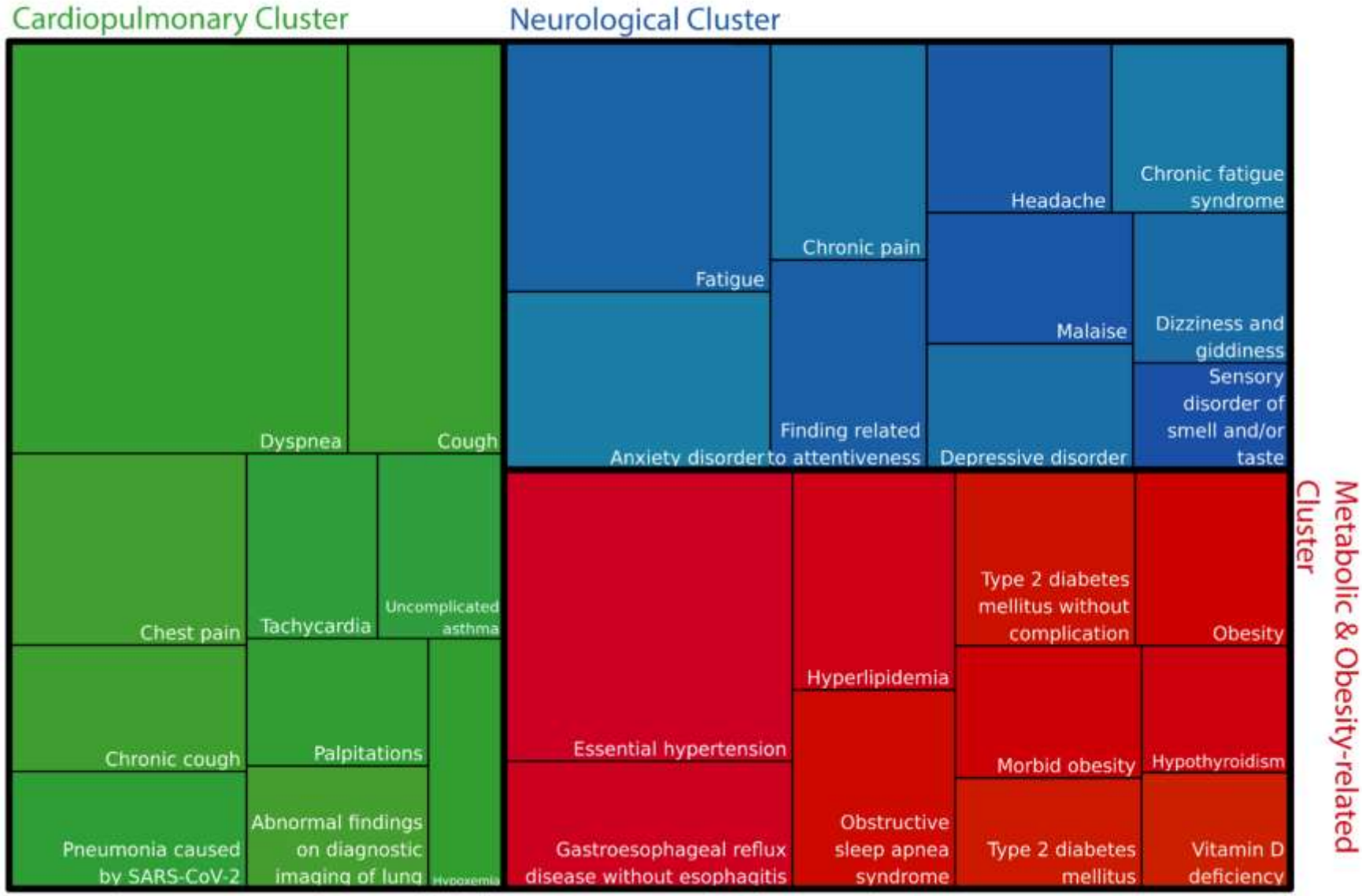


Figure 4. **Clusters of co-occurring diagnoses among patients with a U09.9 code.** When the Louvain algorithm is applied to the top 30 most frequent pairs of co-occurring diagnoses for U09.9 patients (i.e., diagnoses co-occurring in the same patient 0 through 60 days from U09.9 diagnosis date), three distinct clusters emerge (cardiopulmonary, neurological, metabolic). These clusters may represent rough subtypes of Long COVID presentations. The size of each box within a cluster reflects the frequency of that diagnosis relative to others in the diagram. Condition names are derived from the SNOMED CT terminology, mapped from their ICD-10-CM equivalents.

Impact du COVID sur certaines conditions cliniques

Morbidity and Mortality Weekly Report

Post-COVID Conditions Among Adult COVID-19 Survivors Aged 18–64 and ≥65 Years — United States, March 2020–November 2021

Lara Bull-Otterson, PhD[1]; Sarah Baca[1,2]; Sharon Saydah, PhD[1]; Tegan K. Boehmer, PhD[1]; Stacey Adjei, MPH[1]; Simone Gray, PhD[1]; Aaron M. Harris, MD[1]

- Données de dossiers médicaux électroniques aux USA (Système Cerner)
- Analyse de l'incidence de 26 conditions médicales potentiellement associées à une infection à SARS-COV2/ COVID 19
- Suivi entre 30 et 365 jours
- Ca s= COVID ou PCR SARS COV2 positives
- Contrôles = PCR négatives
- 5 contrôles matchés pour 1 cas
- Résultats stratifiés pour âge > 18 et < 65 et > 65 ans

Chez les 18-64 ans 35,4% des cas ont eu une condition médicales associée comparé à 14.6% des contrôles

MMWR / May 27, 2022 / Vol. 71 / No. 21

TABLE. Percentage of adult COVID-19 case-patients and control patients with ≥1 post-COVID–attributable incident conditions and estimated number of COVID-19 survivors who will experience a post-COVID condition — United States, March 2020–November 2021

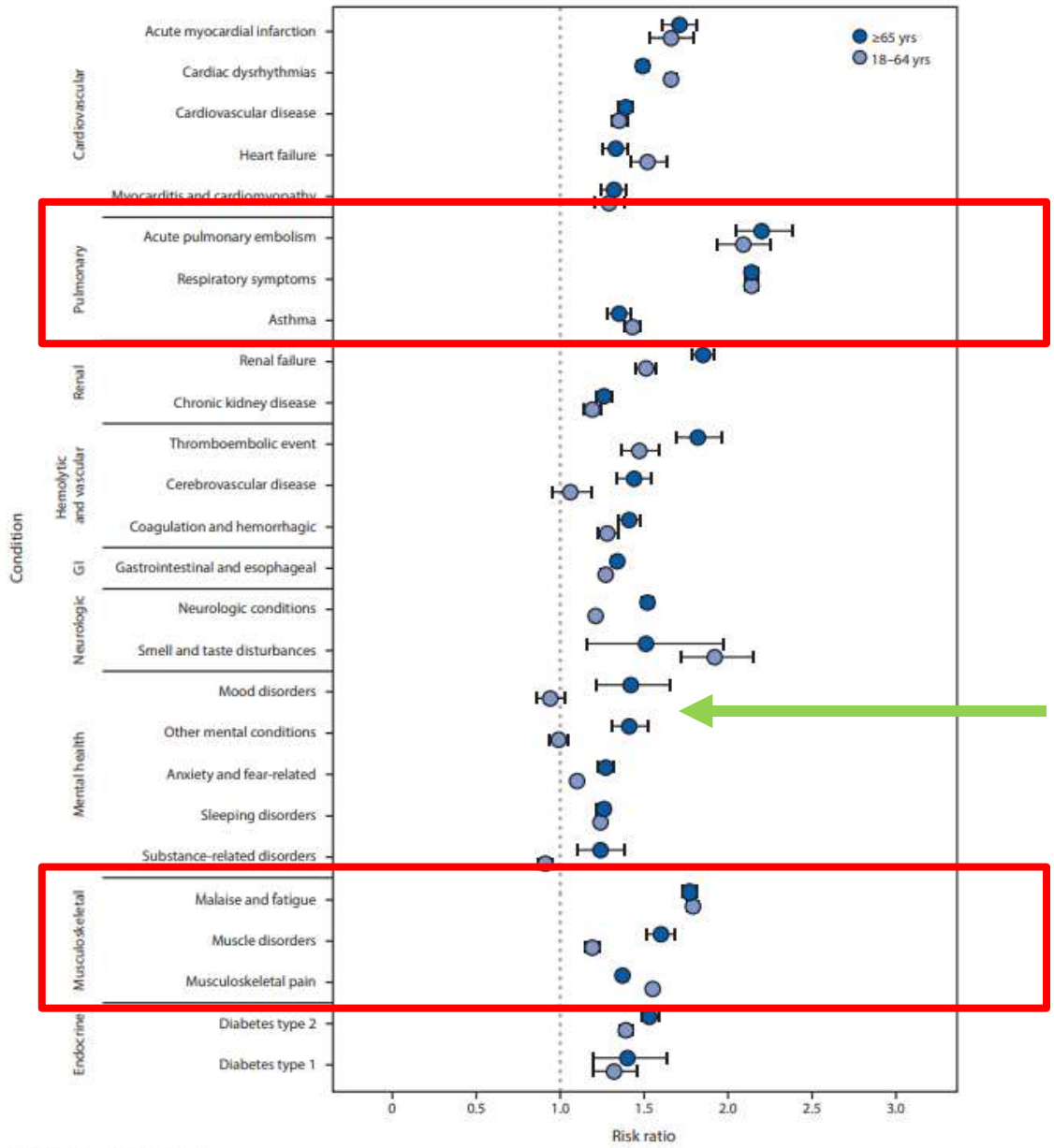
Age group, yrs	No. of patients (column %)		No. of patients with ≥1 incident condition (column %*)		Absolute risk difference†	No. of COVID-19 survivors with a post-COVID condition§
	Case-patients	Control patients	Case-patients	Control patients		
18–64	254,345 (72.0)	1,051,588 (64.1)	90,111 (35.4)	154,011 (14.6)	20.8	1/5
≥65	98,819 (28.0)	589,188 (35.9)	44,840 (45.4)	108,850 (18.5)	26.9	1/4
Total	**353,164 (100)**	**1,640,776 (100)**	**134,951 (38.2)**	**262,861 (16.0)**	**22.2**	**1/4–5**

