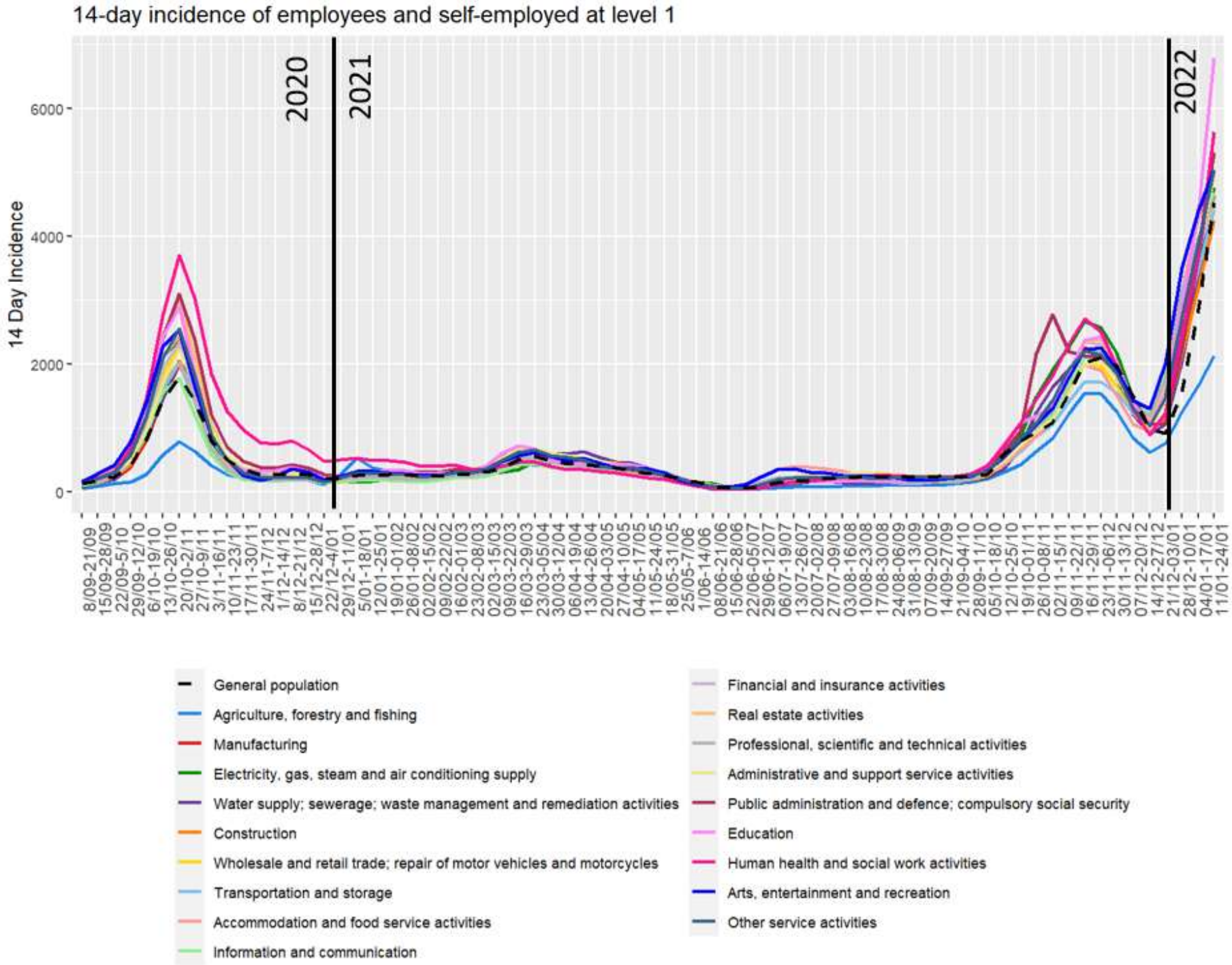
Long Covid and return to work

Prof dr Lode Godderis

IDEWE – KU Leuven


14-day incidence of employees and self-employed at level 1
14 Day Incidence
0
2000
4000
6000
2020
2021
2022
8/09-21/09
15/09-28/09
22/09-5/10
29/09-12/10
6/10-19/10
13/10-26/10
20/10-2/11
27/10-9/11
3/11-16/11
10/11-23/11
17/11-30/11
24/11-7/12
1/12-14/12
8/12-21/12
15/12-28/12
22/12-4/01
29/12-11/01
5/01-18/01
12/01-25/01
19/01-01/02
26/01-08/02
02/02-15/02
09/02-22/02
16/02-01/03
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09/03-22/03
16/03-29/03
23/03-05/04
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13/04-26/04
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11/05-24/05
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25/05-7/06
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15/06-28/06
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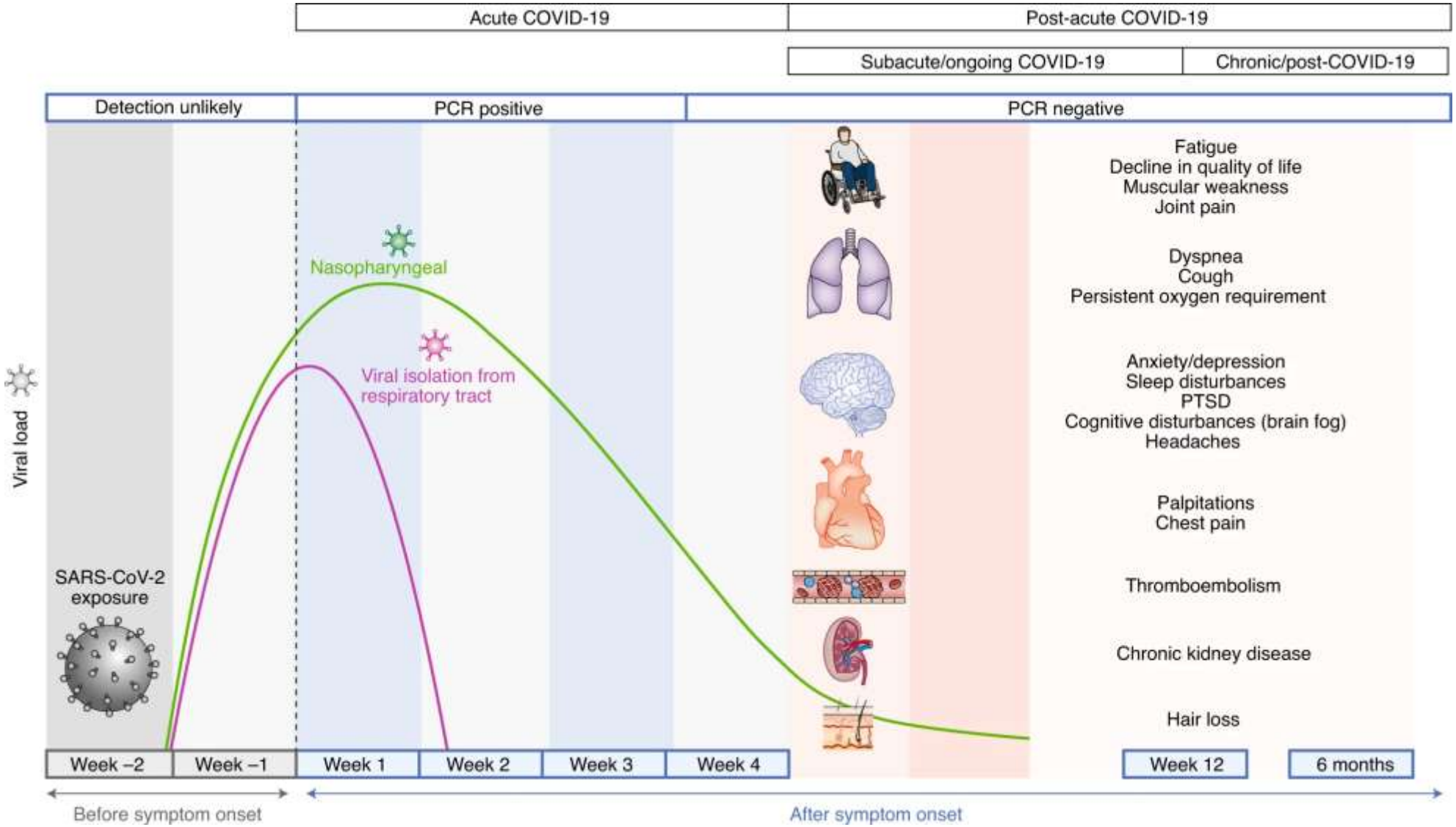
26/10-08/11
02/11-15/11
09/11-22/11
16/11-29/11
23/11-06/12
30/11-13/12
07/12-20/12
14/12-27/12
21/12-03/01
28/12-10/01
04/01-17/01
11/01-24/01
General population
Agriculture, forestry and fishing
Manufacturing
Electricity, gas, steam and air conditioning supply
Water supply; sewerage; waste management and remediation activities
Construction
Wholesale and retail trade; repair of motor vehicles and motorcycles
Transportation and storage
Accommodation and food service activities
Information and communication
Financial and insurance activities
Real estate activities
Professional, scientific and technical activities
Administrative and support service activities
Public administration and defence; compulsory social security
Education
Human health and social work activities
Arts, entertainment and recreation
Other service activities

