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UVMHealth.org/MedCenter

Vermont Hospital Care Transition Directors Network

Sept. 15, 2021

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THE
University of Vermont
MEDICAL CENTER

COVID-19 Vermont Numbers

COVID-19 numbers in VT (<https://www.healthvermont.gov/covid-19/current-activity/vermont-dashboard>)

Sept. 13, 2021:

- New: 108
- New cases hospitalized: 38
- New cases hospitalized in ICU: 9

Total March 5th – Sept. 8th (updated 9/10/21):

- COVID-19 (+): 29,588
- COVID-19 deaths: 288

Majority treated in community by primary care providers ~ > 80%

COVID-19 Outcomes

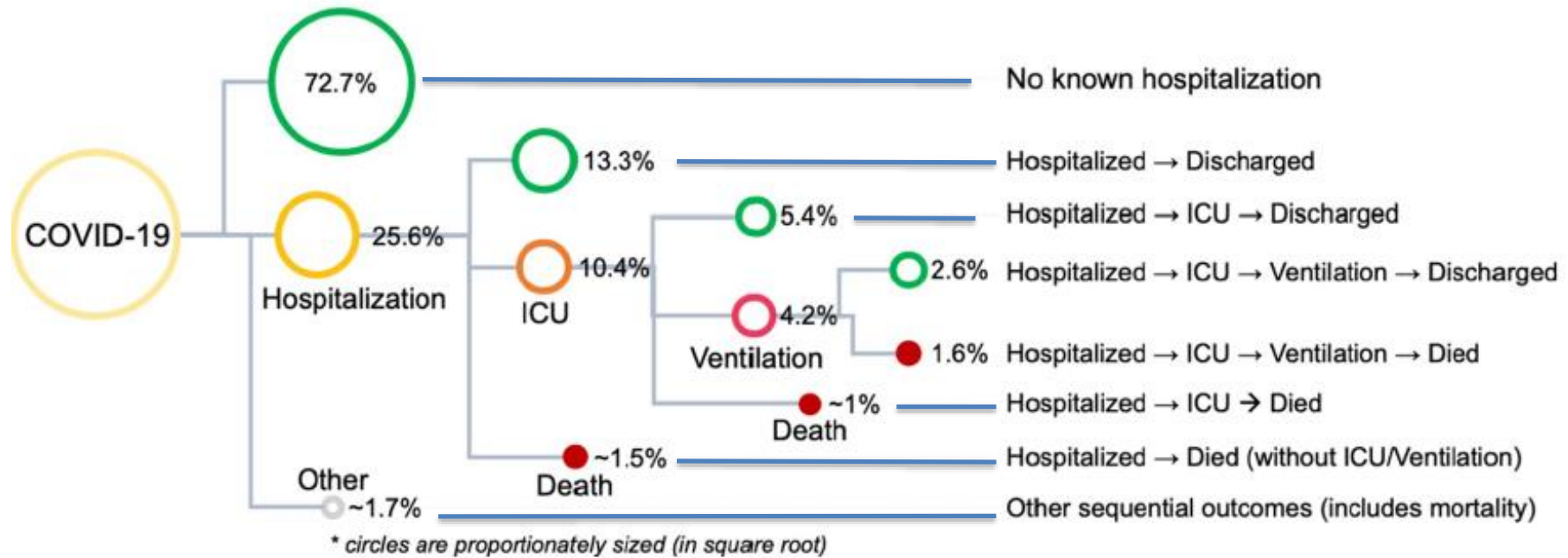
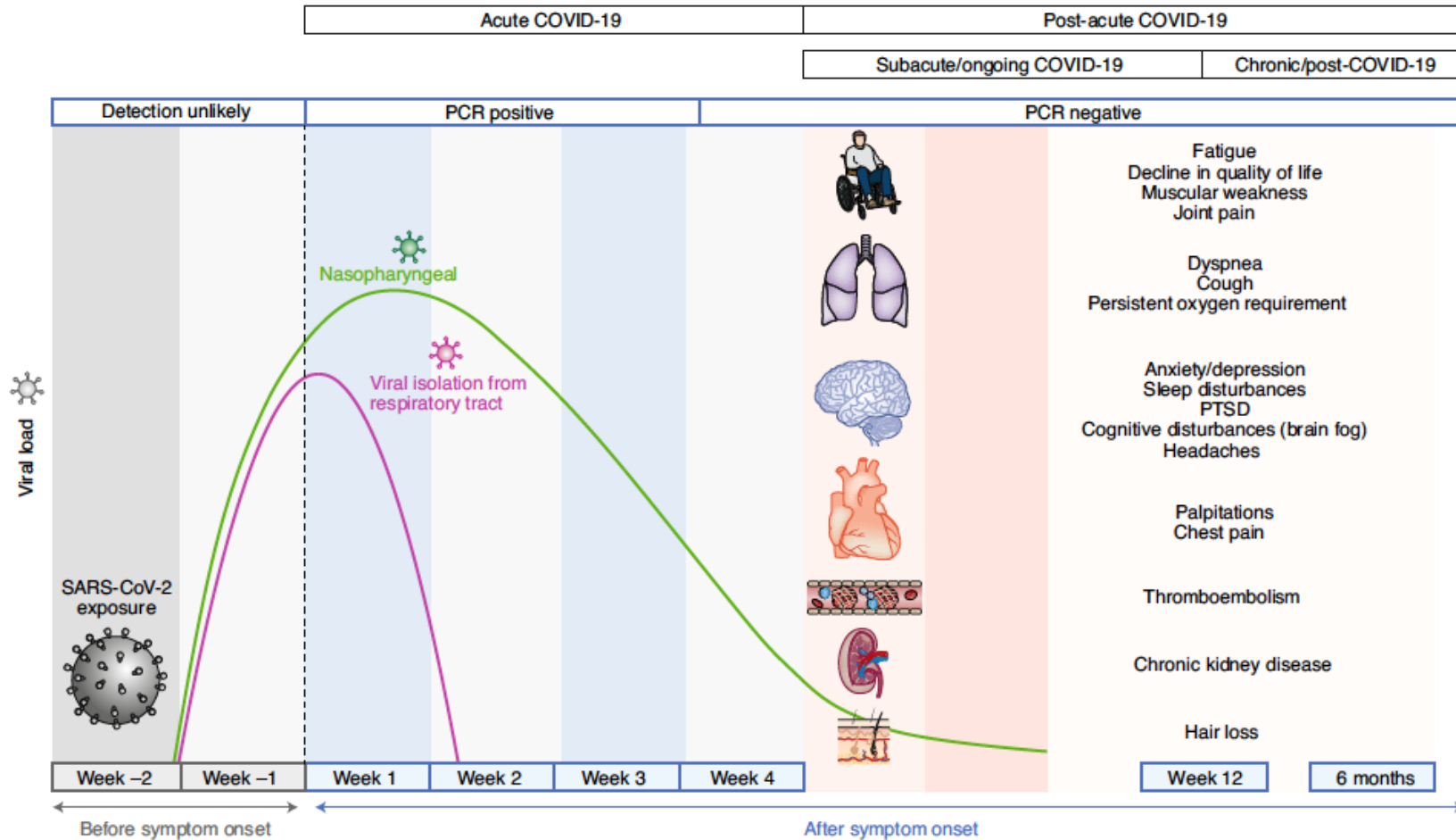