* Percentage of COVID-19 case-patients or control patients with ≥1 incident condition divided by the total study COVID-19 cohort or control cohort row's age group total.

† Percentage point difference between COVID-19 case-patients and control patients (e.g., the value 20.8 is calculated as 35.4 minus 14.6).

§ Number of COVID-19 survivors who experienced a post-COVID condition estimated as the inverse of the absolute risk difference.

FIGURE. Risk ratios* for developing post-COVID conditions among adults aged 18–64 years and ≥65 years — United States, March 2020–November 2021



Prédominance chez > 65 ans

Abbreviation: GI = gastrointestinal.
* With CIs indicated by error bars; some error bars are not visible because of small CIs.

Facteurs de risque

Attributes and predictors of long COVID

Carole H. Sudre[1,2,3], Benjamin Murray[1], Thomas Varsavsky[1], Mark S. Graham[1], Rose S. Penfold[4], Ruth C. Bowyer[5], Joan Capdevila Pujol[5], Kerstin Klaser[1], Michela Antonelli[1], Liane S. Canas[1], Erika Molteni[1], Marc Modat[1], M. Jorge Cardoso[1], Anna May[5], Sajaysurya Ganesh[5], Richard Davies[5], Long H. Nguyen[6], David A. Drew[6], Christina M. Astley[7], Amit D. Joshi[6], Jordi Merino[8,9,10], Neli Tsereteli[11], Tove Fall[12], Maria F. Gomez[11], Emma L. Duncan[4], Cristina Menni[4], Frances M. K. Williams[4], Paul W. Franks[4,11], Andrew T. Chan[6], Jonathan Wolf[5], Sebastien Ourselin[1,13,14], Tim Spector[4,14] and Claire J. Steves[4,14] ✉

NATURE MEDICINE | VOL 27 | APRIL 2021 | 626–631 | www.nature.com/naturemedicine

Table 1 | Characteristics of individuals with COVID-19 by symptom duration, compared to age-, sex- and BMI-matched app users who tested negative for COVID-19

	Positive PCR test					Matched negative sample
	Short (<10 d)	LC28 (≥28 d) (including LC56)	LC56 (≥56 d)	Intermediate (≥10 d < 28 d	Overall	
Number	1,591	558	189	1,915	4,182	4,182
UK/SE/US (numbers; %)	1,365/139/87; 85.8/8.7/5.5	466/57/35; 83.5/10.2/6.3	165/12/12; 87.3/6.3/6.3	1,558/271/86; 81.4/14.2/4.5	3,491/473/218; 83.5/11.3/5.2	3,882/131/169; 92.8/3.1/4.1
Male (%)	32.7	20.3***	16.9*	27.9	28.5	28.5
Age, years (median, IQR)	38 (29–49)	50 (39–57)***	52 (43–59)***	43 (33–53)	42 (32–53)	42 (32–53)
Age group (18–49/50–69/ >70) (numbers; %)	1,122/331/38; 75.3/22.2/2.5	259/262/24; 47.5/48.1/4.4	69/96/11; 39.2/54.5/6.3	1,293/594/28; 67.5/31.0/1.5	2,627/1,195/96; 62.8/28.6/2.3	2,821/1,264/97; 67.5/30.2/2.3
Obese (%)	23.8	27.6*	26.5	27.7***	26.3	26.4
BMI (kg/m²) (median, IQR)	25.5 (22.7–29.7)	26.1 (23.3–30.5)	25.9(23.3–30.5)	26.2 (23.2–30.7)***	25.9(23.3–30.3)	25.9 (23.0–30.3)
Asthma (%)	7.7	15.8***	18.0***	10.0*	10.0	13.7
Lung disease (%)	12.8	16.5**	15.9	13.3	13.6	13.7
Diabetes (%)	3.0	3.9	5.8*	2.6	2.9	2.8
Heart disease (%)	1.7	3.2**	4.8**	1.6	1.9	1.7
Kidney disease (%)	0.5	0.9	0.5	0.4	0.6	0.6
IMD (median decile, IQR)	7 (4–9)	7 (5–9)	7 (5–9)	7 (4–9)*	7 (4–9)	7(5–9)***
IMD quintiles[a] (numbers; %)	64/75/334/132/634 5.2/6.1/27.0/10.7/51.2	23/23/86/49/240 5.5/5.5/20.4/11.6/57.0	10/9/26/18/88 6.6/6.0/17.2/ 11.9/58.3	155/246/310/ 334/397 10.7/17.1/21.5/ 23.2/27.5	158/194 /830/ 363 /1653 4.9 /6.1/26.0/ 11.4/51.7	118/193/895/ 376/2057 3.2/5.3/24.6/ 10.3/56.5
Visit to hospital (%)	7.0	31.5***	43.9***	14.3***	13.9	4.1
Number of symptoms in the first week (median, IQR)	5 (3–7)	7 (5–9)***	7 (5–9)***	6(4–8)***	6 (4–8)	3 (2–4)***

[illegible] comparisons were performed with respect to the 'short duration' within the positive group. Matched negatives were compared to the overall positive population. Two-sided Mann–Whitney *U* tests were performed for continuous variables, and chi-squared tests were performed when comparing proportions. UK, United Kingdom; SE, Sweden; US, United States of America, [a] IMD information is available only for app users from the UK who entered a complete postcode.