COVID-19



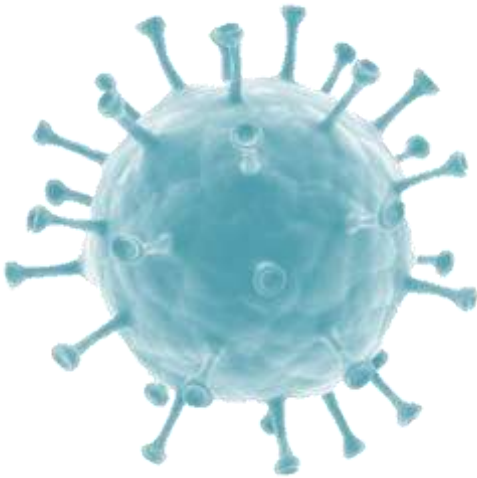
Nalbaldian et al 2021

Long COVID-19

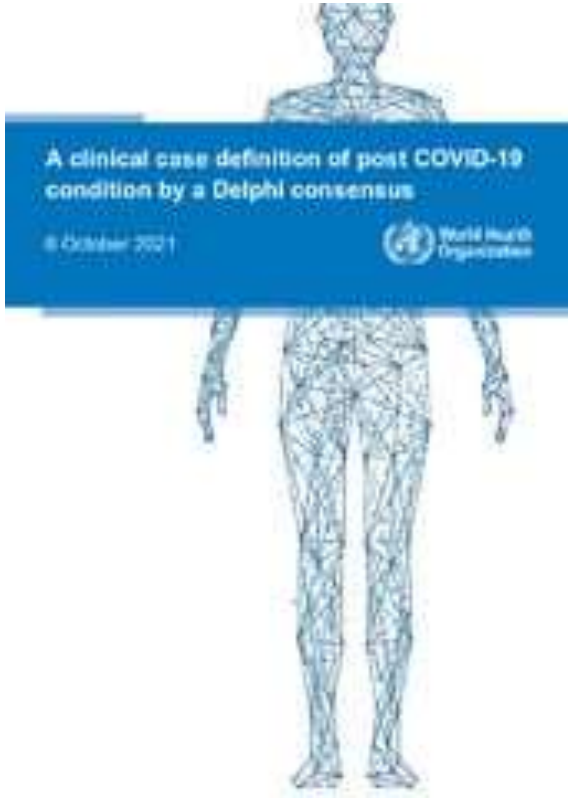
NICE Definition:

Symptoms that continue or develop after acute COVID-19, this includes:

- ongoing symptomatic COVID-19 symptoms (symptoms from 4 to 12 weeks)
- post-COVID-19-syndrome (symptoms past 12 weeks).



WHO definition Long COVID-19



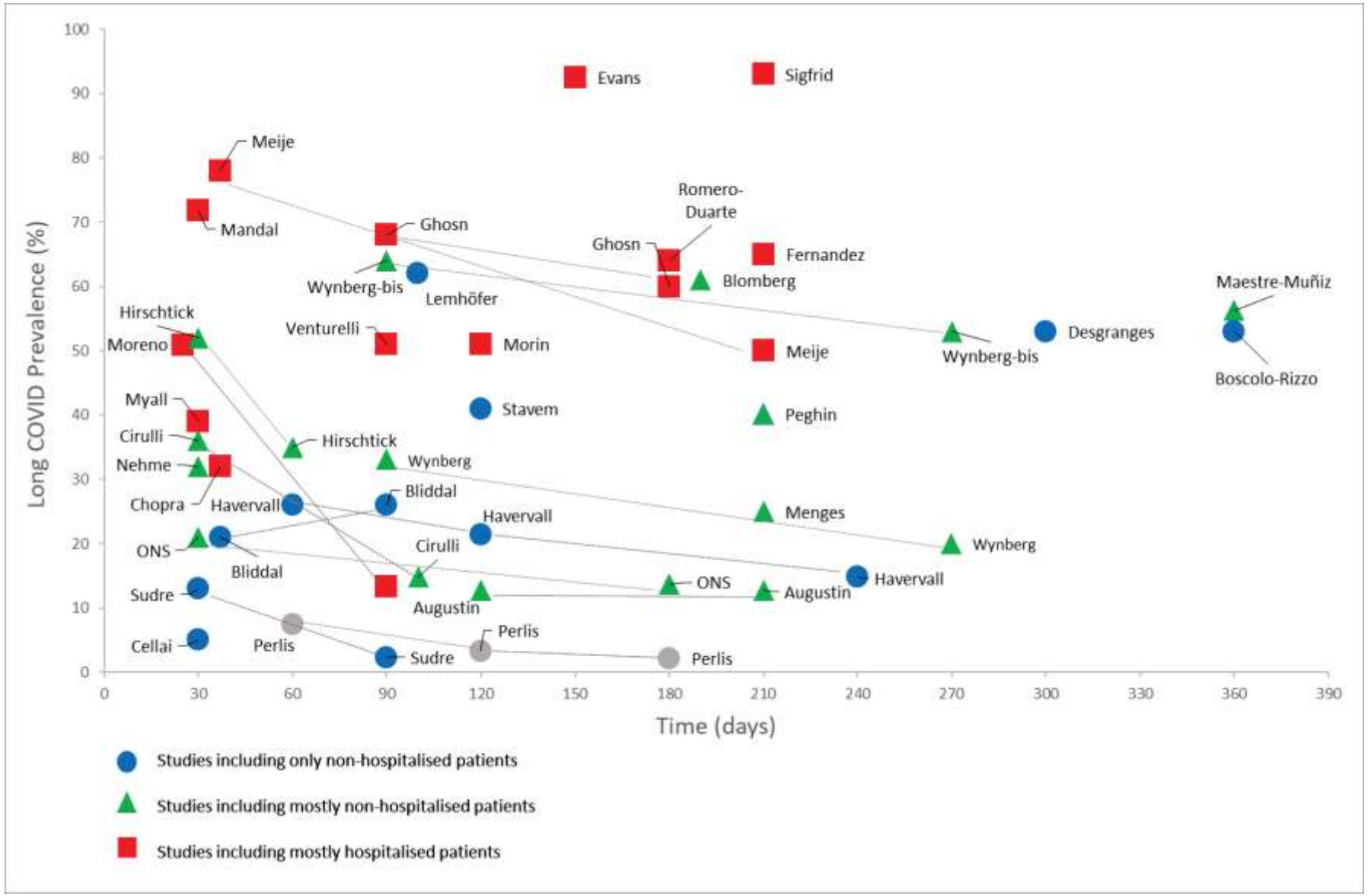
Post COVID-19 condition occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually 3 months from the onset of COVID-19 with symptoms and that last for at least 2 months and cannot be explained by an alternative diagnosis.

