### React19 Persistent Symptoms Survey #2



### **Symptoms Progression**

### **1047 Participants**

Edoardo Galli, PhD edoardo.galli@react19.org



**REACT**<sup>19</sup>

09/30/2021 - 04/03/2022





### **Survey Outline**

Part 1:

- Symptoms prevalence
- Symptoms evolution
- Symptoms cluster
- Quality of Life
- Pre-Existing Conditions
- Methodology

Part 2:

- Tests \_\_\_\_
- Diagnoses

Survey Design: Drew Franklin Dmf2990@gmail.com





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Validate findings of the previous analysis



Improve data visualisation



Find additional information, clusters, patterns, and/or trends if present



Identify flaws and issues to improve the next survey round

Brian Dressen, PhD Brian.dressen@react19.org Analysis: Edoardo Galli, PhD edoardo.galli@react19.org





General		Neurological		Cardiovascular		Gastrointestinal		Genitourinary	
Fatigue	82%	Brain Fog	72%	Heart Palpitations	66%	Bowel Problems	44%	Urinary Incontinence	37%
Exercise Intolerance	77%	Paraesthesia	69%	Tachycardia	56%	Abdominal Pain	41%	Menstrual Disorder	20%
Sleep Disorders	76%	Neuralgia	53%	Oedema Extremities	52%	Nausea	39%		
Dizziness/Vertigo	67%	Headaches	52%	Hyper/Hypotension	44%	Heartburn	36%	Dermatology	
Muscle Weakness	63%	Fasciculations	49%	Varicose Veins	19%	Flatulence	24%	Skin Problems	30%
Chills	36%	Tremors	46%	Phenomenon	11%	Melaena	8%	Alopecia	27%
Lymphadenopathy	29%	Amnesia	46%			Jaundice	5%		
		Paralysis	8%					Psychiatric	
		Seizures	3%	Endocrinologic		HEENT		Anxiety	45%
Musculoskeletal				Adrenaline Surges	58%	Ocular Problems	60%		
Myalgia	60%	Respiratory		Increased Thirst	35%	Hyperacusis	59%	Allergies	
Arthralgia	57%	Dyspnoea	56%	Heat Intolerance	34%	Xerostomia	31%	New Food Allergies	17%
Muscle Atrophy	36%	Cough	19%	Dist. in Glucose Levels	13%	Sore Throat	22%	Anaphylaxis	6%

## **Prevalence of Reported** Symptoms





### Patient-Led Surveys



# Prevalence of Reporte

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## **Reported Symptoms**

- general
- neurological
- cardiovascular
- gastrointestinal
- heent
- musculoskeletal
- endocrinologic
- respiratory
- genitourinary
- integumentary
- psychiatric
- allergy

Skin Problems Muscle Atrophy Fasciculations Muscle Weakness Lymphadenopathy **Increased Thirst** Oedema Extremities Heart Palpitations **New Food Allergies Bowel Problems** Tremors Brain FogMyalgia Amnesia Flatulence Xerostomia Dist. in Glucose Levels Anxiety Exercise Intolerance **Abdominal Pain** Tinnitus/Hyperacusis Fatigue Arthralgia Chills Tachycardia Neuralgia Sleep Disorders **Myocarditis** Heartburn Dyspnoea Paraesthesia Urinary Inco Throat Intolerance Dizziness/Vertigo Cough Nausea Sore Throat Adrenaline Surges Ocular Problems Alopecia **Raynauds Phenomenon** Hypertension/Hypotension Varicose Veins







## Top 20 Symptoms





## Symptom Classes

21.40%

19.81%

general

neurological

cardiovascular

gastrointestinal

heent

musculoskeletal

endocrinologic

respiratory

genitourinary

integumentary

psychiatric

allergy

### **Reported Symptoms**



### 0-100% scale



### **Overall Symptoms Evolution**



### Survey 2

### REACT<sup>19</sup>





**Patient-Led Surveys** 

### **Symptoms Evolution**



Symptom Onset

**Symptom Quantity** 

Symptom Timeline

20

The average number of symptoms reported

### 0-5 Days

72% of participants reported symptoms began in first 5 days.