Risque de COVID long en fonction des variants du virus

Risk of long COVID associated with delta versus omicron variants of SARS-CoV-2

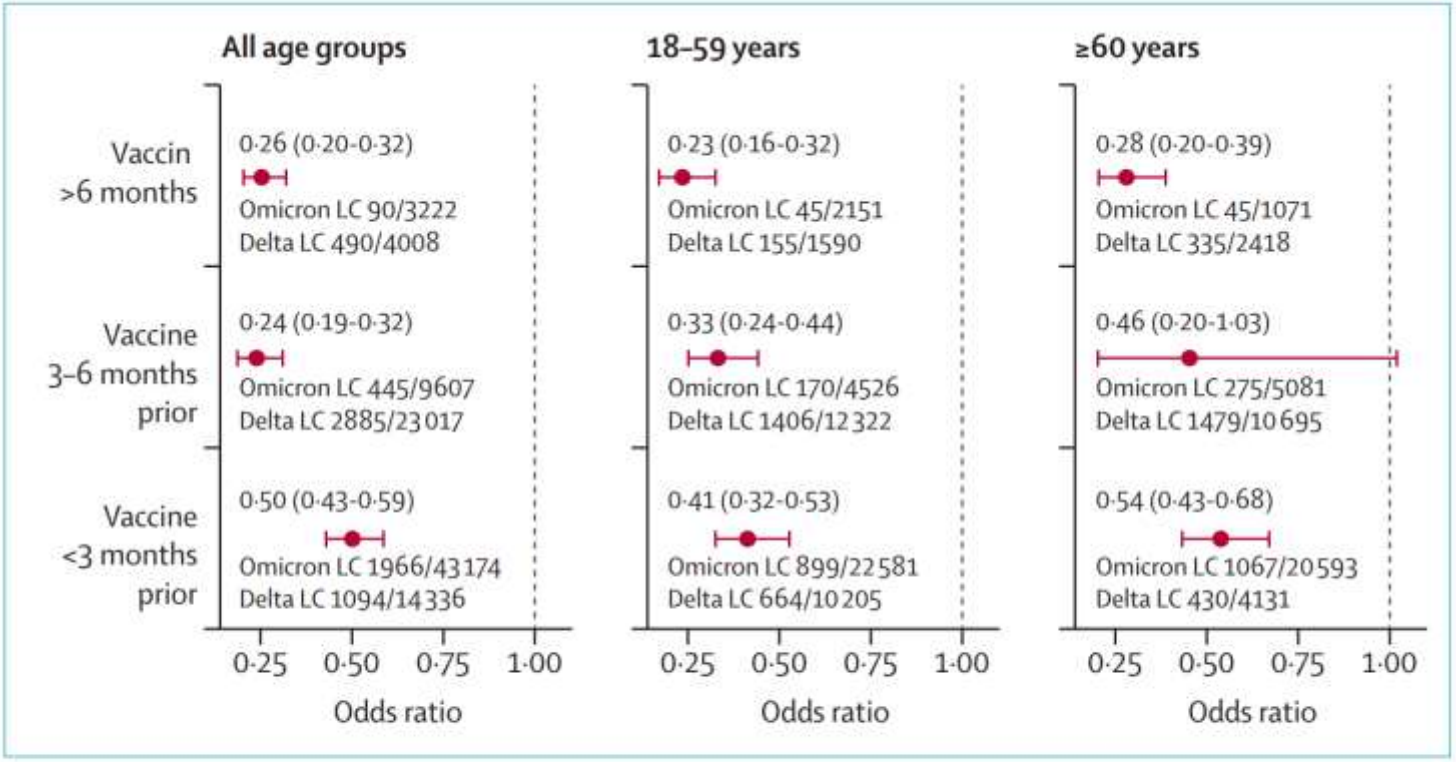
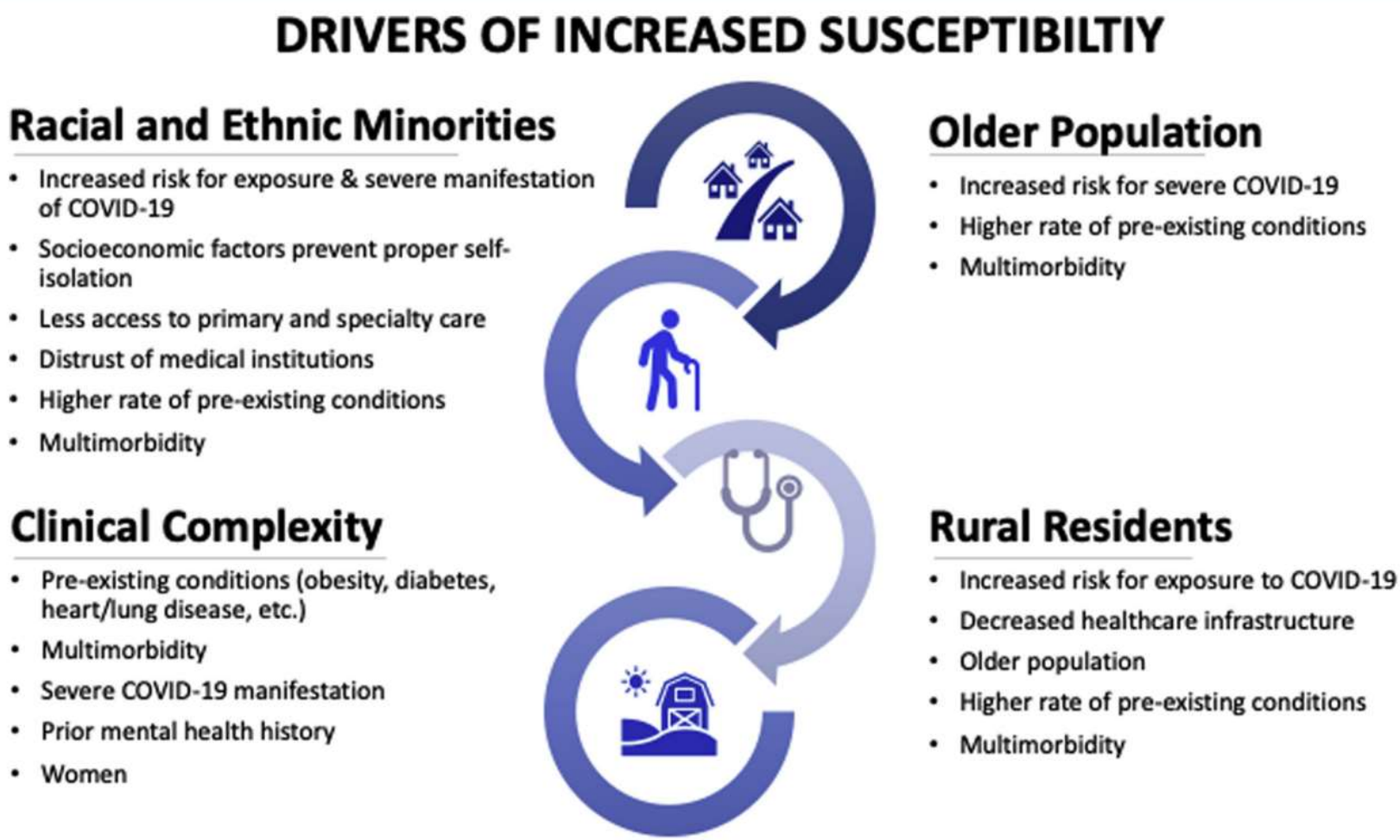


***Figure*: Odds ratio of long COVID (LC) adjusted by age, sex, body-mass index, Index of Multiple Deprivation, presence of comorbidities, and vaccination status**

Omicron long COVID and delta long COVID indicate, for each stratum, the number of users with long COVID over the total number of users of that stratum.

