COLLABORATIVE COHORT OF COHORTS FOR COVID-19 RESEARCH (C4R)

WAVE 3 – COVID-19 QUESTIONNAIRE

Participant ID:								

FORM CODE: COW
VERSION: 1.0 07/14/2023

0a) Date of Collection ☐☐ / ☐☐ / ☐☐☐☐ 0b) Staff Code ☐☐☐

Instructions: This form should be completed by the coordinator while interviewing the participant over the phone or in person.

Interviewer: Thank you for your participation in C4R. In this questionnaire, we will be asking about your COVID-19 infection and vaccination history, symptoms you may have experienced, and the current state of your health. A number of questions are about events that could have occurred two or more years ago and may be difficult to recall in detail. In these cases, please answer to the best of your ability, and provide 'best estimates' if you can. Your responses, together with those of thousands of others who have generously volunteered to participate in this research, will help us better understand the pandemic, and to improve the readiness of our nation's public health system to deal with future challenges.

0c) Would it be okay to ask you questions about COVID-19 related experiences today?

☐ No$_0$
☐ Yes$_1$ → **Go to 0d**

0c1) If no, when would it be convenient to call back? ☐☐ / ☐☐ / ☐☐☐☐

Thank you. We will call again. → **End Form**

0d) May we also call you in the future to see how you are doing and ask you these questions again?

☐ No$_0$
☐ Yes$_1$

1) Have you ever been infected with COVID-19?

☐ No$_0$ → **Go to Q15**
☐ Yes$_1$

2) In total, since the beginning of the COVID-19 pandemic in the US (March 2020), how many times do you **think** you have been infected with COVID-19? (please estimate even if you are not sure)

☐ 1 infection (only once)$_1$
☐ 2 infections (reinfected once)$_2$
☐ 3 infections (reinfected twice)$_3$
☐ More than 3 infections$_4$

All of the questionnaire references are listed on Page 11.

☐ Do not know$_5$

2a) If more than 3 infections, please list the number: ☐☐

3) Have you ever been hospitalized for COVID-19?

☐ No$_0$→ **Go to Q5**

☐ Yes$_1$

4) How many times have you been **hospitalized for COVID-19**?

☐ 1 COVID hospitalization$_1$

☐ 2 COVID hospitalizations$_2$

☐ 3 COVID hospitalizations$_3$

☐ More than 3 COVID hospitalizations$_4$

☐ Do not know$_5$

4a) If more than 3 COVID hospitalizations, please list the number: ☐☐

The following eight questions refer to your most recent COVID-19 infection.

5) When do you know or think you last had COVID-19? (please estimate even if you are not sure)

☐☐ / ☐☐☐☐

6) Did you take a COVID test at that time?

☐ No$_0$→ **Go to Q8**

☐ Yes$_1$

7) Did you have a positive test result? "Positive" means the test showed COVID-19.

☐ No$_0$

☐ Yes$_1$

☐ Do not know$_2$

8) Did you have any COVID-19 symptoms, such as fever, cough, sore throat, or other symptoms?

☐ No$_0$→ **Go to Q11**

☐ Yes$_1$

9) When your COVID-19 symptoms were at their worst, did they prevent you from going about your daily activities?

☐ Not at all$_0$

☐ A little bit$_1$

☐ Somewhat$_2$

☐ Quite a bit$_3$

☐ Very much$_4$

10) Compared to how you felt before you got COVID-19, do you think your ability to think clearly, and concentrate is:

☐ Much worse$_1$

☐ Somewhat worse$_2$

☐ Same as before$_3$

☐ Somewhat better$_4$

☐ Much better$_5$

All of the questionnaire references are listed on Page 11.

11) Did a doctor or other health care professional prescribe any medications for you to take when you had COVID-19?

☐ No$_0$ → **Go to Q13**
☐ Yes$_1$
☐ Do not know$_2$ → **Go to Q13**

12) Did the doctor or other health care professional prescribe any of the following medications for COVID-19? Please select all that apply.