Figure 1. Probability of the sequential scenarios for outcomes after COVID-19 infection.

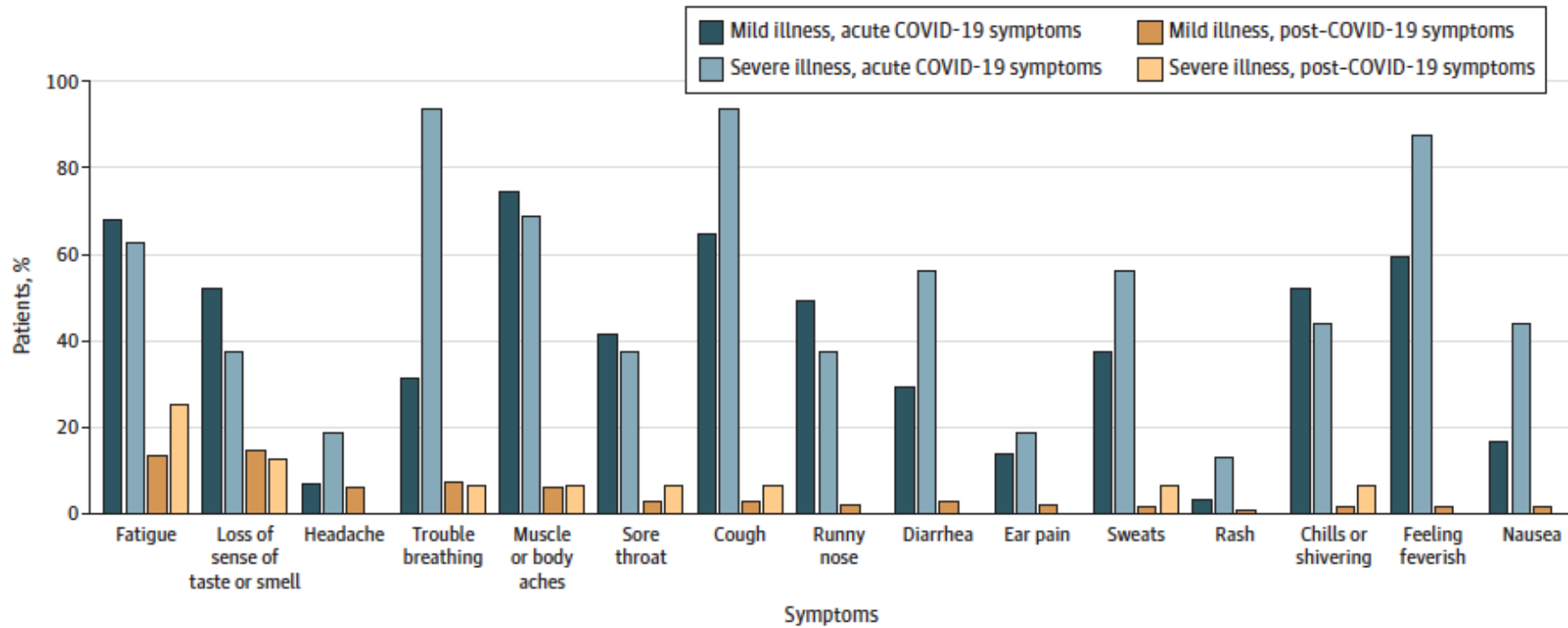
Estiri, Sci Reports March 2021

COVID-19 Phases



COVID-19 Acute and Long-Term Symptoms

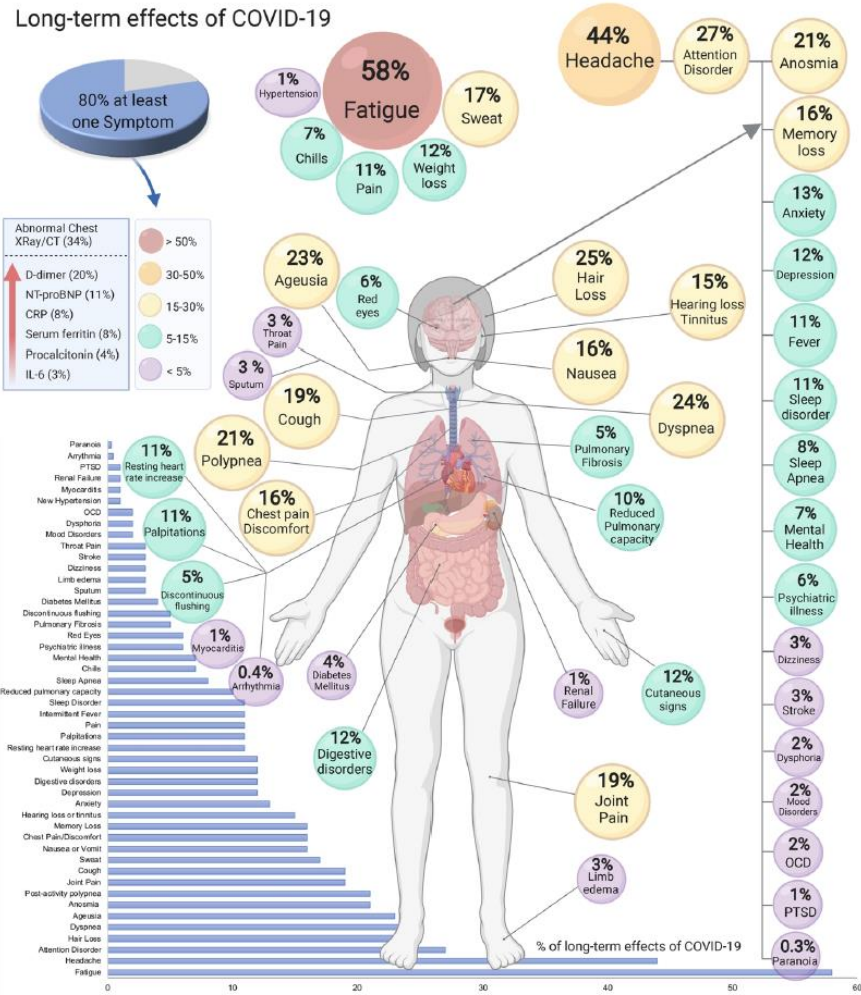
B Percentage of participants who reported COVID-19 symptoms during acute illness and at follow-up