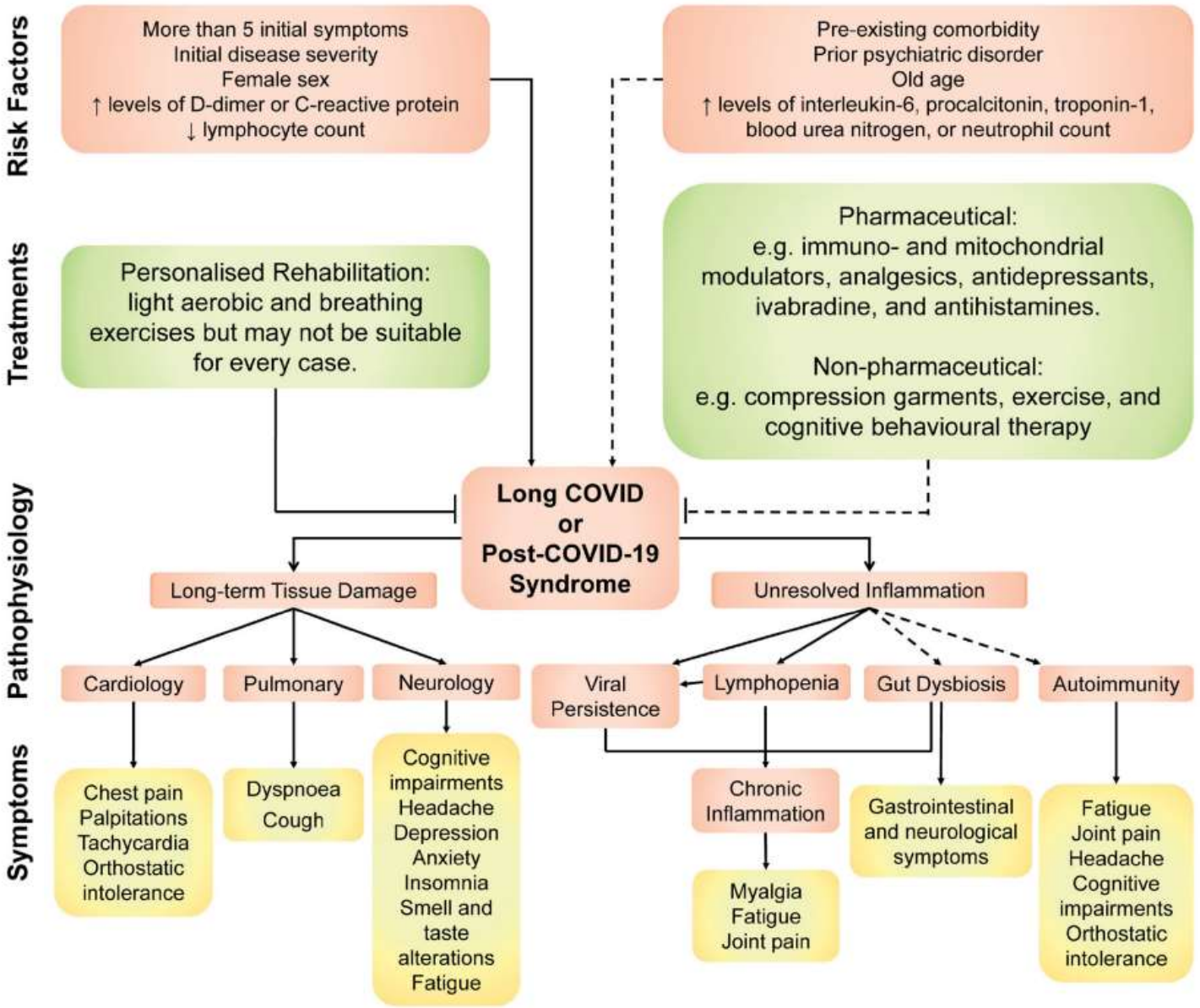
FIGURE 1 Patients at Highest Risk for PASC



Whereas data on risk factors for postacute sequelae of severe acute respiratory syndrome coronavirus 2 infection (PASC) are scarce, early published reports suggests several clinical and sociodemographic risk factors. COVID-19 = coronavirus disease-2019.

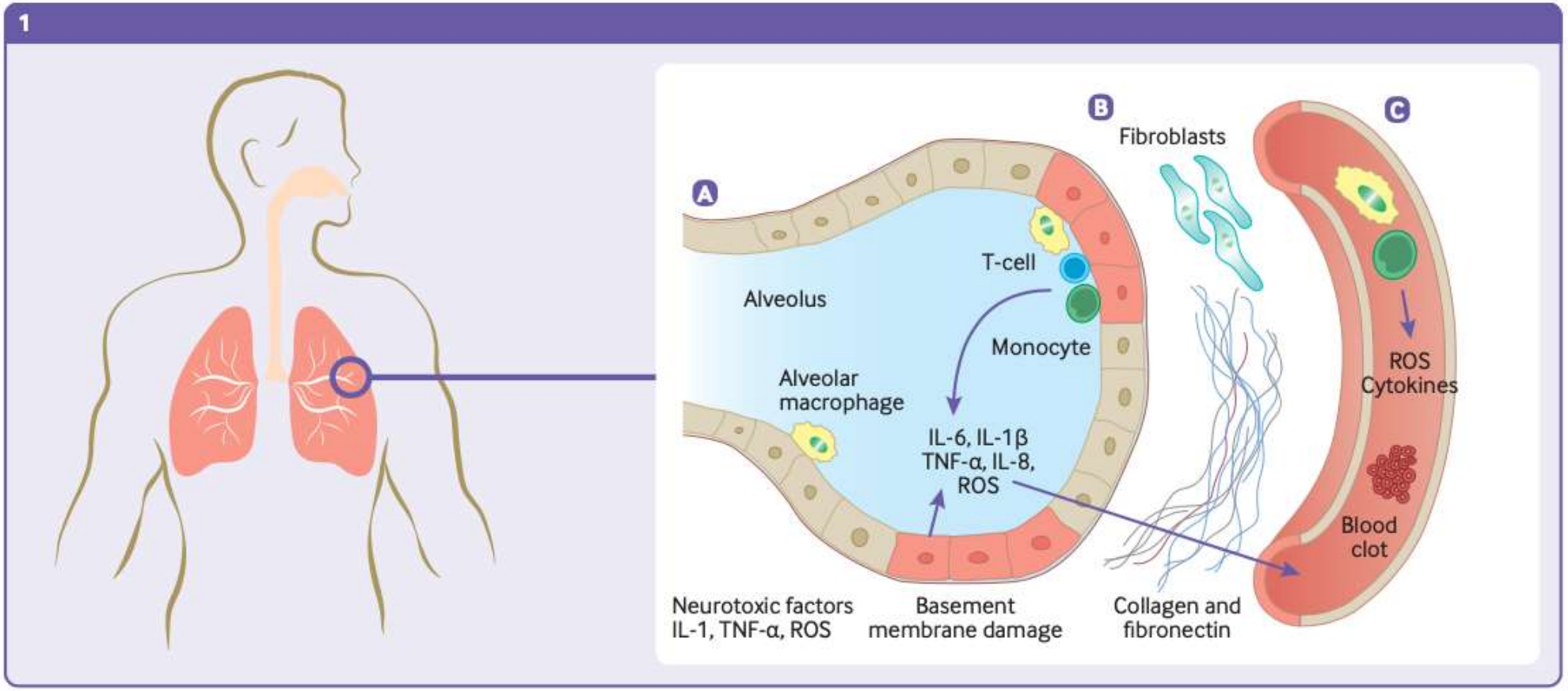
Physiopathologie

Résumé physiopathologique du COVID long



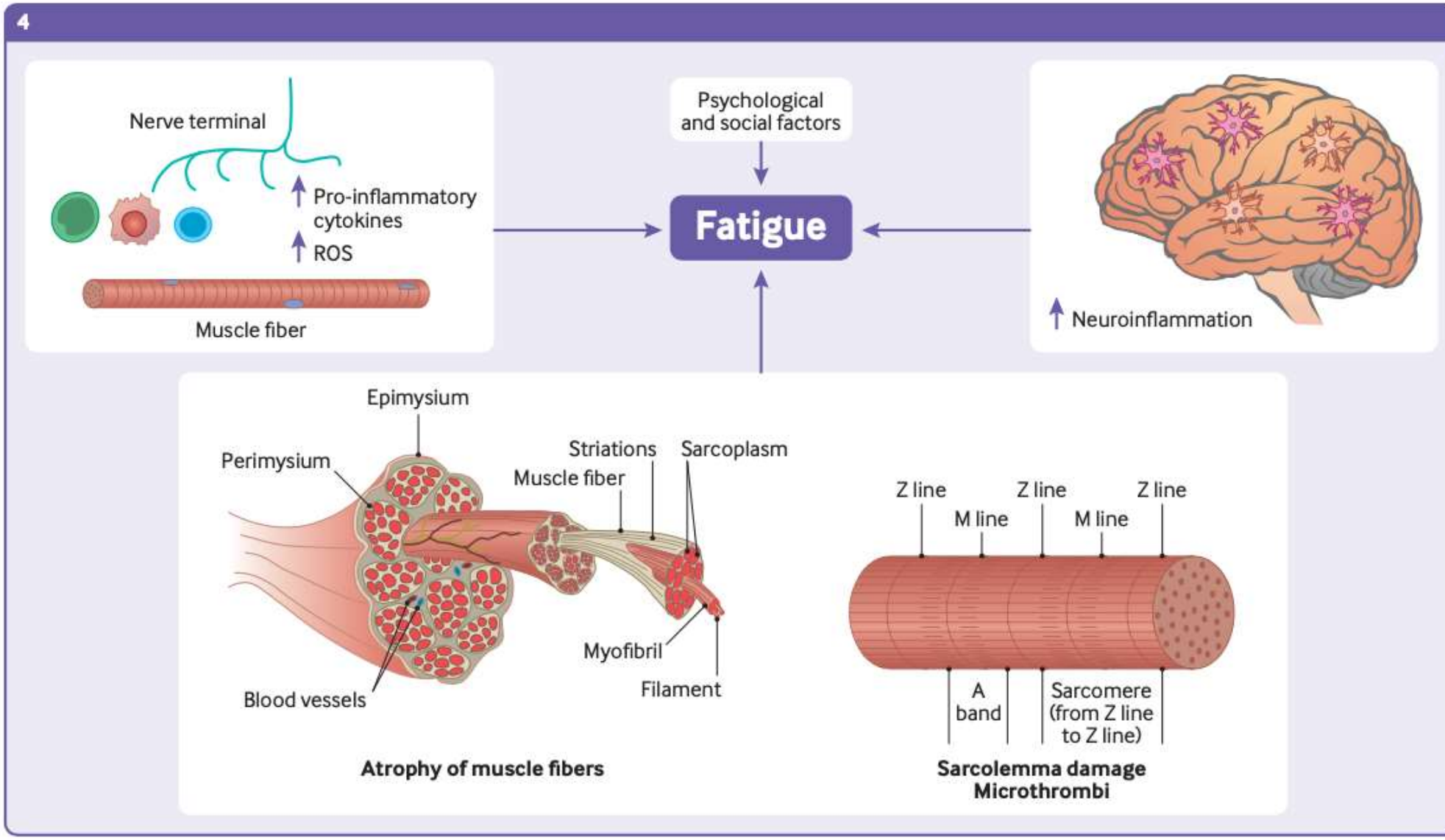
INFECTIOUS DISEASES,
2021; VOL. 0,
NO. 0, 1–18