Common symptoms include fatigue, shortness of breath, cognitive dysfunction but also others and generally have an impact on everyday functioning.

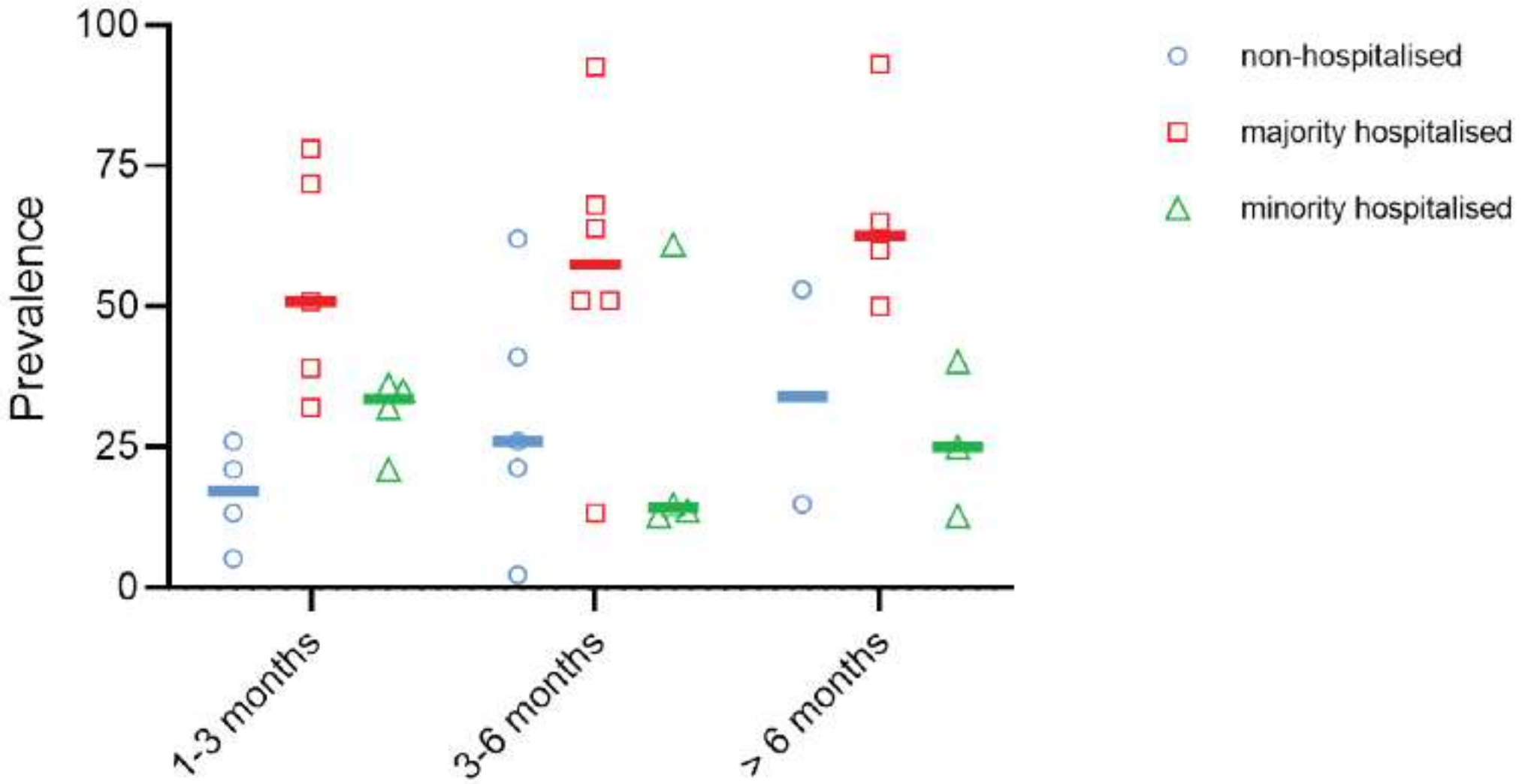
Symptoms may be new onset following initial recovery from an acute COVID-19 episode or persist from the initial illness.

Symptoms may also fluctuate or relapse over time.

(https://www.who.int/publications/i/item/WHO-2019-nCoV-Post_COVID-19_condition-Clinical_case_definition-2021.1)



https://kce.fgov.be/nl/behoeften-en-opvolging-van-pati%C3%ABnten-met-langdurige-covid