JAMA Network Open. 2021;4(2):e210830. doi:10.1001/jamanetworkopen.2021.0830

February 19, 2021

COVID-19 Long-Term Symptoms



Possible Mechanisms:

- Endovascular dysfunction
- Micro-thrombosis
- Neuroinflammation
- Carotid body dysfunction
- Oxidative stress
- Mitochondrial dysfunction
- Beta-2 adrenergic receptor dysfunction

Most common symptoms reported:

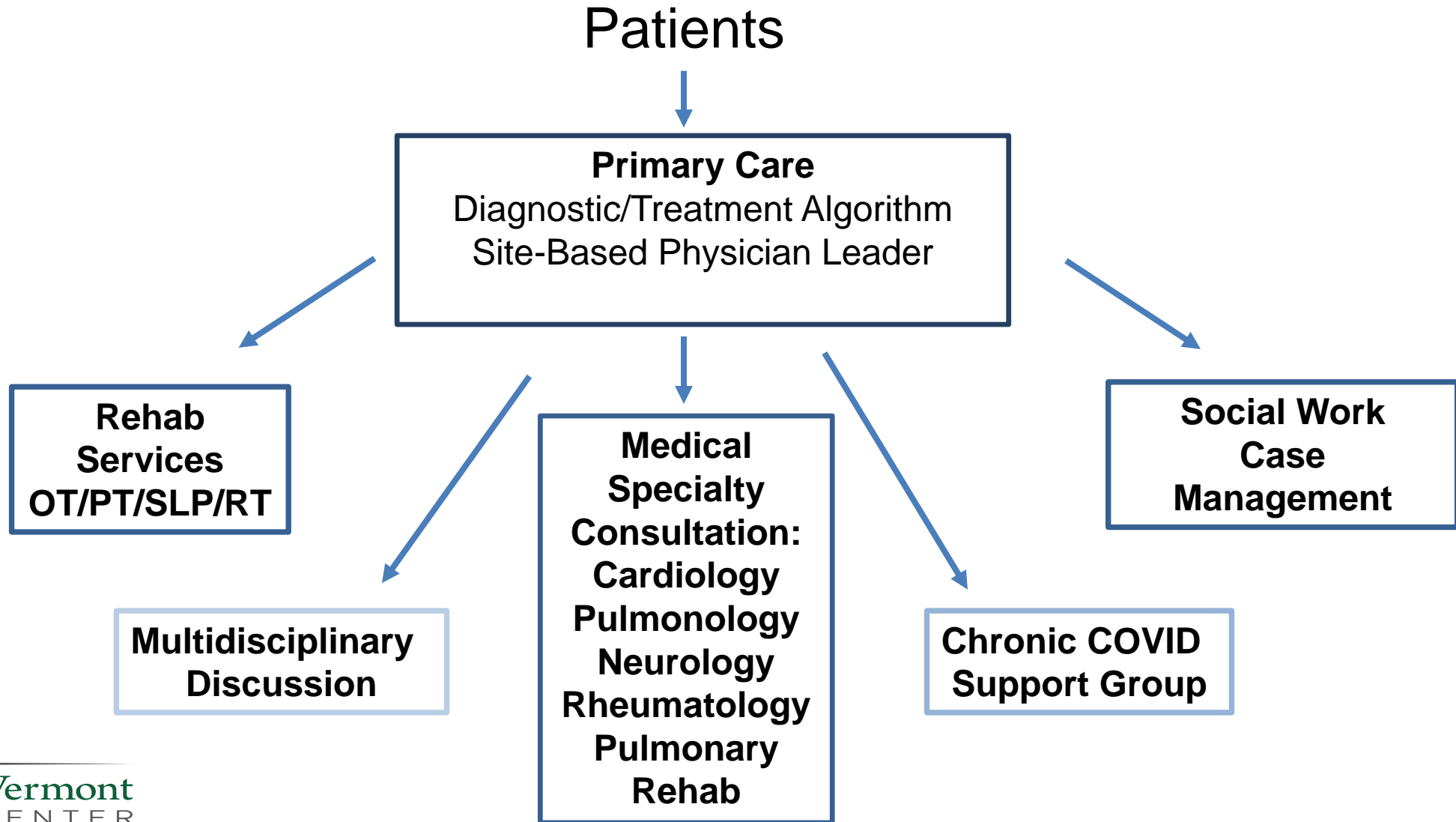
- Fatigue
- Headache
- Attention impairment
- Change in taste/ smell
- Shortness of breath
- Memory loss
- Anxiety/ depression
- Sleep disorder
- Exercise intolerance
- Palpitations

