



EMEC

EUROPEAN ME COALITION

Advancing ME Research in the EU Strategic Document

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Advancing ME Research in the EU

Basic facts about ME

- Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) is a serious, long-term illness that affects many body systems.
- Patients can suffer from extreme fatigue, unrefreshing sleep, problems with thinking and concentrating, pain, orthostatic intolerance and many other symptoms. A hallmark feature of ME/CFS is a marked symptom exacerbation following exertion, which is referred to as post-exertional malaise (PEM).
- ME/CFS has an estimated prevalence rate of 400 per 100.000 meaning that approximately 2 million EU-citizens are suffering from the illness.
- ME/CFS affects children and adults of all ethnicities and socioeconomic backgrounds. The peak incidence of ME is in young people (10 to 19 years) and those aged between 30 to 39 years. ME/CFS has been found to be a major cause of school absence. Approximately 75% of ME/CFS patients are women.
- The cause and pathology of ME/CFS are unknown although there is an increased incidence following certain infections, most notably Epstein-Barr virus infection.
- An estimated 25% of ME/CFS patients are home- or bed-bound at some point in their lives. A large majority is unemployed or has reduced productivity. Symptoms typically persist for years. Recovery is the exception.
- There is currently no diagnostic test, no FDA or EMA-approved treatment and no cure. In the EU ME/CFS patients are sometimes treated with cognitive behavioral therapy (CBT) and graded exercise therapy (GET). The efficacy of these treatments however is disputed and in multiple patient surveys patients report to have been harmed by GET or CBT.

Factsheet on ME/CFS by the National Academy of Medicine: https://www.nap.edu/resource/19012/MECFES_KeyFacts.pdf

Recollection of initiatives

I) **Petition:** petition [0204/2019](#) has received significant support from ME patients, their family members and the scientific community. The Committee on Petitions has confirmed that it has received more than 15.000 signatures.

II) **Open letter:** 115 respected scientists have signed an open letter calling on the European Union to “align itself with international developments by issuing a long-term commitment to invest in biomedical research into ME.” The letter states that “a special provision in the Horizon research program to address the underfunding of neglected chronic diseases could help remove some of the barriers for European scientists to study ME.”

III) **Resolution:** On 17 June 2020, the European Parliament adopted a resolution on additional funding for biomedical research on ME. 676 members of parliament voted in favour, 4 against with 8 abstentions. The resolution writes that “the current underfunding of biomedical research into ME/CFS is unjustified considering the estimated large number of patients and the consequent economic and social impact of this disease.” It, therefore “calls on the Commission to allocate additional funding and prioritise calls for projects specifically focused on biomedical research into ME/CFS.”

Arguments for more funding

1) High disease burden

- A conservative estimate of ME/CFS prevalence is 0.4% which would mean that approximately 2 million EU citizens suffer from the illness. [1]
- ME/CFS patients have been found to be more functionally impaired than patients with multiple sclerosis, congestive heart failure, chronic renal failure and other chronic conditions. [2-3]
- The most recent systematic review indicated that the prognosis of ME/CFS is poor with an estimated recovery rate of only 5%. [4]
- The high prevalence, morbidity and severity of impairments indicate that ME/CFS has a high disease burden. [5] In the United States (US) the direct and indirect economic costs of ME have been estimated at 17 to 24 billion dollars annually. [6] EUROMENE estimated that the annual burden of ME/CFS in Europe is in the region of 40 billion euros per year. [7]

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2) The EU is running behind

The EU is currently funding little to no research on ME/CFS. This contrasts with other countries where funds have been made available to study the underlying pathology of ME/CFS.

- In the United States, the National Institutes of Health (NIH) has awarded four grants to create three Collaborative Research Centers (RFA-NS-17-021) and a Data Management Coordinating Center (RFA-NS-17-022) in 2017. [1] The three Research Centers were formed at prestigious institutions such as Columbia University, Jackson Laboratories and Cornell University. In addition, an extensive intramural study on ME/CFS is taking place at the NIH Clinical Center with a special focus on post-infectious ME/CFS. [2] **In 2019 the NIH invested approximately 15 million dollar in research into ME/CFS per year.** [3] On 4-5 April, the NIH organized the Accelerating Research on ME/CFS Meeting which brought together experienced and junior researchers studying the disease. [4] In addition to the NIH, the Centers for Disease Control and Prevention (CDC) run a program on ME/CFS with an annual budget of more than 5 Million dollars. [5] Since this year ME/CFS has also been added to the Medical Research Program by the Department of Defense.
- On 27 March 2019, **Australian Minister of Health Gregory Hunt announced the allocation of \$3 million** for an NHMRC Targeted Call for Research (TCR) to better understand the causes and improve the diagnosis of ME/CFS. [6-7] In addition, the Australian Government has announced the funding of a grant through the Medical Research Future Fund (Targeted Health System and Community Organisation Research Program) to conduct a health economics study of the impacts and costs associated with ME/CFS. Outcomes of this grant were announced on 20 September 2019. [8] In June 2019, an expert report was published by an expert committee of ME/CFS researchers and patient advocates advising the NHMRC on the current needs for research and clinical guidance for ME/CFS in Australia. [9]