Dyspnée

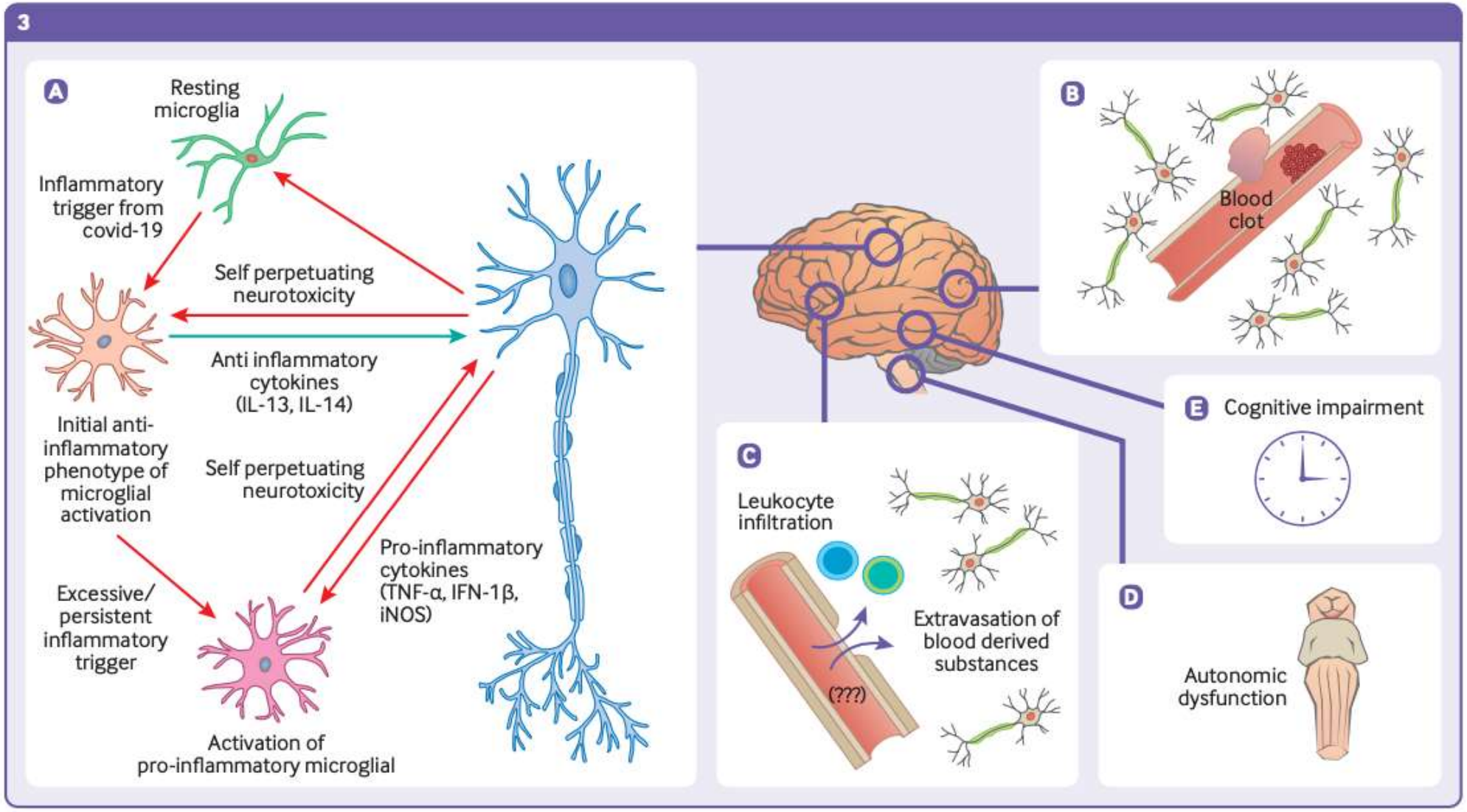


thebmj | *BMJ* 2021;374:n1648 | doi: 10.1136/bmj.n1648

Fatigue


4
Nerve terminal
Pro-inflammatory cytokines
ROS
Muscle fiber
Psychological and social factors
Fatigue
Neuroinflammation
Epimysium
Perimysium
Striations
Sarcoplasm
Muscle fiber
Myofibril
Filament
Blood vessels
Atrophy of muscle fibers
Z line
Z line
Z line
M line
M line
A band
Sarcomere (from Z line to Z line)
Sarcolemma damage
Microthrombi

Troubles du SNC



Diagnostics différentiels similaires

Pathologie	Description
Long COVID ou post-COVID 19 syndrome	1. ≥ 3 mois de symptômes après infection à SRAS-CoV2 2. Fatigue, dyspnée, associé à des symptômes neurologiques, neuropsychiatriques, cardiaques ou gastro-intestinaux
ME/CFS **Myalgic Encephalomyelitis/ Chronic fatigue syndrome**	1. ≥ 6 mois après de possibles triggers comme stress ou infection 2. 1994 CDC criteria: Fatigue avec au moins 4 des symptômes suivants : céphalées, myalgies, arthralgies, post-exertional malaise, douleurs à la gorge, ADP douloureuses, sommeil non réparateur ou atteinte cognitive
POTS: Postural orthostatic tachycardia syndrome	1. ≥ 6 mois après un trigger comme infection virale, chirurgie, grossesse, ou contusion cérébrale 2. ↑ > 30 battement/ min après 5-10 minutes de position debout en l'absence d'hypotension orthostatique.

Impact sur la vie quotidienne
Incapacité de retourner travailler

The Journal of Infectious Diseases

MAJOR ARTICLE

Point Prevalence Estimates of Activity-Limiting Long-term Symptoms Among United States Adults ≥1 Month After Reported Severe Acute Respiratory Syndrome Coronavirus 2 Infection, 1 November 2021

Mark W. Tenforde,[1,©] Owen J. Devine,[2] Heather E. Reese,[1] Benjamin J. Silk,[1] A. Danielle Iuliano,[1] Ryan Threlkel,[3] Quan M. Vu,[1] Ian D. Plumb,[1] Betsy L. Cadwell,[1] Charles Rose,[1] Molly K. Steele,[1] Melissa Briggs-Hagen,[1] Daniel Ayoubkhani,[4,©] Piotr Pawelek,[4] Vahé Nafilyan,[4] Sharon H. Saydah,[1] and Jeanne Bertolli[1]

Background. Although most adults infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) fully recover, a proportion have ongoing symptoms, or post-COVID conditions (PCC), after infection. The objective of this analysis was to estimate the number of United States (US) adults with activity-limiting PCC on 1 November 2021.

Methods. We modeled the prevalence of PCC using reported infections occurring from 1 February 2020 to 30 September 2021, and population-based, household survey data on new activity-limiting symptoms ≥1 month following SARS-CoV-2 infection. From these data sources, we estimated the number and proportion of US adults with activity-limiting PCC on 1 November 2021 as 95% uncertainty intervals, stratified by sex and age. Sensitivity analyses adjusted for underascertainment of infections and uncertainty about symptom duration.