COVID-19 Neuro psychiatric Symptoms

- 236,379 patients with COVID-19 followed for 6 months
- New diagnosis of neurologic/psychiatric disorder
 - Outpatient: 33% (13% new)
 - ICU: 46% (26% new)

	COVID-19 vs influenza (N=105 579)*	
	HR (95% CI)	p value
Intracranial haemorrhage (any)	2.44 (1.89–3.16)	<0.0001
Intracranial haemorrhage (first)	2.53 (1.68–3.79)	<0.0001
Ischaemic stroke (any)	1.62 (1.43–1.83)	<0.0001
Ischaemic stroke (first)	1.97 (1.57–2.47)	<0.0001
Parkinsonism	1.42 (0.75–2.67)	0.19
Guillain-Barré syndrome	1.21 (0.72–2.04)	0.41
Nerve, nerve root, or plexus disorders	1.64 (1.50–1.81)	<0.0001
Myoneural junction or muscle disease	5.28 (3.71–7.53)	<0.0001
Encephalitis	1.70 (1.04–2.78)	0.028
Dementia	2.33 (1.77–3.07)	<0.0001
Mood, anxiety, or psychotic disorder (any)	1.46 (1.43–1.50)	<0.0001
Mood, anxiety, or psychotic disorder (first)	1.81 (1.69–1.94)	<0.0001
Mood disorder (any)	1.47 (1.42–1.53)	<0.0001
Mood disorder (first)	1.79 (1.64–1.95)	<0.0001
Anxiety disorder (any)	1.45 (1.40–1.49)	<0.0001
Anxiety disorder (first)	1.78 (1.66–1.91)	<0.0001
Psychotic disorder (any)	2.03 (1.78–2.31)	<0.0001
Psychotic disorder (first)	2.16 (1.62–2.88)	<0.0001
Substance use disorder (any)	1.27 (1.22–1.33)	<0.0001
Substance use disorder (first)	1.22 (1.09–1.37)	0.0006
Insomnia (any)	1.48 (1.38–1.57)	<0.0001
Insomnia (first)	1.92 (1.72–2.15)	<0.0001
Any outcome	1.44 (1.40–1.47)	<0.0001
Any first outcome	1.78 (1.68–1.89)	<0.0001