12a) ☐ Antiviral pill, such as Paxlovid
12b) ☐ Oral steroids, such as dexamethasone, prednisone, or prednisolone
12c) ☐ Antibiotics, such as a "Z-pak"
12d) ☐ Other
12d1) If Other, please specify: _____
12e) ☐ Do not know

Recovery from COVID-19

13) Would you say that you are completely recovered from COVID-19 now?

☐ No$_0$ → **Go to Q15**
☐ Yes$_1$

14) How long did it take for you to recover from your most recent infection? (please estimate even if you are not sure): ☐ ☐ ☐ days

Vaccination against COVID-19

15) Have you ever been vaccinated against COVID-19?

☐ No$_0$ → **Go to Q19**
☐ Yes$_1$
☐ Do not know$_2$ → **Go to Q19**

16) In total, how many COVID-19 vaccine shots have you received?

☐ 1$_1$
☐ 2$_2$
☐ 3$_3$
☐ 4$_4$
☐ 5$_5$
☐ More than 5$_6$
☐ Do not know$_7$
16a) If more than 5, please specify how many: ☐

17) When was your most recent COVID vaccine? (please estimate even if you are not sure)

☐ ☐ / ☐ ☐ ☐ ☐

18) Which type of COVID vaccine was your last shot?

☐ Pfizer$_1$
☐ Moderna$_2$

All of the questionnaire references are listed on Page 11.

☐ Janssen$_3$
☐ Novavax$_4$
☐ Other$_5$
☐ Do not know$_6$
18a) If Other, please specify: _____

Global Health (PROMIS-10 + Symptom Survey)

19) In general, would you say your **health** is:
☐ Excellent$_5$
☐ Very good$_4$
☐ Good$_3$
☐ Fair$_2$
☐ Poor$_1$

20) In general, how would you rate your **physical health**?
☐ Excellent$_5$
☐ Very good$_4$
☐ Good$_3$
☐ Fair$_2$
☐ Poor$_1$

21) To what extent are you able to carry out your **everyday physical activities** such as walking, climbing stairs, carrying groceries, or moving a chair?
☐ Completely$_4$
☐ Mostly$_3$
☐ Moderately$_2$
☐ A little$_1$
☐ Not at all$_0$

22) In the past 7 days, how would you rate your **fatigue** on average?
☐ None$_0$
☐ Mild$_1$
☐ Moderate$_2$
☐ Severe$_3$
☐ Very severe$_4$

23) In the past 7 days, how would you rate your **pain** on average? Please provide a number from 1 (no pain) to 10 (worst imaginable pain): ☐☐

Symptom Survey

During the past 2 weeks, have you had any of the following symptoms?

	No$_0$	Yes$_1$
24) Headache	☐	☐
25) Body or muscle aches	☐	☐
26) Fever, chills, sweats or flushing	☐	☐

All of the questionnaire references are listed on Page 11.

27) Feeling faint, dizzy, “goofy”; difficulty thinking soon after standing up from a sitting or lying position	☐	☐
28) Feeling unwell after you exert yourself physically or mentally (“post-exertional malaise”)	☐	☐
29) Weakness in arms or legs	☐	☐
30) Shortness of breath (trouble breathing)	☐	☐
31) Cough	☐	☐
32) Palpitations, racing heart, arrhythmia, or skipped beats	☐	☐
33) Swelling of your legs	☐	☐
34) Indigestion, nausea, feeling uncomfortably full or vomiting after eating, diarrhea, or constipation	☐	☐
35) Bladder problems including incontinence, trouble passing urine or emptying bladder	☐	☐
36) Nerve problems including tremor, shaking, numbness, tingling, or burning	☐	☐
37) Problems thinking or concentrating	☐	☐
38) Difficulty with motor coordination, including speech, walking and performing daily tasks	☐	☐
39) Trouble finding the right word	☐	☐
40) Needing more effort to complete tasks	☐	☐
41) Feeling worn out after routine activities	☐	☐
42) Problems with anxiety, depression, stress or trauma-related symptoms like nightmares or grief	☐	☐
43) Difficulty falling asleep, difficulty staying asleep, or early morning awakenings, 3 or more times per week	☐	☐
44) Feeling sleepy, trouble staying awake during the daytime, or falling asleep during the day when you do not intend to, 3 or more times per week	☐	☐
45) Loud snoring, stopping breathing, or gasping during sleep, 3 or more times per week	☐	☐
46) Uncomfortable feelings in your legs (creepy, crawling feeling) that make you want to move your legs, which are worse at night and improved with movement	☐	☐
47) Skin rash	☐	☐
48) Loss of or change in smell or taste	☐	☐
49) Excessive thirst	☐	☐
50) Excessively dry mouth	☐	☐
51) Vision problems (blurry, light sensitivity, difficult reading or focusing, floaters, flashing lights, “snow”)	☐	☐
52) Problems with hearing (hearing loss, ringing in ears)	☐	☐
53) *If applicable*: problems with fertility, changes in your menstrual cycle, changes in menopause symptoms	☐	☐