Table 2. Estimated Point Prevalence of the Number of Adults in the United States With Activity-Limiting Post-COVID Conditions, 1 November 2021

Characteristic	Cumulative Reported SARS-CoV-2 Infections That Occurred Through 30 September 2021	PCC Cases		
	No., Millions	No., Millions, 95% UI	% of Infected, 95% UI	% of Adult Population, 95% UI[a]
Total	36.3	3.0–5.0	8.3–13.8	1.2–1.9
Sex				
Male	17.1	1.2–2.1	6.8–12.4	.9–1.7
Female	19.2	1.8–2.9	9.5–15.3	1.4–2.2
Age, y				
18–49	23.1	1.5–2.4	6.5–10.3	1.1–1.7
50–64	8.3	1.0–1.6	11.8–19.7	1.5–2.5
≥65	5.0	.5–1.1	9.6–21.7	.9–2.0

Abbreviations: PCC, post-COVID conditions; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; UI, uncertainty interval.

[a]Source: https://www.census.gov/data/tables/2020/demo/popest/2020-demographic-analysis-tables.html.

Patients with uncomplicated COVID-19 have long-term persistent symptoms and functional impairment similar to patients with severe COVID-19: a cautionary tale during a global pandemic

Table 1

	Total N=118	Hospitalized N=22 (18.6%)	Non-hospitalized N=96 (81.4%)	P-value
Male sex (n, %)	63 (53.4%)	14 (65.6%)	49 (51.0%)	0.29
Age				
Mean (SD)	43.3 (14.4)	50.6 (15.1)	41.6 (12.5)	0.019
Work Productivity/Activity Index (n, N, %)*				
Currently employed	80/117 (67.3%)	16/22 (72.7%)	64/95 (67.4%)	0.63
Missed work due to health	9/78 (11.5%)	2/15 (13.3%)	7/63 (11.1%)	0.81
Any Work Impairment due to health	28/72 (38.9%)	7/12 (58.3%)	21/60 (35.0%)	0.13
Any Activity impairment due to health	54/106 (50.9%)	14/19 (73.7%)	40/87 (46.0%)	0.03

Sixty-Day Outcomes Among Patients Hospitalized With COVID-19

Table 2. 60-Day Outcomes Among 1250 Survivors of COVID-19 Hospitalization, 488 of Whom Completed the Telephone Survey

Outcome	Value*
Return to normal activity	
Unable to return to normal activity	188
New or worsening difficulty completing activities of daily living‡	58
Return to employment	
Employed full- or part-time before COVID-19 hospitalization	195
Able to return to work by 60 d after discharge	117
Median days from discharge to work return (IQR)	27 (13–42)
Reduced hours and/or modified duties upon return to work due to health	30
Unable to return to work	78
Because of health	45
Because of job loss	21

9%

Characterizing long COVID in an international cohort: 7 months of symptoms and their impact

