# **Appendix 2**. **Questionnaire**



Questionnaire for the Post COVID-19 Condition Clinical Case Definition WHO Delphi Study

Thank you for agreeing to participate in this Delphi study to help develop a Clinical Case Definition of Post COVID-19 condition. Please read through items 1 to 4 before proceeding to the survey page.

1. **Delphi purpose and description**

The purpose of this WHO Delphi study is to obtain opinions on including which domains, and their eventual values or thresholds, to develop a clinical case definition of Post COVID-19 Condition.

There are many unknowns and lingering issues on the Post COVID-19 Condition. A major one is a clinical case definition of Post COVID-19 condition, to be used by all parties and in all settings. The list of available, related definitions is growing (see **Appendix 1** in the study protocol). However, to date none is universal. WHO has engaged in obtaining a clinical case definition of Post COVID-19 condition in a formal way based on existing evidence, by applying the most objective Delphi methodology.

This Delphi study will consist of two (2) rounds sent out for completion between April-May 2021. You will have five (5) days to complete each round. This is round 1.

1. **Where did these domains come from?**

The domains (or variables) considered for inclusion in the definition) were derived from a literature review on current evidence, interviews with patients and consultations with knowledge leaders. COMET DelphiManager software, a web-based system designed to facilitate the building and management of Delphi surveys, will be used to complete this Delphi exercise. Our gratitude to Prof Paula Williamson, University of Liverpool, UK, for providing DelphiManager at no cost.

1. **What happens after I complete this first Delphi round**

We will inform you when all Round 1 data has been received and analyzed. Then we will give you access to Round 2. Round 2 will include a summary of the responses from Round 1 and empirical evidence for each item derived from further literature review.

You will then re-vote on each item in Round 1 (i.e., scored as "critical" by at least 70% of Delphi respondents and as of "limited importance" by less than 15% of respondents).

1. **Participation and confidentiality**

Participating in this WHO Delphi study is voluntary. Only anonymized and aggregate data will be shared and published. No one will be able identify you through your survey responses except for an authorized member of the research team.

You will be invited to complete all rounds. Note that the results may be compromised if panelists (participants like you) drop out of the study before it is completed. If people drop out because they feel their opinions are in the minority, the final results will overestimate how much the sample of participants agreed on this topic.

Please complete Round 1 using the set of instructions, next

**Instructions**

All survey questions must be **completed from Monday 3rd to Friday 7th May 2021**. The entire survey should take you **less than ten (10) minutes to complete**. You may complete the survey in more than one sitting by using the "Save & Return" button at the bottom of the survey page.

Please keep in mind that the purpose of this WHO Delphi study is to help identify the minimum and essential domains to include in a clinical case definition of Post COVID-19 condition.

The candidate reporting domains are organized into ten (10) categories and then several sub-categories for voting purposes.

Please rate the IMPORTANCE of including each of these 8 categories, from 1 to 9

* A rating of 1 to 3 means that you consider the item to be of limited importance to include in the definition.
* A rating of 4 to 6 means that you consider the item to be important but not critical to include in the definition.
* A rating of 7 to 9 means that you consider the item to be critical to include in the definition.
* You may select "Not my expertise" for items that you feel you do not have the appropriate level of expertise to rate.
* A free text box is provided at the bottom of each question for you to provide comments about each candidate domain and/or any explanations you would like to provide for your rating.

Thank you for participating and please feel free to contact us directly with any questions to Dr JB Soriano at [sorianoj@who.int](mailto:sorianoj@who.int)

To start this Delphi Round 1 survey with DelphiManager, please click "**Register**” below.

**Domain 1 - Onset of Post COVID-19 condition**

How important is it “**the inclusion of the following proposed minimum time period (X weeks) between the onset of symptoms of acute COVID-19 (or for asymptomatic cases from date of positive test)”** to the clinical case definition of Post COVID-19 condition?

**4 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**8 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**12 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**16 weeks or more**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 2 – History of SARS-CoV-2 infection**

How important is it “**having a laboratory confirmed previous history of SARS-CoV-2 infection**” to the clinical case definition of Post COVID-19 condition?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 3 – Symptoms (and/or impairments)**

How important is it “each of **the following symptoms”** to the clinical case definition of Post COVID-19 condition?

Abdominal pain

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Altered smell or taste

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Anxiety

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Chest pain

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Cognitive dysfunction also referred to as “brain fog”

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Cough

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Depression

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Diarrhea

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Fast-beating or pounding heart (also known as heart palpitations)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Fatigue

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Headache

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Intermittent fever

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Joint pain

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Muscle pain

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Pins and needles

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Post-exertional malaise

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Rash

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

Shortness of breath

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: List of symptoms presented in alphabetical order, extracted from:

<https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html>

<https://www.acpjournals.org/doi/10.7326/M20-5926>

<https://apps.who.int/iris/bitstream/handle/10665/339629/Policy-brief-39-1997-8073-eng.pdf>

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 4 – Minimum number of symptoms**

How important is it “**to** **have a minimum number of symptoms**” to the clinical case definition of Post COVID-19 condition?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 5 – Clusters of symptoms**

How important is it “**the inclusion of clusters of symptoms**” to the clinical case definition of Post COVID-19 condition?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: A symptom cluster is defined as consisting of 2 or more symptoms that are related to each other and that occur together. Symptom clusters are composed of stable groups of symptoms, are relatively independent of other clusters, and may reveal specific underlying dimensions of symptoms. [**Reference**: Barsevick A. Defining the Symptom Cluster: How Far Have We Come?. Seminars in Oncology Nursing 2016; 32 (4): 334-350.]

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 6 – Nature of symptoms**

How important is it “**to include each of the following descriptors on the nature of symptoms”** to the clinical case definition of Post COVID-19 condition?

**New onset**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Persistent**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Relapsing**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Increasing**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 7 – Sequelae of well-described acute complications of COVID-19**

How important is it “**only include symptoms separate from those that are thought to be a sequela of well-described acute complications of COVID-19 (i.e.: stroke, acute respiratory distress syndrome, acute kidney injury, myocarditis, thrombosis, post intensive care syndrome (PICS))**” to the clinical case definition of Post COVID-19 condition?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 8 – Minimum duration of symptoms**

How important is it “**the inclusion of the following** **minimum duration of the symptoms**” to the clinical case definition of Post COVID-19 condition?

**At least 2 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**At least 4 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**At least 6 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**At least 8 weeks**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 9 - Symptoms cannot be explained by another diagnosis**

How important is it “**that Post COVID-19 condition be considered a diagnosis of exclusion determined by health provider as symptoms cannot be explained by another diagnosis**” to the clinical case definition of Post COVID-19 condition?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Domain 10 - Should the deﬁnition be applied to all populations?**

How important is it “**that the Post COVID-19 condition definition can be applied to all populations, including pregnant or post-partum; young children; neonates; people with chronic disease; people living with HIV, older people, or other immunocompromised conditions**” to the clinical case definition of Post COVID-19 condition?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | Not my expertise |
|  | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 | 〇 |

**Notes**: None

Please provide any feedback on the wording of this domain, suggestions for other thresholds or values of this domain, and/or an explanation of your rating: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**You have completed this Delphi survey Round 1.**

**We will contact you with Round 2, next.**

**THANKS!**