- On 22 August 2019 **The Government of Canada announced to invests \$1.4M in biomedical research** to improve the quality of life of people living with ME/CFS. [10] The Interdisciplinary Canadian Collaborative ME Research Network, known as ICanCME, has been formed by researchers of the Universities of Montréal and Alberta. [11]

It should be emphasized that national governments in the US, Australia and Canada have allocated research funds to ME/CFS based on high societal needs. Substantial funds were allocated to stimulate ME/CFS research and were not assigned using the normal grant system, a mechanism that makes it very difficult to help develop a new field of research.

Remark: The Australian and Canadian funding are likely counted in local dollars. 1 Canadian dollar is worth approximately 0,75 US Dollar and 1 Australian Dollar is worth approximately 0.72 dollar. So recalculated to US dollars, the amounts are approximately a 2 million dollar investment in Australia and a 1 million investment in Canada.

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3) EU researchers funded by UK/US charities

Currently, well-qualified EU-scientists interested in studying ME/CFS are required to obtain research funding through charities and online fundraisers. Examples are given below.

- The ME/CFS Collaborative Research Center at Uppsala University in Sweden was funded by the American charity, **Open Medicine Foundation (OMF)**. [1] Since 2012 OMF has raised over 24 million dollar for biomedical research into ME/CFS. It had previously established ME/CFS research centers at Stanford University and Harvard-affiliated hospitals.
- ME/CFS research by the Belgian Pain in Motion team of Jo Nijs (Vrije Universiteit Brussel) and Mira Meeus (University of Antwerp) had to be funded through **ME Research UK (MERUK)**, a British charity. [2]
- Research on exosome-enriched vesicles in ME/CFS by the team of Elisa Oltra and colleagues at the University of Valencia, Spain was funded by the research fund of the British **ME Association**. [3]
- Many European researchers were able to make their first steps into ME/CFS research through grants of the American non-profit **Solve ME/CFS Initiative (SMCI)**. This includes Francisco Westermeier, FH JOANNEUM University of Applied Sciences, Austria, Bruno Paiva, University of Navarra and Carmen Scheibenbogen, Charité—Universitätsmedizin, Berlin. [4]
- Patients are organizing online fundraisers to keep European ME/CFS research ongoing. One example is “GOfundMECFS Support Scientific Research on ME/CFS” organized in collaboration with the American non-profit HHV6 Foundation. [4] The raised funds will go directly to the research team of Bhupesh Prusty at the University of Wuerzburg, Germany to study ME/CFS. [5]

We hope that the EU will develop and explore mechanisms to stimulate ME/CFS research as the current system makes it difficult to develop the field. We advise that the EU earmark funds for ME/CFS research and to solicit research applications based on pre-specified standards, a mechanism similar to the Requests for Application (RFA) in the US. [6] This would be justified given the high disease burden and economic impact of ME/CFS and similar initiatives being taken abroad.

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Extra information

EUROMENE

The European Network on ME/CFS (**EUROMENE**) is a COST Action project [1] of ME researcher groups, to assess, consider, and propose guidance on the areas of: i) epidemiology; ii) biomarkers; iii) socio-economics; and iv) clinical research – including diagnosis and potential health care/treatments. EUROMENE connects ME/CFS researchers from multiple European countries and works in collaboration with scientists abroad.

EUROMENE has published papers on potential biomarkers, comorbidities and gender differences in ME/CFS and methods to study the epidemiologic and economic impact of the disease. An overview of some of their publications is available on the EUROMENE website. [2]

At the end of September EUROMENE held a final meeting and released a series of recommendations. [3, 4]

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COVID-19 and the risk of developing ME/CFS

Researchers have raised concerns that a minority of COVID-19 patients might develop ME/CFS or a similar postviral syndrome. [1,2,3]

ME/CFS is often triggered by viruses. The Epstein Barr-Virus is the best studied but not the only example. [4] The 2009 pandemic of the H1N1 influenza virus, for example, was associated with a more than two-fold increased risk of ME/CFS. [5] An ME/CFS-like illness following the 2003 SARS Coronavirus outbreak has also been reported in the scientific literature. [6,7]

Today, there are accumulating reports of patients who develop long-lasting and debilitating symptoms after COVID-19. [8,9] The complaints and clinical picture are often similar to those seen in ME/CFS. [10] Whether COVID-19 triggers long term chronic ME/CFS and at which rate remains to be determined.