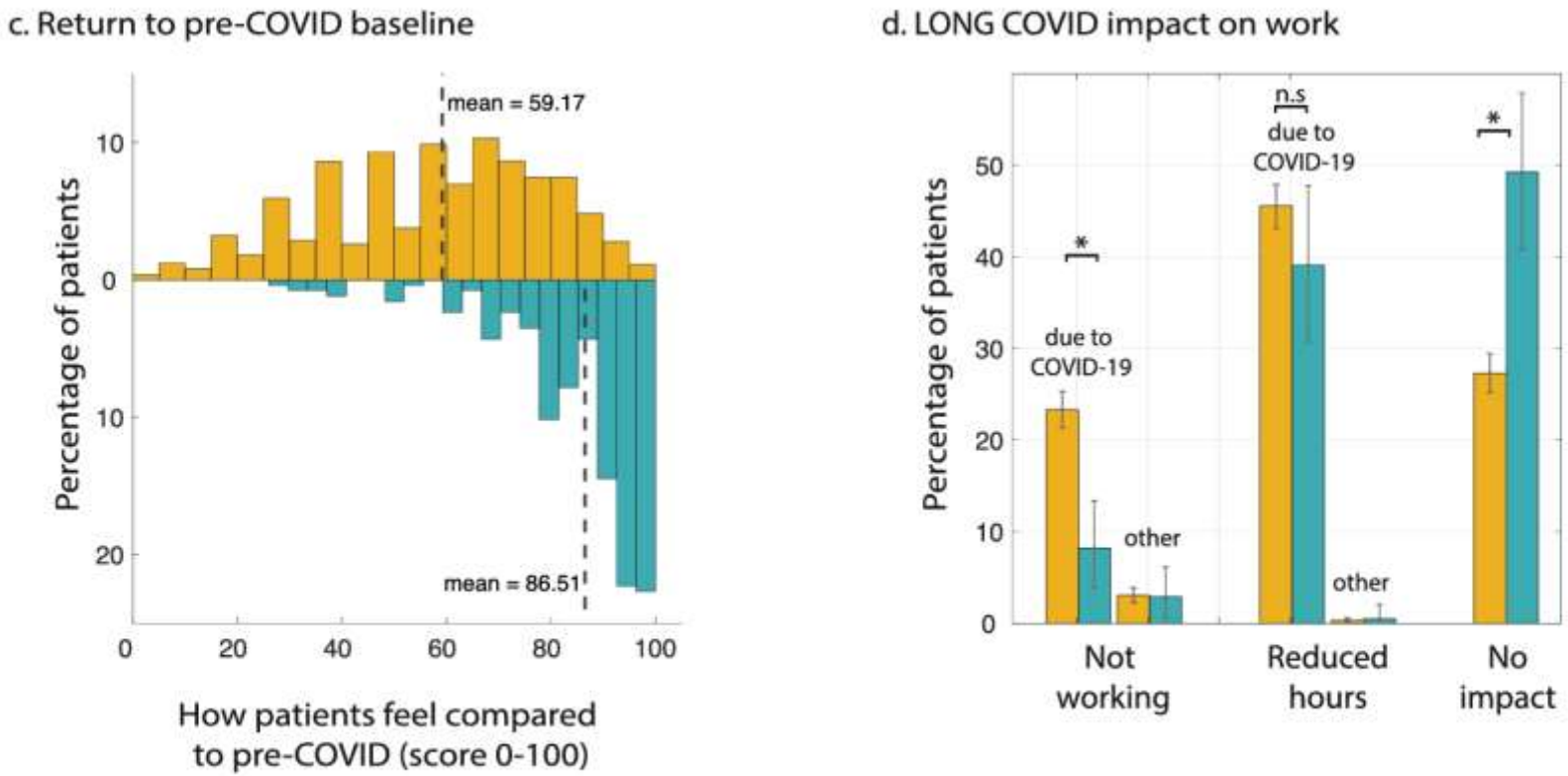


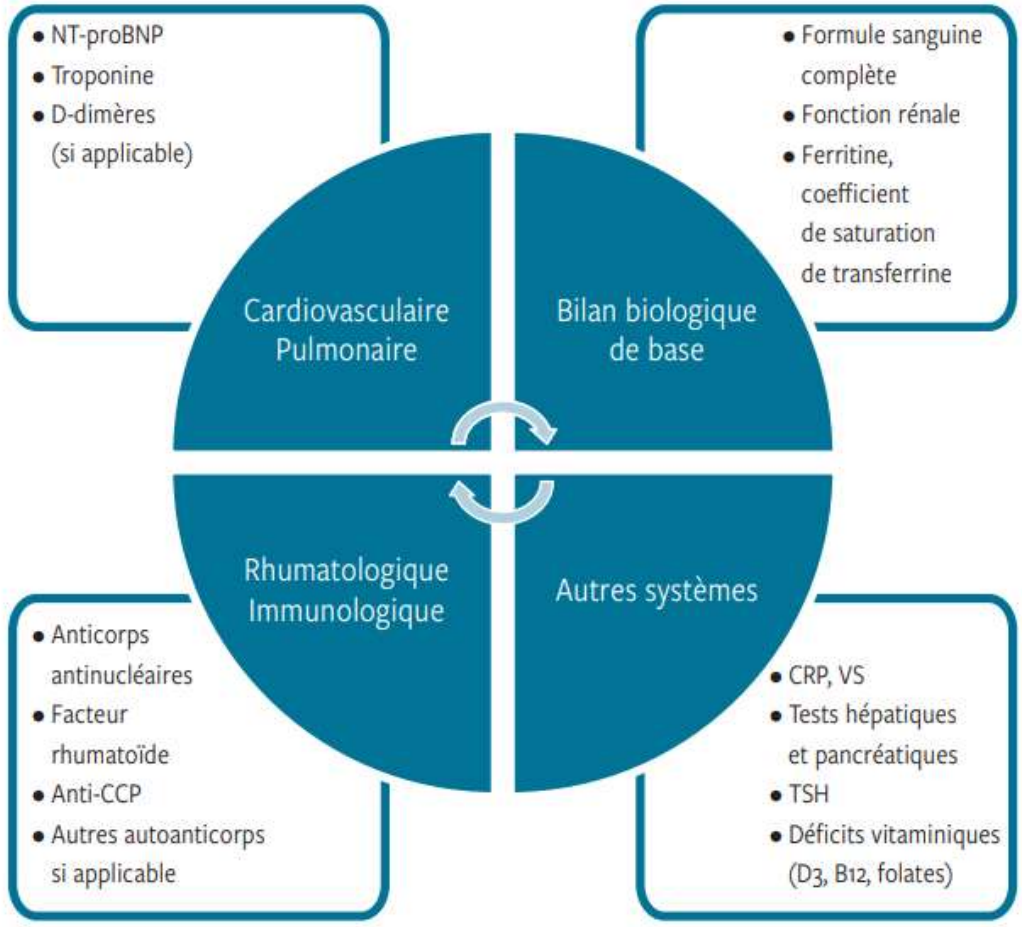
Fig. 12. Return to baseline and work impact. a) Distribution of Fatigue Assessment Scale scores for recovered (n = 257, blue) and unrecovered (n = 3505, yellow) population. The vertical dashed lines indicate the range for "No fatigue"[10-21], "Fatigue"[22-34], and "Extreme" (>=35). Mean values for each distribution are also marked. b) Percentage of participants in each of the three categories. c) Distribution of scores in response to "return to pre-COVID" health baseline, where 0 indicates worst (most different from baseline) and 100 indicates best (most similar to baseline). d) Working status due to COVID-19. Error bars show 95% simultaneous confidence interval.

Prise de charge / Traitement

Prise en charge des patients avec Covid long: illustration par des cas cliniques

Dr ISSA MARONE DIOP[a,*], Dr IOANNIS KOKKINAKIS[a,*], Dre CÉCILIA WENKER DABIRI[a], Dr SERGE DE VALLIÈRE[a,b], Pr JACQUES CORNUZ[a], Pr BERNARD FAVRAT[a]

Anti-CCP: anti-peptides cycliques citrullinés; CRP: protéine C réactive; VS: vitesse de sédimentation; TSH: thyroid stimulating hormon.



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Prise en charge des patients avec Covid long: illustration par des cas cliniques

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TABLEAU 1 **Recommandations d'évaluation et de prise en charge du Covid long**[4,12,17]

MMSE: Mini-Mental State Examination; MOCA: Montreal Cognitive Assessment; POTS: syndrome de tachycardie orthostatique posturale.

Symptômes	Évaluation	Prise en charge
Fatigue	• Examens psychométriques comme le Prime-MD, échelle de fatigue de Chadler, échelle de somnolence d'Epworth • Bilan biologique et paraclinique de fatigue[21]	• En présence de signes d'intolérance à l'effort, appliquer la technique de Pacing:[18] cesser de repousser les limites, repos, rythmer les activités quotidiennes et cognitives • Apprendre à connaître ses propres réserves d'énergie • Prévoir des temps de repos pour rythmer la journée • Diviser l'activité en petites tâches avec des pauses • Éviter la tentation de faire juste un peu plus • Lorsque les symptômes s'atténuent, envisager d'augmenter prudemment l'activité physique de 10% tous les mois • Approche biopsychosociale et multidisciplinaire • Thérapies cognitivocomportementales • Adaptation du poste de travail • Reconnaissance, écoute active, accompagnement
Symptômes neurologiques, anosmie, agueusie	• Examen clinique neurologique et ORL • Consultation neurologique et/ou ORL si persistance	• Rééducation neurologique, physiothérapie • Sérum physiologique, rééducation olfactive en sentant différentes odeurs (par exemple: citronnelle, rose, café) selon le protocole de l'association anosmie.org disponible en ligne[22,23]
Céphalées	Examen neurologique, éventuellement imagerie cérébrale, consultation spécialisée	• Médecine manuelle • Thérapies cognitivocomportementales
Symptômes cardiorespiratoires, dyspnée, toux, douleur thoracique	• Modified Medical Research Council Dyspnea Scale – mMRC. Questionnaire de Nijmegen (syndrome d'hyperventilation, troubles fonctionnels respiratoires)[24] • Examen clinique, bilan biologique et radiologique pulmonaire (Rx vs CT-scan). • Examen fonctionnel respiratoire • Consultation pneumologique • Éventuellement bilan cardiologique, échographie transthoracique, ergospirométrie	• Rééducation respiratoire • Proposer des exercices de respiration (fiche explicative de World Physiotherapy pour les patients disponible en ligne)[25] • Thérapie cognitivocomportementale • Réentraînement physique

FIGURE. The "Stop. Rest. Pace" approach to safely manage physical and cognitive activities while recovering from long COVID.

Prise en charge des patients avec Covid long: illustration par des cas cliniques

Dr ISSA MARONE DIOP[a*], Dr IOANNIS KOKKINAKIS[a*], Dre CÉCILIA WENKER DABIRI[a], Dr SERGE DE VALLIÈRE[a,b], Pr JACQUES CORNUZ[a], Pr BERNARD FAVRAT[a]

Orthostatisme[26]	• Test de Schellong • Fréquence cardiaque en position debout 10 minutes après une position couchée • Diagnostic de syndrome de tachycardie orthostatique posturale (POTS) si augmentation de 30 battements par minute, ou une fréquence cardiaque excédant 120/ minutes	• Adaptation alimentaire, éviter l'alcool, augmenter l'apport en sel, s'hydrater • Éviter les gros repas • Physiothérapie – renforcement musculaire • Contention élastique • Éventuellement traitement médicamenteux, midodrine (par exemple)
Troubles psychiatriques[4,27]	Dépistage des troubles psychiatriques, Prime-MD, Patient Health Questionnaire-9 (PHQ-9), évaluation du risque suicidaire	• Prise en charge selon les recommandations psychiatriques • Approche compassionnelle et calme • Thérapies cognitivocomportementales • Accompagnement
Troubles cognitifs	Tests psychométriques MMSE, MOCA, test de l'horloge	• Approche biopsychosociale et multidisciplinaire • Thérapies cognitivocomportementales • Adaptation du poste de travail • Accompagnement
Troubles du sommeil	• Score d'Epworth • Examen clinique, bilan biologique et paraclinique • Polygraphie nocturne/polysomnographie	• Bonne hygiène de sommeil (respect du rythme nycthéméral, éviter les écrans le soir) • Approche biopsychosociale et multidisciplinaire • Thérapies cognitivocomportementales • Adaptation du poste de travail • Accompagnement.

Long Covid-19: Proposed Primary Care Clinical Guidelines for Diagnosis and Disease Management