### How many months since vaccination?







### Symptoms Evolution

Do you feel you are improving?



### No + Staying the same **40%**



### When did symptoms level off?



Average: 4 Months 1 Week





### **Specific Symptoms Evolution**



Survey 2



# Provider Education Symptoms Evolution Top 20 Improving Symptoms



- general
- neurological
- cardiovascular
- gastrointestinal
- heent
- musculoskeletal

- endocrinologic
- respiratory
- genitourinary
- integumentary
- psychiatric
- allergy



### **Provider Education** Symptoms Evolution Top 20 Improving Symptoms

### Top 20 Affecting More than 30% of People



- general
- neurological
- cardiovascular
- gastrointestinal
- heent
- musculoskeletal

- endocrinologic
- respiratory
- genitourinary
- integumentary
- psychiatric
- allergy



### **Provider Education** О Symptoms Evolution Top 20 Worsening Symptoms



- general
- neurological
- cardiovascular
- gastrointestinal
- heent
- musculoskeletal

- endocrinologic
- respiratory
- genitourinary
- integumentary
- psychiatric
- allergy



### **Provider Education** Symptoms Evolution Top 20 Worsening Symptoms

### Top 20 Affecting More than 30% of People



- general
- neurological
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- respiratory
- genitourinary
- integumentary
- psychiatric
- allergy



**Provider Education** 

## st Covid Vaccine yndrome



### **Common Diagnoses**

Inflammation Pericarditis Myocarditis Dysautonomia Neuropathy Autoimmunity POTS (Postural Orthostatic Tachycardia Syndrome) Guillian Barre Syndrome Transverse Myelitis Stroke / Clots ME/CFS CIDP MCAS





### **Clusters of Symptoms**



Survey 2



### Patient-Led Surveys

## Symptom Clusters

Each column shows % of how many people have reported the other symptoms

Less reported symptoms are more likely to be coupled with other more generic symptoms

fatigue exercise intolerance sleep disorders brain fog paraesthesia dizziness/vertigo heart palpitations muscle weakness myalgia ocular problems tinnitus hyperacusis adrenaline surges arthralgia dyspnoea tachycardia neuralgia oedema extremities headaches fasciculations tremors amnesia anxiety hypertension/hypotension bowel problems abdominal pain nausea urinary incontinence muscle atrophy chills heartburn increased thirst heat intolerance xerostomia skin problems lymphadenopathy alopecia flatulence sore throat menstrual disorder cough varicose veins new food allergies myocarditis dist. in glucose levels raynauds phenomenon paralysis melaena anaphylaxis -

- jaundice
  - seizures -





1		
0	-	9
0	-	8
0	-	7
0	-	6
0	-	5
0	-	4
0	-	3
0	-	2
0		1

### Patient-Led Surveys

## Symptom Clusters

Zero anything below 0.7 to spot clear patterns

- Top 10 symptoms are very often reported with any of the other symptoms
- Symptoms that affect the same organ/system are often coupled together

fatigue exercise intolerance sleep disorders brain for paraesthesia dizziness/vertigc heart palpitations muscle weakness myalgia ocular problems tinnitus hyperacusis adrenaline surges arthralgia dyspnoea · tachycardia neuralgia oedema extremities headaches fasciculations tremors amnesia anxiety hypertension/hypotension bowel problems abdominal pain nausea urinary incontinence muscle atrophy chills heartburn increased thirst heat intolerance xerostomia skin problems lymphadenopathy alopecia flatulence sore throat menstrual disorder cough varicose veins new food allergies myocarditis dist. in glucose levels raynauds phenomenon paralysis melaena anaphylaxis jaundice seizures







### Quality of Life



Survey 2





### Patient-Led Surveys

## Quality Of Life





to be unable to work  $\rightarrow$  higher reported severity

**0** I can live life like I did before

**1** I work or do chore and do light exercise

**2** I work or do chores but can't exercise

**3** I am unable to work but can't do chores

4 I am unable to work and bedridden most days

> Average Severity 1.87





## Patient-Led Surveys Quality Of Life

Symptoms and Severity

Reported severity is correlated with reported number of symptoms



- **0** I can live life like I did before
- I work or do chore and do light exercise 1
- **2** I work or do chores but can't exercise
- 3 I am unable to work but can't do chores
- **4** I am unable to work and bedridden most days





## Patient-Led Surveys Quality Of Life

**Status Evolution and Severity** 

Ratio of people reporting that they are improving decreases monotonically with increasing severity.