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Risk factors

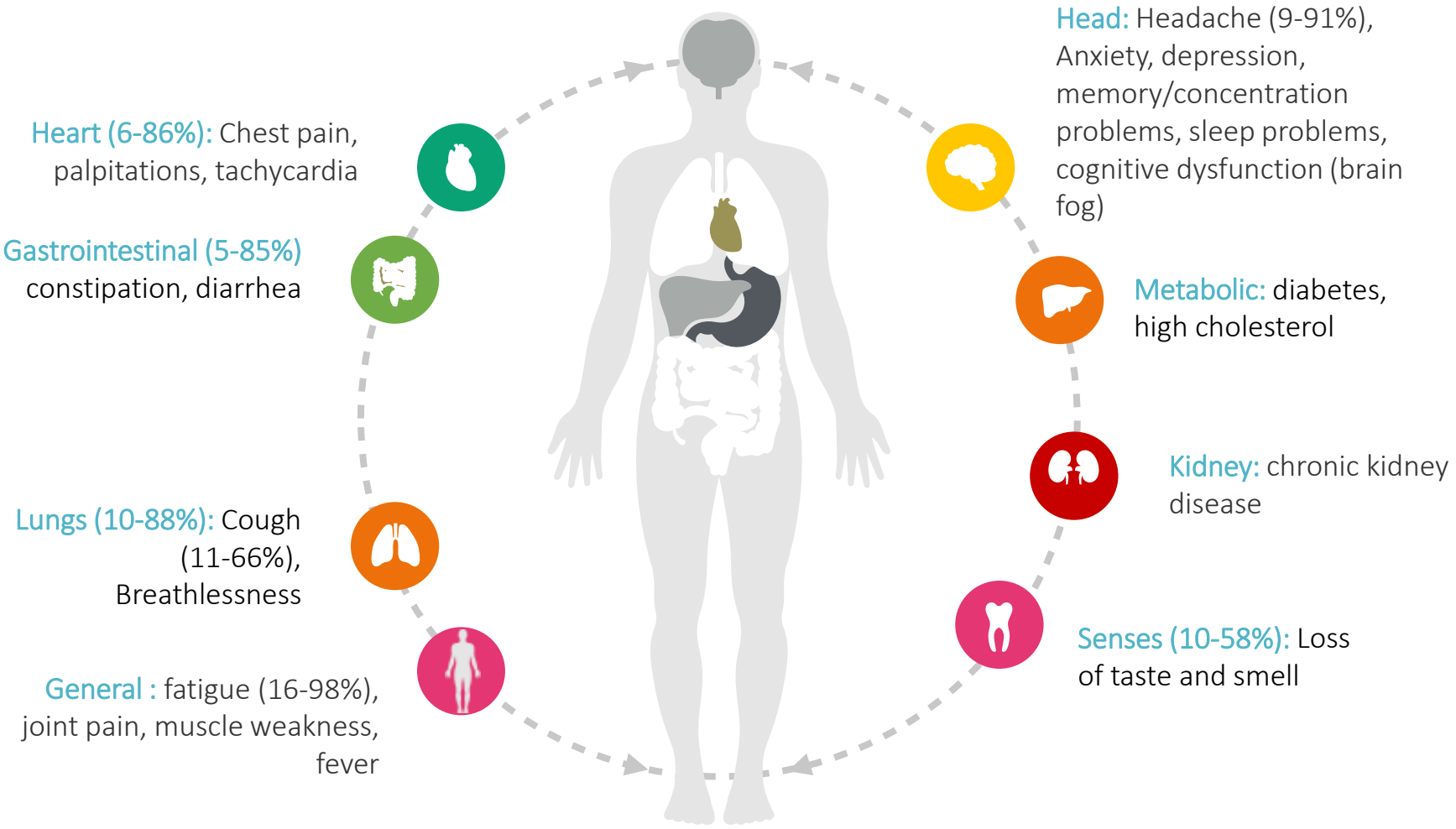
Several symptoms during the acute phase

Age: all ages (point of discussion), mainly 35-69, children (2-7%) after 3 months

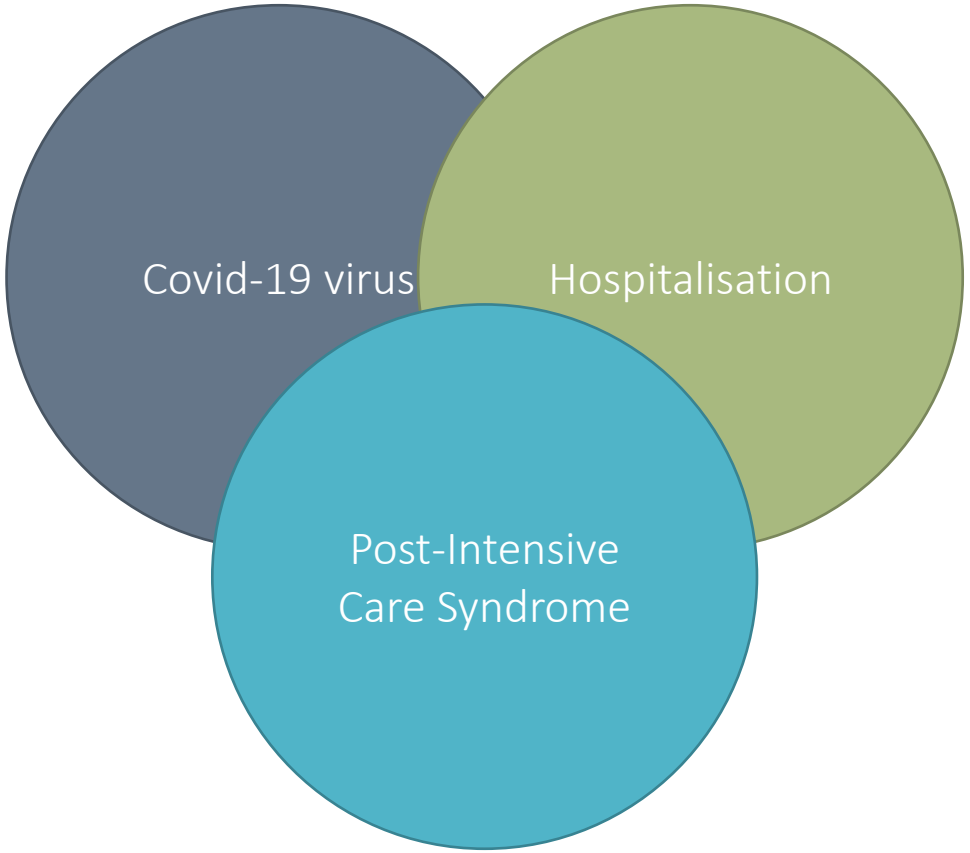
Gender: Women > Men

Comorbidities: worsening of existing health conditions?

Long COVID-19 symptoms



Possible mechanisms leading to Long-COVID



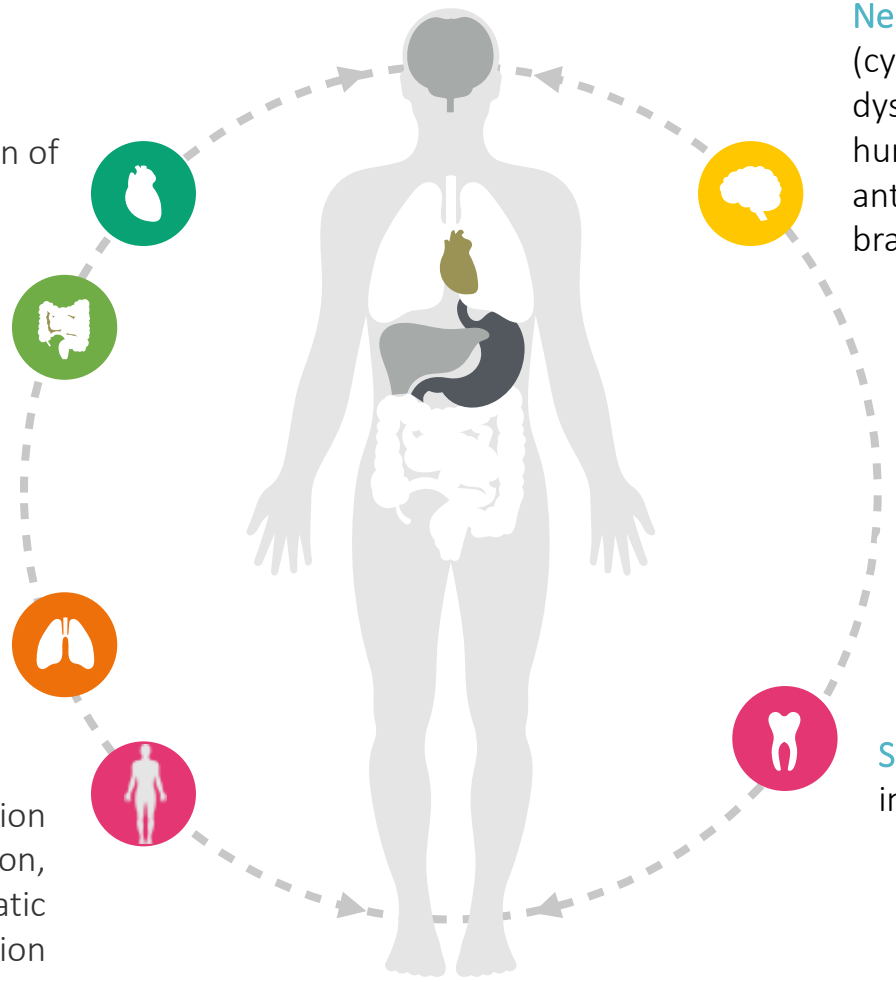
Possible mechanisms leading to Long-COVID

Cardiovascular: Endothelial dysfunction with activation of coagulation and cardiomyocytes invasion

Gastrointestinal: Gastro-intestinal tract inflammation or autonomous nerve system dysfunction

Respiratory: fibroproliferative diffuse alveolar damage, inflammation and fibrosis