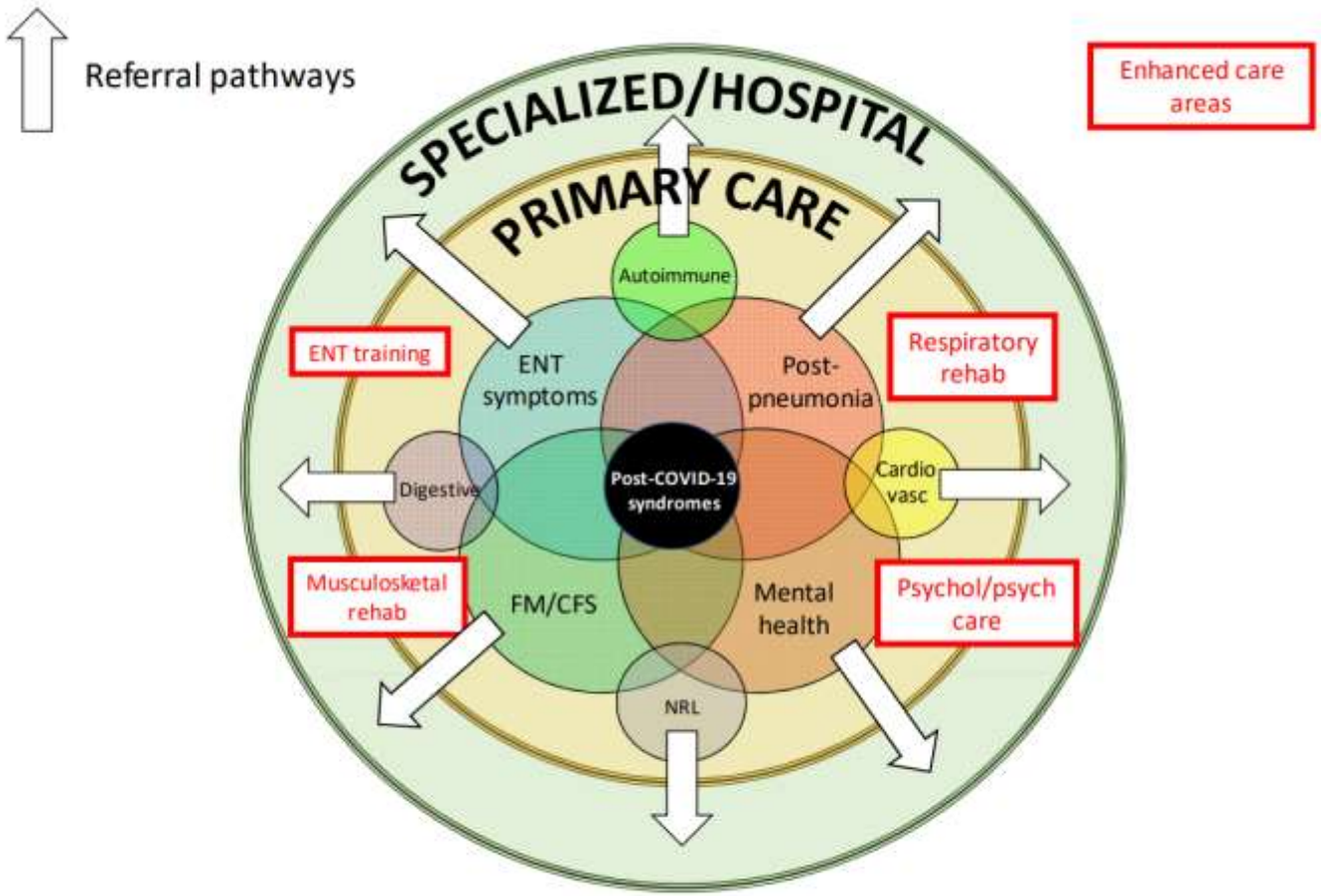
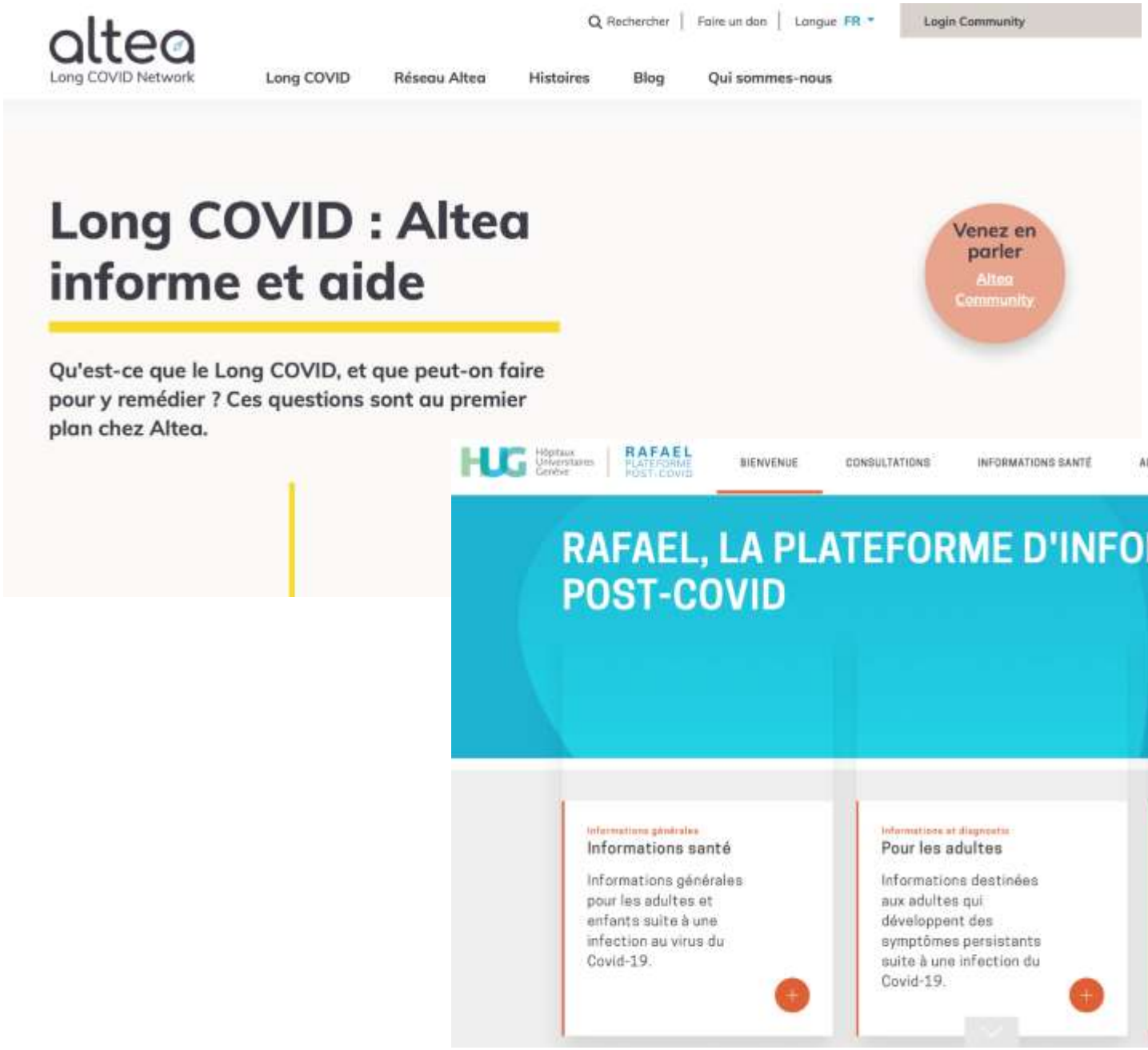


Figure 1. A graphic proposal for the multidisciplinary care of patients with long COVID-19 in primary care. Rehab: rehabilitation, ENT: Ear, Nose and Throat, FM: fibromyalgia, CFS: chronic fatigue syndrome, NRL: neurological, Cardiovasc: cardiovascular, Psychol/psych: psychological/psychiatric.


altea
Long COVID Network
Rechercher
Faire un don
Langue FR
Login Community
Long COVID
Réseau Altea
Histoires
Blog
Qui sommes-nous
Long COVID : Altea informe et aide
Qu'est-ce que le Long COVID, et que peut-on faire pour y remédier ? Ces questions sont au premier plan chez Altea.
Venez en parler
Altea Community
HUG
Hôpitaux Universitaires Genève
RAFAEL
PLATEFORME POST-COVID
BIENVENUE
CONSULTATIONS
INFORMATIONS SANTÉ
ADULTES
ENFANTS
EVÉNEMENTS
PARTENAIRES
RAFAEL, LA PLATEFORME D'INFORMATION POST-COVID
Informations générales
Informations santé
Informations générales pour les adultes et enfants suite à une infection au virus du Covid-19.
Informations et diagnostic
Pour les adultes
Informations destinées aux adultes qui développent des symptômes persistants suite à une infection du Covid-19.
Informations et diagnostic
Pour les enfants
Informations destinées aux enfants qui ont des symptômes post-Covid ou Long Covid.

Take home messages

Take home message COVID Long

- Pathologie hétérogène par les symptômes, la présentation clinique et l'évolution au cours du temps
- Suggère des pathologies ou physiopathologies diverses
- Touche aussi bien des patients traités en milieu hospitalier ou en ambulatoire
- Les études à disposition sont très hétérogènes , avec des limitation et susceptibles de bais
- Il est très important d'avoir un programme de recherche sur l'étiologie, les effets à long terme, l'impact sur la santé et le traitement des patients souffrant du COVID long
- Il est essentiel d'identifier des facteurs de risque et de protection de développer un COVID long pout implémenter des stratégies de prévention

Back up slides