54) In general, would you say your **quality of life** is:

☐ Excellent[5]

☐ Very good[4]

All of the questionnaire references are listed on Page 11.

☐ Good$_3$
☐ Fair$_2$
☐ Poor$_1$

55) In general, how would you rate your **mental health**, including your mood and your ability to think?
☐ Excellent$_5$
☐ Very good$_4$
☐ Good$_3$
☐ Fair$_2$
☐ Poor$_1$

56) In general, how would you rate your satisfaction with your **social activities and relationships**?
☐ Excellent$_5$
☐ Very good$_4$
☐ Good$_3$
☐ Fair$_2$
☐ Poor$_1$

57) In general, please rate how well you carry out your usual social activities and roles. (This includes activities at home, at work and in your community, and responsibilities as a parent, child, spouse, employee, friend, etc.)
☐ Excellent$_5$
☐ Very good$_4$
☐ Good$_3$
☐ Fair$_2$
☐ Poor$_1$

58) In the past 7 days, how often have you been bothered by emotional problems such as feeling anxious, depressed or irritable?
☐ Never$_0$
☐ Rarely$_1$
☐ Sometimes$_2$
☐ Often$_3$
☐ Always$_4$

Patient Health Questionnaire-9 (PHQ-8)
Over the last two weeks, how often have you been bothered by the following problems? Please respond "not at all", "several days", "more than half the days," or "nearly every day".

	Not at all$_0$	Several days$_1$	More than half the days$_2$	Nearly every day$_3$
59) Little interest or pleasure in doing things?	☐	☐	☐	☐
60) Feeling down, depressed, or hopeless?	☐	☐	☐	☐
61) Trouble falling or staying asleep, or sleeping too much?	☐	☐	☐	☐

All of the questionnaire references are listed on Page 11.

62) Feeling tired or having little energy?	☐	☐	☐	☐
63) Poor appetite or overeating?	☐	☐	☐	☐
64) Feeling bad about yourself or that you are a failure or have let yourself or your family down?	☐	☐	☐	☐
65) Trouble concentrating on things, such as reading the newspaper or watching television?	☐	☐	☐	☐
66) Moving or speaking so slowly that other people could have noticed?	☐	☐	☐	☐
67) Feeling a lot more fidgety or restless than usual?	☐	☐	☐	☐

Changes in medical conditions since the beginning of 2020

68) Since the beginning of 2020, has a health care provider given you a **new diagnosis** of any of the following conditions? Please select all that apply.