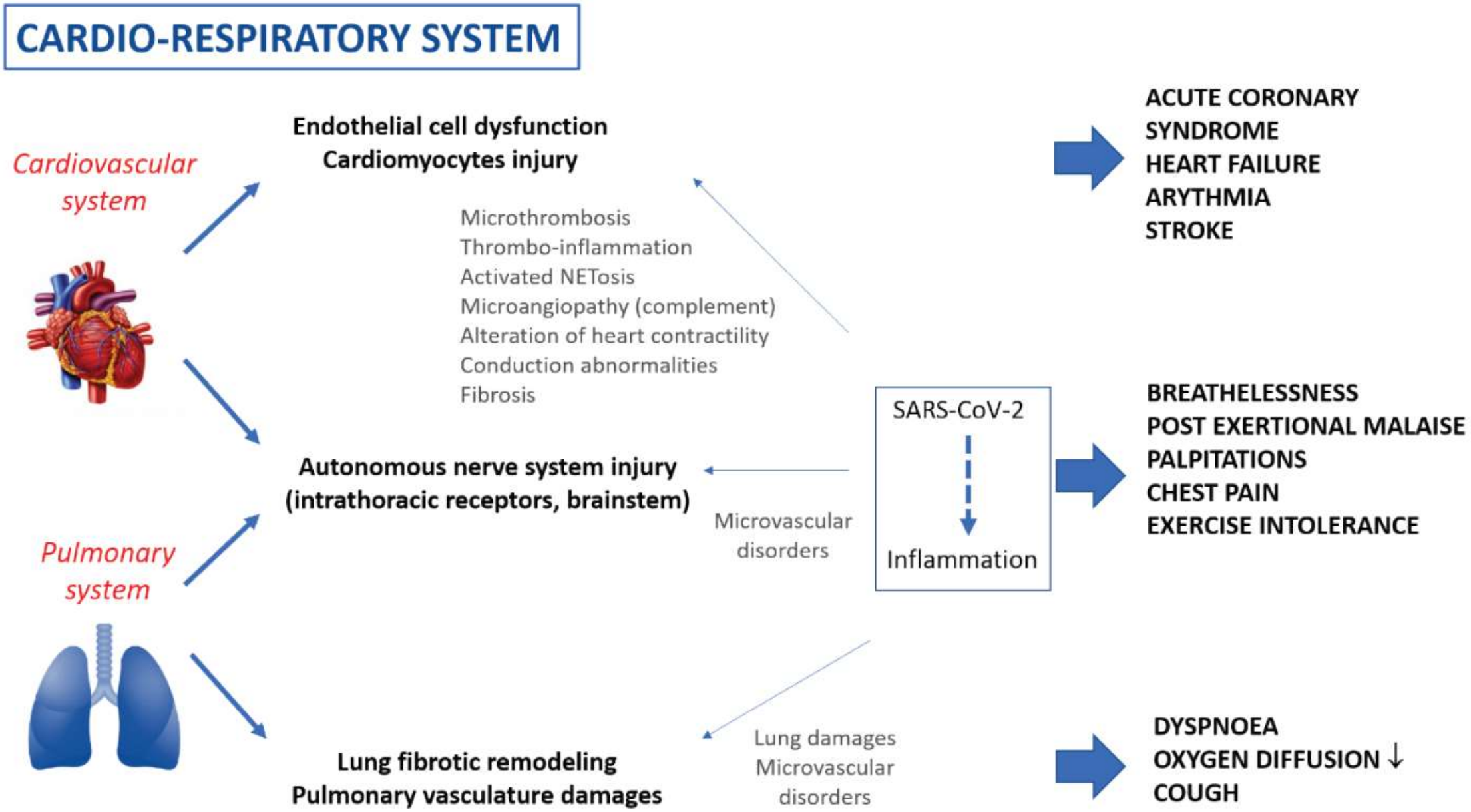
Fatigue and Pain: activation of nerves, inflammation, glymphatic-lymphatic system congestion



Neurologic-psychologic: neuro-inflammation (cytokines, exacerbation microglia,, mitochondrial dysfunction..), auto-immunity (cell-mediated and humoral immune response), residual (or virus antigen) infection hypothesis, involvement of gut-brain axis, secondary brain damage hypothesis,…

Senses: neuroepithelial inflammations

Possible mechanisms leading to Long-COVID



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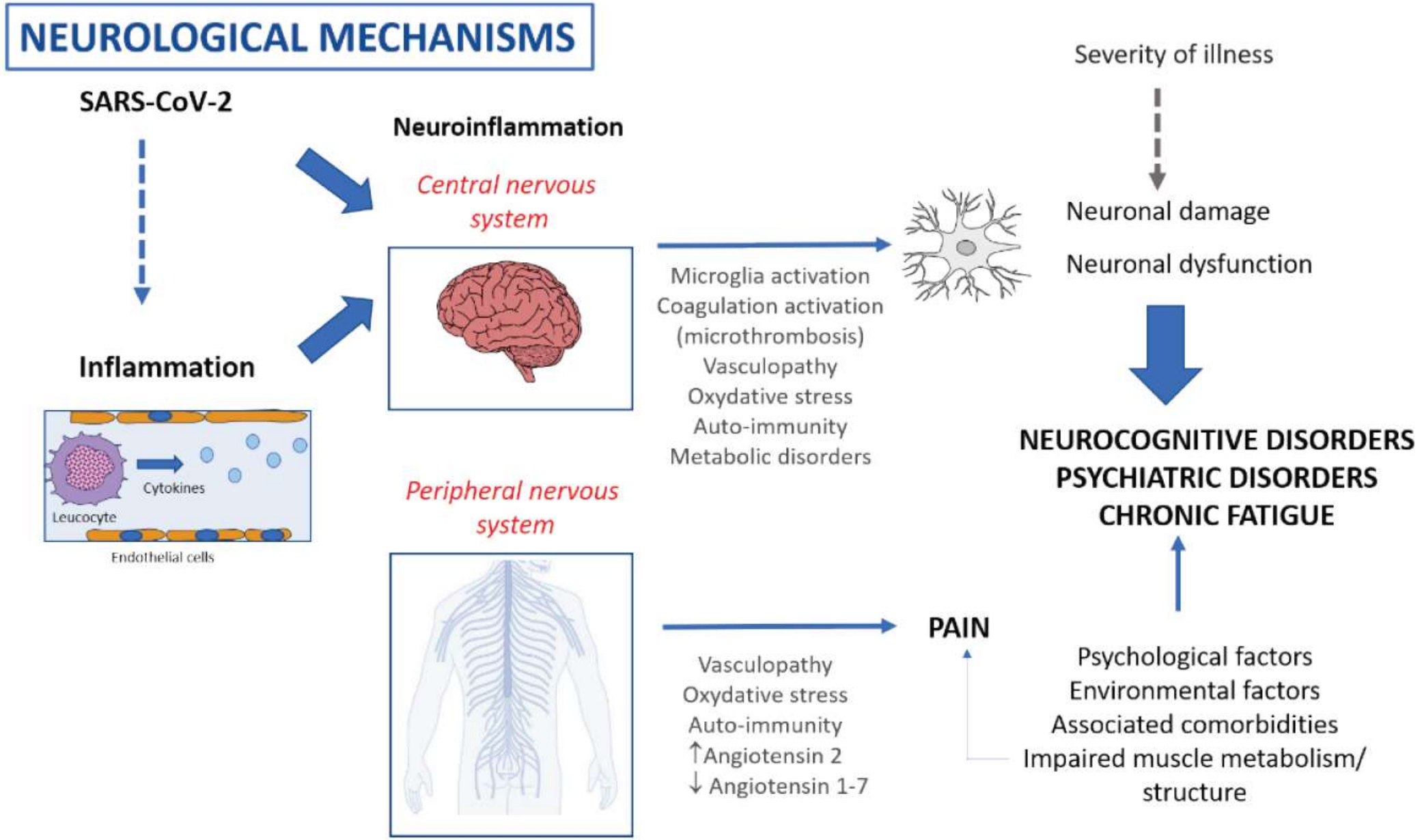
Possible mechanisms leading to Long-COVID



https://kce.fgov.be/nl/behoeften-en-opvolging-van-pati%C3%ABnten-met-langdurige-covid