UVM Health Network COVID-19 Recovery Program



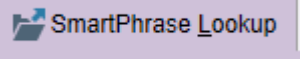

Guide for COVID-19 Symptom Management

SYMPTOMS THAT PATIENT IS REPORTING	IF PATIENT CALLS, ACTION THAT SHOULD BE TAKEN BY RN STAFF	PROVIDER ACTIONS
Cardiac: New chest pain or CHF symptoms (orthopnea, PND, DOE)	-Triage as per protocol for chest pain. Assess for acute vs chronic symptoms. Notify provider per protocol (high priority).	- consider emergent work up for myocarditis/myocardial infarction - consider urgent cardiology referral vs ER evaluation
Neuro: New neurologic or acute neurologic event	-Suspect acute CVA?—send patient to ER. - Triage symptoms for acute vs. chronic. -send to provider as high priority.	-If acute → ER -If subacute, consider referral to neurology.
Pulmonary: New or worsening breathlessness or persistent SpO2<92%	-Triage and send to provider as high priority	- Work up for PE or pneumonia - Consider referral to Pulmonary
Pulmonary: shortness of breath with resuming activities (poor exercise tolerance)	-Triage for acute symptoms -Schedule in person visit (assuming isolation is complete)	-Consider if there is need for acute work up. - If no acute issues, refer to Physical Therapy for guidance on resumption of activity
Cardiology: elevated HR with rest/exercise, orthostatic changes	-Triage for acute symptoms -Schedule in person visit (assuming isolation is complete)	-Consider if need for acute work up -Consider referral to PT

Symptom Management cont...

Patient Symptoms	If patient calls, action taken by RN staff	Provider action:
Neuro: persistent headache, paresthesia, impaired balance,	-Triage for “red flag” symptoms per protocol	-Consider referral to neurology - Consider referral to PT
Neuro: brain “fog”, organizational issues	-assess for acute issue	-refer to OT/SLP as indicated (see table below)
Musculo-skeletal: persistent muscle weakness, myalgias, joint pain	-Evaluate for “red flags” (red/hot joint)	-Referral to rheumatology for more severe symptoms -Referral to PT for mild-moderate symptoms.
Gastro-intestinal: persistent diarrhea	-Evaluate for “red flags” (>10 stools/day, blood in stool)	- Evaluate for common causes (C Diff if recent antibiotics) -Consider referral to GI
Psychological: sleep disturbance, anxiety, depression, isolation, PTSD-like symptoms	-Assess for safety/acuity -schedule visit with PCP office (telehealth or in person)	-Consider need for medication -Refer to Primary Care Medical Home Care Management to get connected with resources/ counseling.

Inpatient COVID-19 Patient Discharge Instructions

- UVMHC Network EPIC smart phrase: .COVIDPTINSTRUCTIONS
 - Use:  and be sure to uncheck Search Only Phrases I Can Use First  then make a copy
- Includes self-management tips:
 - Fatigue
 - Attention, memory, thinking
 - Breathlessness
 - Exercise
 - Tips for advocating for OP Rehab Therapy services: OT, PT, SLP

**After recovering from COVID-19, are you having ongoing symptoms?
Rehab Therapy might be able to help.**

UVMHealth.org/MedCenter

**Advocating
for OP
Services:**

Please talk with your health care provider if you have any of the problems below. If you have any questions? Do you need help getting a referral? Call us at (802) 847-1902.

Are you having any of these problems?	Rehab Specialists
Fatigue during my usual personal care, home tasks, and when carrying out my work, school, community, or leisure responsibilities	Occupational Therapy (OT) referral
Problems with thinking, concentration, and memory that make it hard to do my personal care, home tasks, work, school, or leisure activities	
Fatigue when physically active	Physical Therapy (PT) referral
Balance problems, dizziness, or lightheadedness	
Weakness in arms or legs	
Unsure of how to safely get back to usual level of exercise after illness	
Swallowing problems	Speech-Language Pathology (SLP) referral
Voice problems (hoarseness or difficulty increasing volume)	
Difficulty putting thoughts into words	
Difficulty understanding information that I hear or read	
Problems with concentration, memory, or thinking that affect my communication	

If you have further questions contact your primary care provider.