Not improving

Symptoms evolving

Staying the same

Improving



### **Pre-Existing Conditions**



Survey 2





Patient-Led Surveys Medical History

### **Previous Vaccine Reaction?**

Prior to Covid vaccination,

have you ever reacted to

any previous vaccine you

had received?

**NO - 94%** 

Have you ever

had **a positive** 

Covid infection?

### History of **Covid Infection**

### **Pre-Existing** Conditions

Do you have any

pre-existing

health conditions?

**NO - 76%** 





# Patient-Led Surveys Pre-Existing Conditions

Status Evolution and Severity

Around 16% of all reported pre-existing conditions fall in the autoimmune category



Pre-existing conditions reported by more than 1% of respondents.

(More specific data collection is needed in next survey.)







**Severity** 

## **Pre-Existing Conditions** & Severity

Respondents with pre-existing conditions may be more likely to be unable to work  $\rightarrow$  higher reported severity





### Methodology



Survey 2







67 excluded from whole

no adverse reaction to • all symptoms selected

142 excluded from preexisting condition analysis • ambiguous data

44 excluded from preexisting condition/severity • no severity data

Free form answers manually checked

### <u>980</u> people included in the analysis:

838 people included in the pre-existing conditions analysis

<u>930</u> people included in the severity analysis

794 people included in pre-existing/severity analysis.













## Symptoms Grouping for Data Analysis

- Myocarditis and glaucoma are not symptoms so may need to be removed from the analysis for consistency.
- Groups of symptoms created based on general/common medical categories (WHO, NIH etc.):

#### General

Fatigue	
Exercise intolerance	General
Muscle weakness	Fatigue
Dizziness	Exercise intolerance
Feeling off balanced or	Muscle weakness
motion at rest	Dizziness/Vertigo
Insomnia	Sleep disorders
Sleep disturbances	- Chills
Excessive sleep	Lymphadenopathy
Chills	
Swollen lymph nodes	

Symptoms that are very similar/often discussed together are paired to aid visualisation.

need to be removed from the analysis for consistency. non medical categories (WHO, NIH etc.):

#### Endocrinologic

Adrenaline surges

Increased thirst

Heat intolerance

Disturbances in glucose levels

#### Respiratory

Shortness of breath

Persistent cough

#### Integumentary

Skin redness, hives, petechia or rashes

Hair loss

#### Endocrinologic

Adrenaline surges

Increased thirst

Heat intolerance

Disturbances in glucose levels

#### Respiratory

Dyspnoea

Cough

#### Integumentary

Skin problems

#### Alopecia



- Myocarditis and glaucoma are not symptoms so may need to be removed from the analysis for consistency.
- Groups of symptoms created based on general/common medical categories (WHO, NIH etc.):

near paipitations	Cardiovascular
High heart rate	Cardiovascular
Heaviness in legs	Heart palpitations
Swelling of extremities	Tachycardia
High blood pressure Low blood pressure Bulging veins	Oedema in extremities
	Hypertension/Hypotension
	Varicose veins
	Ravnaud's phenomenon
Myocarditis	
White/blue finger tips	
<b>~ ·</b> · · · ·	·· / C. I. I
Symptoms that are very sir	nilar/often discussed
together are paired to ald	visualisation.