Long-COVID project, in collaboration with the Pneumology Clinic at UZ Leuven

Subjects

158 Patients with COVID, who accessed the UZL (113 with full biological data)

90 at their first FU (67 with full biological data)

68 at their 2nd or 3rd FU between 6 and 12 months (46 with full biological data)

Assessments (1 per participant)

SF-36, Short-form of the DSQ (collected online)

Cardio-respiratory assessment

Functional assessment (6MWT)

Biological data

Cell count (red, white, platelets)

Hemoglobin and Glycohemoglobin;

CRP

Creatinine

eGFR

AST

ALT

NT-proBNP

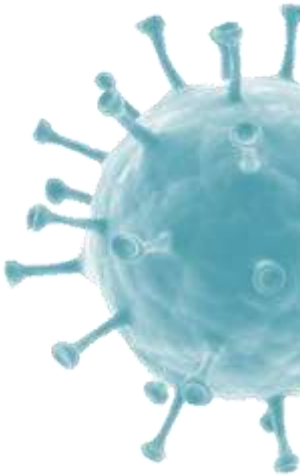
Troponine

SARS2 IgG Anti-S and Anti-N

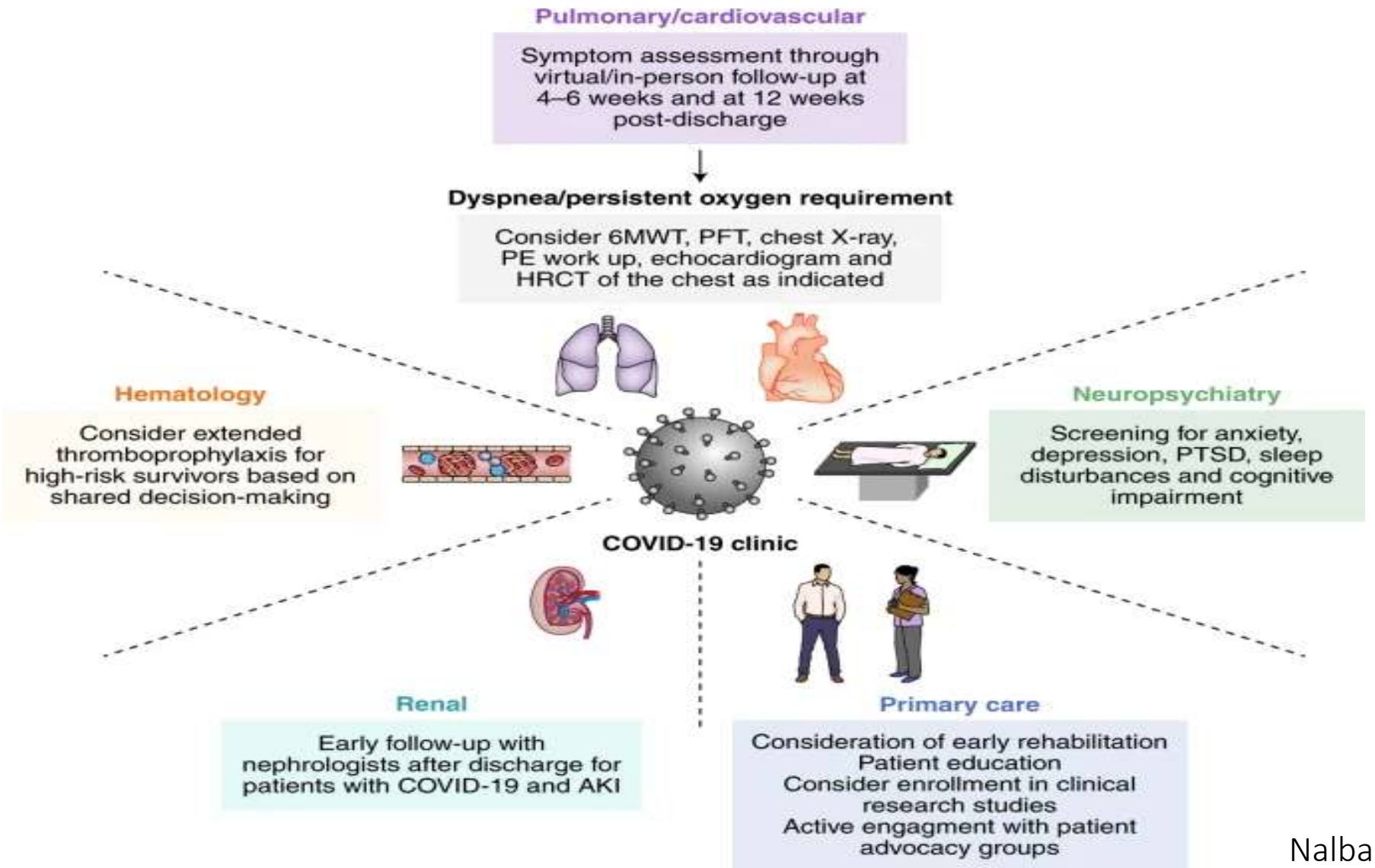
Plasma (3 aliquots of 800 ul)

Saliva (2 aliquots of 1.8 ml)

PBMCs (2 aliquots of 500 ul) stored at -80°C



Interdisciplinary management



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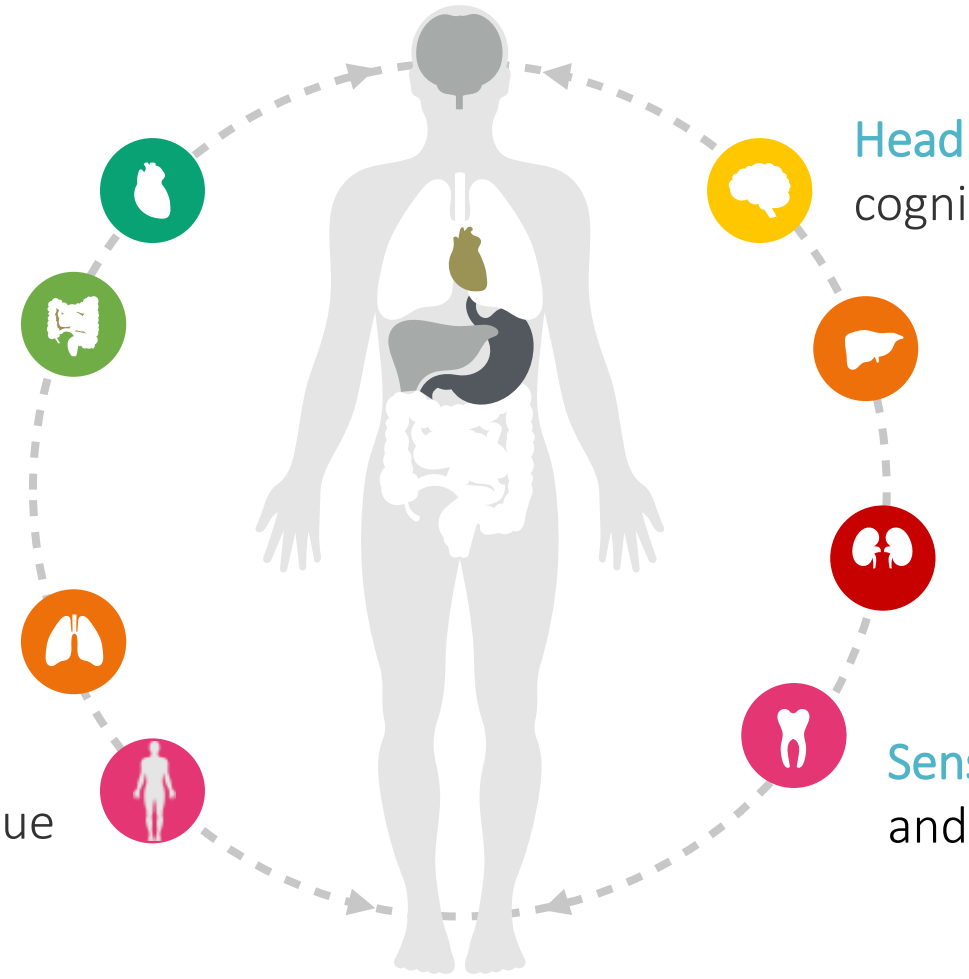
Impact