Additional OP Services & Equipment

Support Services

- Counseling
- Case management/ Social Work
- Nutrition/ dietary

Equipment

- Home oxygen
- Pulse oximeters
- Rehab equipment

Specialty Services: PCP refers

- Cardiology
- Pulmonary
- Neurology
- Rheumatology
- Psychiatry

High Priority Rehab Treatment Goals

OT: Implications for employment

- *Work simplification*
- *Strategies for managing fatigue for activities outside of work*
- *Return to work - education of employer/colleagues and pt. advocacy*

PT: Exercise intolerance and symptom exacerbation

- *Stabilizing symptoms*
- *Gradual individualized endurance and strengthening exercise with very close monitoring to achieve highest level of fitness to enable life roles*

SLP: Swallowing, voice dysfunction, cognitive communication

- *Communication cognition strategies*
- *Return to school, learning – education of team and pt. advocacy*

Challenges:

- Avoid clustering OP appointments, patients are too exhausted/fatigued.
- Considering starting with PT or SLP
- OP waits for specialty services can be very long
- Population is understandably frustrated with condition, limited answers, and access
- Preliminary reports from OP rehab therapy clinics (NYC): patients are running out of insurance benefits for OP services
- Mental health care needs exceed supply in many places: try online resources or <https://covidsupportvt.org>

UVM Health Network COVID-19 Recovery Program & Resources

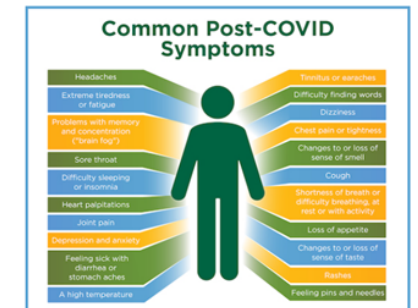
- UVM Health Network COVID-19 Recovery Website <https://www.uvmhealth.org/coronavirus/covid-19-recovery-program>
- [COVID-19 Community Recovery Support Booklet](#)
- COVID Survivor Support Group (covid19recoverysupport@uvmhealth.org)
- Chronic Conditions On-Line Yoga: Kaiut
- Living with Long COVID: access to disability and aging network: https://acl.gov/sites/default/files/COVID19/ACL_LongCOVID.pdf

Help for Patients with Post-COVID Health Issues

If you're experiencing post-COVID health issues, you are not alone. The UVM Health Network COVID Recovery Program is here to provide the support you need.

Although the majority of COVID-19 patients recover within two to three weeks, a significant number of people continue to experience persistent symptoms and health issues long after their initial recovery. This condition, also known as "Long COVID," is still being studied, but symptoms may include:

- Anxiety and depression
- Changes to sense of smell or taste
- Chest pain or tightness
- Dizziness
- Earaches or tinnitus
- Fatigue
- Fever, cough, and / or sore throat
- Gastrointestinal issues
- Headaches
- Hearing difficulties
- Heart palpitations
- Impaired balance
- Muscle weakness and joint pain
- Persistent headache
- Pins and needles
- Problems with attention, memory and concentration ("brain fog")
- Rashes
- Shortness of breath or difficulty breathing
- Sleep disturbances
- Stomach aches, diarrhea, and / or loss of appetite



Click image to enlarge

COVID Survivor Support Group

COVID recovery support group: University of Vermont Health Network (ZOOM online platform) The UVM Health Network COVID-19 Survivor Support Group is open to all patients, family members, caregivers and providers who have experienced COVID-19. The group meets online via Zoom on the third Wednesday of each month from 5-6:30 pm and is led by a UVM Medical Center physician. The group also includes other UVM Health Network experts that can provide education and resources. This forum will provide an opportunity for those affected by COVID to share their experiences with ongoing symptoms, learn about the latest scientific research on the disease and recovery, and find resources.

Email: COVID19SurvivorSupport@UVMHealth.org

Kristine Buck coordinates this support group

Chronic Condition On-Line Zoom Yoga

Thursdays 9-10:00 AM on Zoom, Kaiut Yoga is taught at a slower pace to connect you to the natural rhythm inside the body. Many of the poses take place on the floor, and can be adapted to use a chair. The poses focus on the joints as a way to connect to the nervous system. Kaiut Yoga is designed for all body types, all levels of experience, and can be modified to fit all conditions. This class is free.

- **Email: Julia.OShea@uvmhealth.org**

Take Aways

- “Long COVID” symptoms and experiences can be very debilitating and challenging for return to work, school and usual roles/ responsibilities and can dramatically impact quality of life.
- Given the individual variability, complexity and high level of functional impact, close coordination of care and clear, consistent communication is critical.
- Above all, focus should be on listening to the patient needs and meeting them where they are.