68a) ☐ No new diagnoses since the beginning of 2020
68b) ☐ Heart problems, such as heart failure or arrhythmia (e.g., "atrial fibrillation")
68c) ☐ Lung problems, such as asthma, COPD, fibrosis or interstitial lung disease
68d) ☐ Blood clots in the lung ("pulmonary embolism"), leg or arm ("deep vein thrombosis")
68e) ☐ Sleep apnea or insomnia
68f) ☐ Memory or cognitive impairment or dementia
68g) ☐ Migraine or other headache disorder
68h) ☐ Stroke
68i) ☐ Seizure or epilepsy
68j) ☐ Kidney problems or kidney disease
68k) ☐ Stomach problems or gastrointestinal disease, like stomach ulcer or irritable bowel syndrome
68l) ☐ Psychological problems or psychiatric problems, like depression, anxiety, or psychosis
68m) ☐ Diabetes
68n) ☐ Autoimmune diseases (such as systemic lupus, thyroid disease)
68o) ☐ Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME-CFS), Postural Orthostatic Tachycardia Syndrome (POTS) or dysautonomia, or Ehlers Danlos Syndrome (EDS)
68p) ☐ Other
68p1) If Other, please specify: _____
68q) ☐ Not sure

69) Do you think that you are experiencing, or have ever experienced, what has been called "**long COVID**," or symptoms related to COVID at least a month after your infection?

☐ No$_0$
☐ Yes$_1$

All of the questionnaire references are listed on Page 11.

☐ Do not know$_{2}$

Social Determinants of Health

70) Do you currently have some form of **health insurance** to help pay for medical bills?
☐ No$_{0}$
☐ Yes$_{1}$

71) In the past month, **how difficult has it been to pay** for the things you need (or you and your family needs)?
☐ Very difficult$_{5}$
☐ Somewhat difficult$_{4}$
☐ Not at all difficult$_{3}$
☐ Do not know$_{2}$
☐ Prefer not to answer$_{1}$

72) What is your current **work** situation?
☐ Working outside the home$_{1}$
☐ Working outside the home as well as working remotely from home ("hybrid" work)$_{2}$
☐ Working remotely from home$_{3}$
☐ Working at home to provide childcare, eldercare and/or to maintain the home$_{4}$
☐ On leave from a job working outside the home (e.g., sick leave, family leave, maternity leave)$_{5}$
☐ Working inside the home$_{6}$
☐ Looking for work, unemployed$_{7}$
☐ Retired$_{8}$
☐ Disabled, permanently or temporarily$_{9}$
☐ Student$_{10}$
☐ Do not know$_{11}$
☐ Prefer not to answer$_{12}$

Health-Related Behaviors

The following questions are regarding your behaviors over the past month.

73) Have you smoked **cigarettes**?
☐ No$_{0}$ → **Go to Q75**
☐ Yes$_{1}$

74) **How many** cigarettes do you typically smoke per day? ☐ ☐ ☐ cigarettes/day

75) Have you used **e-cigarettes**?
☐ No$_{0}$ → **Go to Q77**
☐ Yes$_{1}$

76) **How many** times per day do you use an e-cigarette? ☐ ☐ ☐ vapes/day

77) Do you currently use **cannabis products**? Please select all that apply.
77a) ☐ None
77b) ☐ Cannabidiol or "CBD" products such as oils, drinks

All of the questionnaire references are listed on Page 11.

77c) ☐ Marijuana e-cigarettes or "vapes"
77d) ☐ Marijuana cigarettes or "joints"

78) Do you currently drink **alcoholic beverages**?
☐ No$_0$→ **Go to Q80**
☐ Yes$_1$

79) **How many** alcoholic beverages do you drink per week? ☐ ☐ drinks/week

80) What types of **physical exercises** do you do? Please select all that apply.
80a) ☐ Walking for 20 minutes or more
80b) ☐ Running
80c) ☐ Biking
80d) ☐ Using exercise machines such as a treadmill, stair machine, rowing machine, "elliptical"
80e) ☐ Lifting weights of 15 pounds or less
80f) ☐ Lifting weights of more than 15 pounds
80g) ☐ Yoga or meditation
80h) ☐ Exercise classes led by an instructor
80i) ☐ Playing sports
80j) ☐ Working in a physically demanding job (e.g., farming, construction)
80k) ☐ Unable to exercise or advised not to exercise

81) How much do you currently **weigh**? (please estimate even if you are not sure) ☐ ☐ ☐ pounds