- Work and return to work
- (Mental) health
- Social life

Long COVID symptoms and work



Head: memory problems, cognitive dysfunction

Senses: Loss of taste and smell

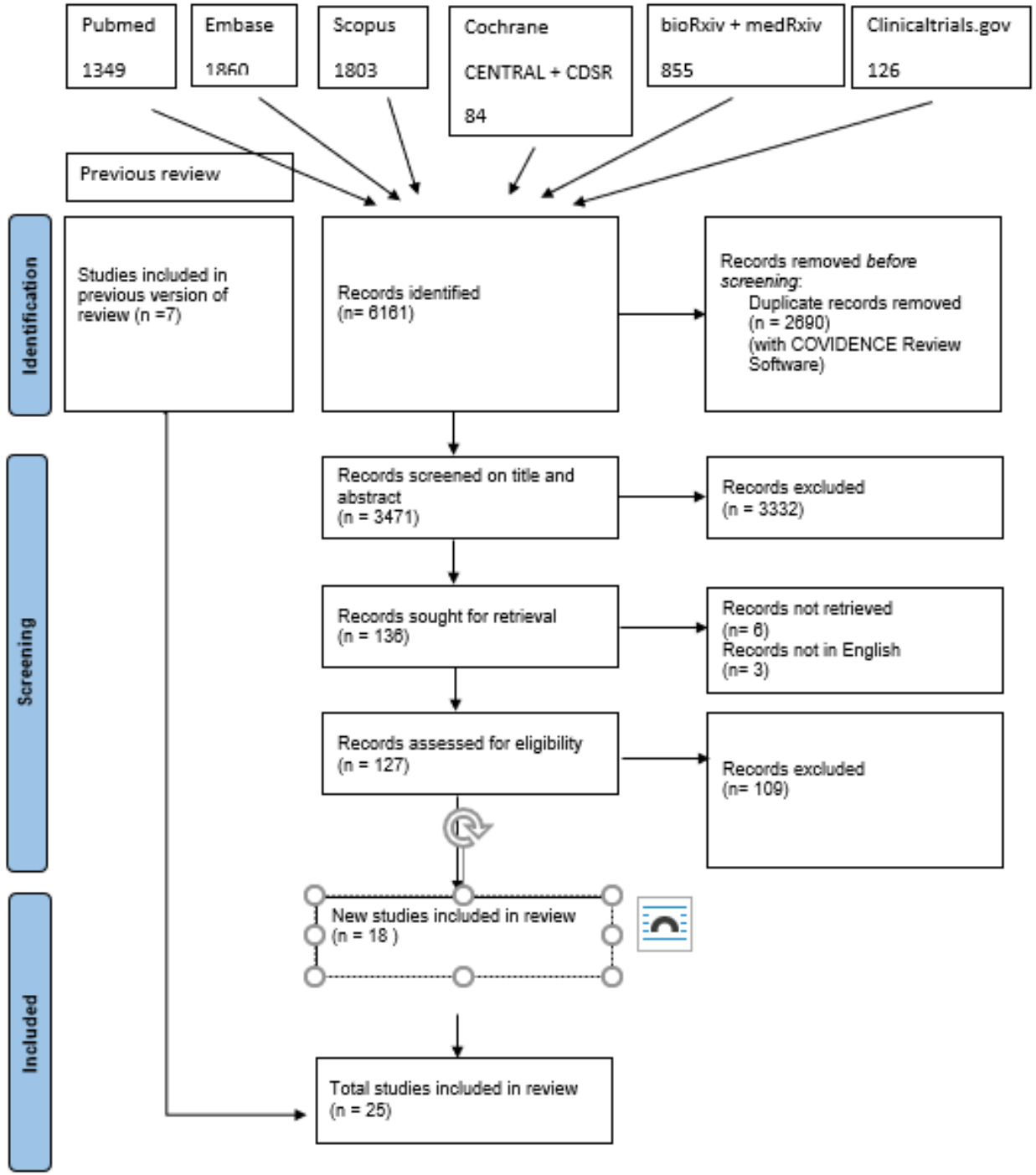
General: fatigue

HSE

https://www.hse.gov.uk/coronavirus/assets/docs/return-to-work-after-long-covid.pdf

Return to work after long COVID: Evidence at 8th March 2021

Prepared for **The Health and Safety Executive**


Pubmed
1349
Embase
1860
Scopus
1803
Cochrane
CENTRAL + CDSR
84
bioRxiv + medRxiv
855
Clinicaltrials.gov
126
Previous review
Identification
Studies included in previous version of review (n =7)
Records identified
(n= 8161)
Records removed *before screening*:
Duplicate records removed
(n = 2690)
(with COVIDENCE Review Software)
Screening
Records screened on title and abstract
(n = 3471)
Records excluded
(n = 3332)
Records sought for retrieval
(n = 136)
Records not retrieved
(n= 6)
Records not in English
(n= 3)
Records assessed for eligibility
(n = 127)
Records excluded
(n= 109)
Included
New studies included in review
(n = 18)
Total studies included in review
(n = 25)

Literature

Characterizing Long COVID in an International Cohort: 7 Months of Symptoms and Their Impact

Hannah E. Davis[1]*, Gina S. Assaf[1]*, Lisa McCorkell[1]*, Hannah Wei[1]*, Ryan J. Low[1,2]*, Yochai Re'em[1,3]*, Signe Redfield[1], Jared P. Austin[4], Athena Akrami[1,2]*+

* These authors contributed equally. [1]Patient-Led Research Collaborative, [2]Sainsbury Wellcome Centre, University College London, London, UK, [3]NewYork-Presbyterian Hospital / Weill Cornell Medicine, NYC, USA, [4]Oregon Health and Science University, Portland, OR, USA

+ Corresponding author, email: athena.akrami@ucl.ac.uk

Abstract

Growing evidence shows that a significant number of patients with COVID-19 experience prolonged symptoms, known as Long COVID. Few systematic studies exist which investigate this population, and hence, relatively little is known about the range in symptom makeup and severity, expected clinical course, impact on daily functioning, and expected return to baseline health. In this study, we analysed responses from 3,762 participants with confirmed (diagnostic/antibody positive; 1,020) or suspected (diagnostic/antibody negative or untested; 2,742) COVID-19, from 56 countries, with illness duration of at least 28 days. 3608 (96%) reported symptoms beyond 90 days. Prevalence of 205 symptoms in 10 organ systems was estimated in this cohort, with 66 symptoms traced over seven months. Except for loss of smell and taste, the prevalence and trajectory of all symptoms were similar between groups with confirmed and suspected COVID-19. Respondents experienced an average of 14.5 symptoms in an average of 9.08 organ systems. Three clusters of symptoms were identified based on their prevalence over time. The most likely early symptoms were fatigue, dry cough, shortness of breath, headaches, muscle aches, chest tightness, and sore throat. The most frequent symptoms reported after month 6 were fatigue, post-exertional malaise, and cognitive dysfunction. Majority (>85%) experienced relapses, with exercise, physical or mental activity, and stress as the main triggers. 1,700 (45.2%) reported requiring a reduced work schedule compared to pre-illness and 839 (22.3%) were not working at the time of survey due to their health conditions.