Although COVID-19 has caused enormous health- and economic crises, it also provides an exceptional scientific opportunity to conduct prospective and longitudinal research, with mutual benefits for longterm Covid-19 and ME/CFS patients. Some studies have already been initiated by charities. [11] In a recent report in Nature, scientists urgently call for studies to begin as soon as possible. [12]

Evelien Van Den Brink has written an open letter asking the European institutions to make sufficient funds available for scientific research into the long-term consequences of COVID-19. [13] This could provide long-awaited answers to the question of why some persons fail to recover from certain viral infections.

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Our proposal

Focus on poorly understood chronic illnesses with a high disease burden

Our proposal is for Horizon Europe to focus future calls on underfunded and poorly understood chronic conditions such as ME/CFS and fibromyalgia. We hope that illnesses such as ME/CFS will be mentioned as one of the priorities to be considered for funding.

Earmark funding for ME/CFS

In addition, we hope that the EU will further develop and explore other mechanisms to stimulate ME/CFS research as the current system makes it difficult to develop the field. The Commission's response stresses that ME/CFS scientists should have fair access to research funding through the Horizon Europe program. The recent parliamentary resolution, however, does not only address the difficulties of ME/CFS scientists in accessing research funding but focuses on the rights of ME/CFS patients to have their illness studied so that effective treatments can be found.

As the commission previously acknowledged, little to no biomedical research projects on ME/CFS have been supported by the European Union. This indicates that the current system is not working satisfactorily for ME/CFS, an illness that is marked by stigma, misunderstanding and a historic neglect by the international research community. Currently, scientists need to have exceptional dedication to enter the ME/CFS field, because of the aforementioned issues, the absence of clear leads and uncertainty about their chances of success. There is a dire lack of European researchers specialized in ME/CFS.

We, therefore, advise that the EU earmark funds for ME/CFS research and to solicit research applications based on pre-specified standards, a mechanism similar to the Requests for Application (RFA) in the US. This would be justified given the high disease burden and economic impact of ME/CFS and similar initiatives being taken abroad.

A center of excellence and ME/CFS biobank

There are two initiatives that the European Commission could support that will help to advance ME/CFS research in Europe in a structural way.

The first is to establish **European Centers of Excellence for ME/CFS Research and Care**, similar to the three ME/CFS research centers the NIH has funded in the US in 2017 and the research network funded by the Canadian Institute of Health Research in 2019. Such centers exist for most diseases, but not for ME/CFS. The only ME/CFS center (that does only a small part of the points listed below) was formed at Uppsala University in Sweden and initiated through American private funding.

The role of such centers should be to:

- set standards for ME/CFS diagnosis according to international diagnostic criteria;
- recruit ME/CFS patients into biomedical research and clinical trials;
- provide specialist care for ME/CFS patients and treatment of comorbidities;
- provide training and information for healthcare providers on the best management strategies of ME/CFS.

The second initiative is the establishment of an **ME/CFS biobank** where blood and other samples of patients can be stored. This would make it easier for researchers to enter the field. One of the biggest hurdles in ME/CFS research is patient recruitment. Because of a lack of biomarkers, an ME/CFS diagnosis requires a long clinical examination to exclude alternative explanations for the patient's symptoms. By establishing an ME/CFS biobank researchers would have quick and direct access to samples from ME/CFS patients. ME/CFS biobanks are being formed in the US and Australia and already exist successfully in the UK. These ME/CFS biobanks plan to form an international collaboration under the **You + ME project** to streamline their procedures. [1] It would be unfortunate if Europe was left out of these positive developments. We think there's a strong case to be made for an ME/CFS biobank in Europe that can team up with similar initiatives abroad.

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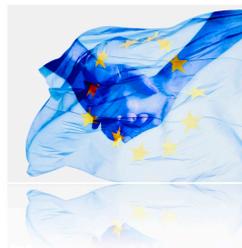
Include ME/CFS in research on the long-term consequences of COVID-19

We also argue that longitudinal research should be initiated into the long-term consequences of COVID-19. There are scientific indications to suspect that a minority of COVID-19 patients (the so called ‘long-haulers’) may develop a postviral syndrome similar to ME/CFS. In the United States Congressman Jamie Raskin introduced legislation H.R. 7057 which allocates 60 million dollar for data collection and research into ‘long-haulers’ and ME/CFS. [1] We believe a "European Raskin initiative" for understanding long-term COVID-19 and ME/CFS is urgently needed. As Congressman Raskin says, “We cannot let the number of ME/CFS cases rise due to a lack of research and understanding. As we battle the coronavirus, this critical legislation will help us respond to this ME/CFS hidden health crisis.”

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