82) What is your current **height**? (please estimate even if you are not sure) ☐ feet ☐ ☐ inches

Neighborhood Survey

Many things have changed due to the COVID-19 pandemic. We would like to ask you several questions about the way your neighborhood has changed since March 2020. By neighborhood we mean the area around where you live and around your house. It may include places you shop, religious or public institutions, or a local business district. It is the general area around your house where you might perform routine tasks, such as shopping, going to the park, or visiting neighbors. ***Think of your neighborhood as the area within a 20-minute walk or about a mile from your home.***

83) On a scale of 1-10 with 10 being the most and 1 being the least, how much change has happened in your neighborhood since March 2020? ☐☐

While many places experienced temporary shifts due to COVID-19 public health measures (e.g., temporary closures of restaurants and schools), we are interested in the long-term impact of the COVID-19 pandemic on your neighborhood. Thinking about changes in your neighborhood please describe the way the following have changed since March 2020.

	Never existed$_0$	Decreased$_1$	Stayed the same$_2$	Increased$_3$	Do not know$_4$
84) Places to eat or buy food (e.g., restaurants, grocery stores)	☐	☐	☐	☐	☐

All of the questionnaire references are listed on Page 11.

85) Places to buy things or receive services (e.g., retail shops, repair places, hairdressers)	☐	☐	☐	☐	☐
86) Places to socialize and learn (e.g., bars, concert venues, museums, libraries, churches)	☐	☐	☐	☐	☐
87) Places to receive medical care (e.g., hospitals, clinics, or urgent cares)	☐	☐	☐	☐	☐
88) Places to walk, bike, or exercise	☐	☐	☐	☐	☐
89) Construction of new buildings	☐	☐	☐	☐	☐
90) Cost of housing (i.e., price to rent or buy)	☐	☐	☐	☐	☐
91) People moving away from your neighborhood	☐	☐	☐	☐	☐
92) People moving into your neighborhood	☐	☐	☐	☐	☐
93) Tension or conflict between you and your neighbors	☐	☐	☐	☐	☐

94) Neighborhoods change for many different reasons. Disruptions due to the COVID-19 pandemic may have been part of the changes in your neighborhood. Thinking overall about the neighborhood changes you experienced, what was most important?

- ☐ The COVID-19 pandemic and related disruptions[1]
- ☐ Factors other than the COVID-19 pandemic[2]
- ☐ My neighborhood has not changed[3]
- ☐ Do not know *(only if they do not answer, not read to them)*[4]

All of the questionnaire references are listed on Page 11.

Citations

The C4R Questionnaire Subcommittee adapted items from the following survey instruments:

RECOVER Survey: The C4R W3Q Symptom Survey is adapted from the RECOVER questionnaire available here: https://recovercovid.org/protocols

PROMIS-10: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5934936/
Hays RD, Schalet BD, Spritzer KL, Cella D. Two-item PROMIS® global physical and mental health scales. J Patient Rep Outcomes. 2017;1(1):2. doi: 10.1186/s41687-017-0003-8. Epub 2017 Sep 12. PMID: 29757325; PMCID: PMC5934936.

PHQ-8: https://pubmed.ncbi.nlm.nih.gov/18752852/
Kroenke K, Strine TW, Spitzer RL, Williams JB, Berry JT, Mokdad AH. The PHQ-8 as a measure of current depression in the general population. J Affect Disord. 2009 Apr;114(1-3):163-73. doi: 10.1016/j.jad.2008.06.026. Epub 2008 Aug 27. PMID: 18752852.

Perceptions about changes in environments and residents (PACER) Questionnaire:
https://pubmed.ncbi.nlm.nih.gov/34485674/
Hirsch JA, Grunwald HE, Miles KL, Michael YL. Development of an instrument to measure perceived gentrification for health research: Perceptions about changes in environments and residents (PACER). SSM Popul Health. 2021 Aug 23;15:100900. doi: 10.1016/j.ssmph.2021.100900. PMID: 34485674; PMCID: PMC8399084.

All of the questionnaire references are listed on Page 11.