Note: chest pain was missing from survey

Symptoms Grouping for Data Analysis

#### urological

in fog	i	n	fog
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- rve pain
- gling, numbness in remities
- rning sensation on
- adaches
- uscle twitching
- emory loss
- ernal vibrations
- emors
- ralysis
- Seizures

- Brain fog
- Neuralgia
- Paraesthesia
- Headaches
- Fasciculations
- Amnesia
- Tremors
- Paralysis
- Seizures



## Symptoms Grouping for Data Analysis

- Myocarditis and glaucoma are not symptoms so may need to be removed from the analysis for consistency.
- Groups of symptoms created based on general/common medical categories (WHO, NIH etc.):

Gastrointestinal	
Abdominal, stomach pain	
Nausea	Gastrointestinal
Heartburn indigestion	Abdominal pain
Diarrhoea	Nausea
Constipation	Heartburn
Loss of bowel control	Bowel problems
Bloody or black/tar-like stool	Melaena
Excessive gas	Flatulence
Yellowing of skin or of the white of eves	Jaundice

Symptoms that are very similar/often discussed together are paired to aid visualisation.

I to be removed from the analysis for consistency. nedical categories (WHO, NIH etc.):

#### EENT

innitus

- ound sensitivity
- 'isual disturbances
- ight sensitivity
- ry eyes
- emporary blindness
- ilaucoma
- ry mouth
- ore throat

#### HEENT

- Tinnitus/Hyperacusis
- Ocular problems
- Xerostomia
- Sore throat



## Symptoms Grouping for Data Analysis

- Myocarditis and glaucoma are not symptoms so may need to be removed from the analysis for consistency. ٠
- Groups of symptoms created based on general/common medical categories (WHO, NIH etc.). ٠
- Medical terms preferred for conciseness and ٠

#### Musculoskeletal

Muscle aches

Muscle loss

Joint pain

#### Musculoskeletal

Myalgia

Muscle atrophy

Arthralgia

#### Allergy

New food allergies

Anaphylaxis

Symptoms that are very similar/often discussed together are paired to aid visualisation.

#### Genitourinary

Frequent urination

Irregular menstrual cycle

#### Genitourinary

Urinary Incontinence

Menstrual disorder

Psychiatric

Anxiety



### PART 2 Abnormal Tests, Diagnoses



### Survey 2

### REACT<sup>19</sup>





### Goals

930 respondents, 4650 free form answers manually analysed

- Analysis of reported abnormal test results
- Analysis of misdiagnoses
- Analysis of formal diagnoses

Warning: results are not encouraging, but note they were from 1+ year ago.

### Note: we do not know the total amount of people that had a particular test, so these results and percentages have limited meaning.







#### **Patient-Led Surveys**

## Abnormal Test Results



53% of respondents reports that all tests have come back normal, no test done, or not available.

### Most common abnormal blood tests were:

- Inflammatory markers (3.8%)
- Iron/Ferritin (3.4%)
- ANA (3.1%)
- D-Dimer (2.9%)
- VitD (1.6%)
- WBC (1.6%)

#### Most common diagnostic tools

- ECG (5.3%)
- MRI (4.2%)
- Heart Rate (3.8%)
- Echocardiogram (2.2%)
- Holter (1.9%)
- EMG (1.6%)



## **Reported Misdiagnosis**



My doctors doesn't know what is going on.

These 4 categories make up 80.5% of respondents.

- 45.5% NA either blank, no diagnosis yet, not visited a Dr/specialist or similar
- 20.9% unknown or no diagnosis
- 11.8% anxiety, depression, panic attacks, stress, ageing, menopause and similar
- 2.4% explicitly state they have been dismissed

Drs never admitted anything

### Doctors don't know what it is

Doctors said I was imagining my symptoms, refused to treat.





## Reported Diagnosis



### 40.6% No formal diagnosis yet

- 7.1% doctors acknowledged some sort of vaccine adverse event
- 5.4% anxiety, depression, panic attacks, stress, ageing, menopause and similar
- Tachycardia/Arrhythmia and POTS/Dysautonomia make up around 8% of respondents
- 5.9% of respondents report being diagnosed with myocarditis, pericarditis, or myopericarditis



## 100%

100% of your donation to the CAREfund goes directly into the hands of the Covid vaccine-injured.

## **REACT**<sup>19</sup> CAREfund

100% of donations go to an injured in need for medical expenses. **Donate Here:** 



**Patient Education** 

## Patient Resources

We understand just how important each and every dollar is that comes into this fund. So we have setup this fund to be 100% given back to the injured community to help individuals pay for medical expenses.

## www.react19.org/get-involved