- International web based study
- 88% of participants experienced cognitive dysfunction and memory loss, which had a great impact on their work (e.g. working reduced hours).
- 86.2% of working respondents felt mildly to severely unable to work.
- 45% of working respondents were working remotely
- Relapses were triggered by mental exertion and stress of work

Literature

Altered Smell and Taste: anosmia, parosmia and the impact of long Covid-19

Dr Duika L Burges Watson (Altered Eating Research Network, Faculty of Medical Sciences, Newcastle University, UK)
Dr Miglena Campbell (Altered Eating Research Network, Centre for Applied Psychological Science, Teesside University, UK)
Professor Claire Hopkins (Professor of Rhinology, King's College, London, UK)
Professor Barry Smith (Director of the Institute of Philosophy, University of London, UK)
Chris Kelly (AbScent, UK)
Professor Vincent Deary (Altered Eating Research Network, Psychology, Northumbria University, UK)

Abstract

Background: Qualitative olfactory (smell) dysfunctions are a common side effect of post-viral illness and known to impact on quality of life and health status. Evidence is emerging that taste and smell loss are common symptoms of Covid-19 that may emerge and persist long after initial infection. The aim of the present study was to document the impact of post Covid-19 alterations to taste and smell.

Methods: We conducted passive and active thematic analysis of user-generated text from 9000 users of the AbScent Covid-19 Smell and Taste Loss moderated Facebook support group from March 24 to 30th September 2020.

Results: Participants reported difficulty understanding, explaining and managing altered taste and smell; a lack of interpersonal and professional explanation or support; altered eating; appetite loss, weight change; loss of pleasure in food, eating and social engagement; altered intimacy and an altered relationship to self and others.

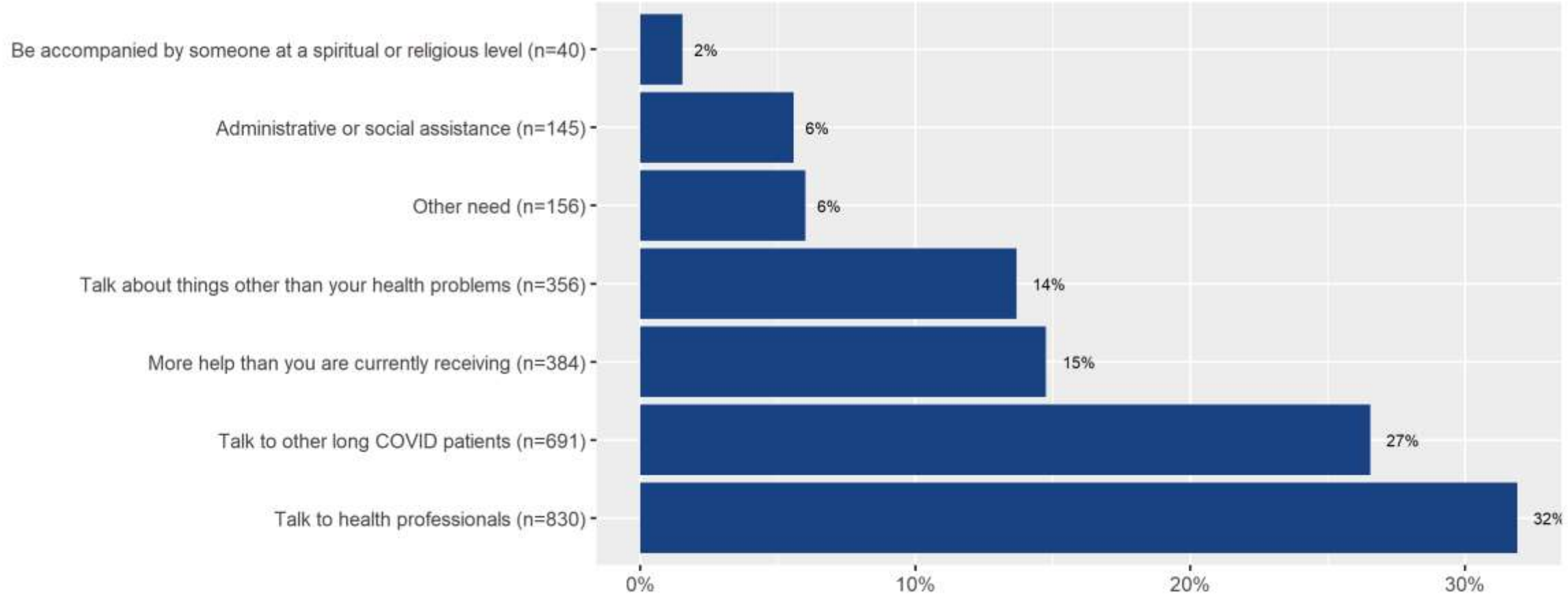
- AbScent Covid-19 Smell and Taste Loss moderated Facebook support group

- Even after six months, some members felt the effect of taste and smell changes on their professional life, especially for those who partly relied on their nose to do their job (e.g. nurses, food writers, cooks).

Limitations in current studies

- Hardly articles were found that studied impact of long COVID on work and RTW as a main objective.
- Use of facebook groups to collect data
- Respondents were predominantly white, female, and of higher socio-economic status .
- Different definitions of long COVID

Needs reported by 1320 patients



https://kce.fgov.be/nl/behoeften-en-opvolging-van-pati%C3%ABnten-met-langdurige-covid

Functioning

Health perception & psychological distress

Pain & work-health-interference perception

Recovery & return to work expectations

Return to work needs

Stressful life events

Stressful life events

Work-related factors

Turnover intention

Autonomy, learning, development opportunities

Social support management & colleagues

Workload & Emotional burden

Job satisfaction & expectations

Person-related factors

Fear of colleagues

Perfectionism

Goorts K, et al. Quickscan assesses risk factors of long-term sickness absence: A cross-sectional (factorial) construct validation study. PLoS One. 2019 Jan 11;14(1):e0210359

A progressive, adaptive, and appropriate return to work

Person-centred

Return to (adapted) work can be prepared and can be an effective part of the rehabilitation.

Refer to occupational health physician

Early contact with the absent employee – within the first two weeks from the onset of the absence

REWORC

The European Network on work and COVID

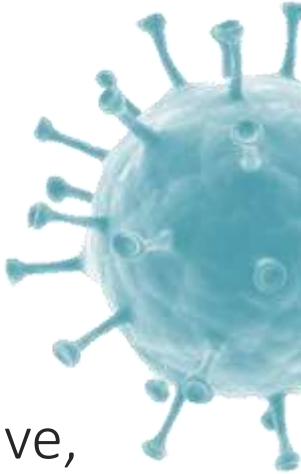
Wanted: Occupational physicians who want to participate in a study about the impact of COVID and long COVID on work and return-to-work.

Interested?
Mail sara.pauwels@kuleuven.be
Or register on the Modernet website
https://www.modernet.info/join-our-european-survey-and-network/

Conclusion

Large and long-term cohort studies with mixed methods (qualitative and quantitative) are needed to understand the long-term consequences of COVID-19.

Long COVID has a great impact on daily functioning, including work and return to work



Return to work needs involvement of several stakeholders (recovering worker, employers, occupational health professionals, health professionals, etc).

The primary goal should be support at work (job retention), or progressive, adaptive, and appropriate return to work as working is generally good for health.