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ME Alliance



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# Telesphore Pharma

Telesphore Pharma, the second BMSystems' therapeutic spin-off  
First-In-Class diagnostic & treatment for ME/CFS-ID & Post Covid-19 Long Haulers  
& Provide Therapeutic Solutions for Chronic Low Grade Inflammatory Disorders

## Program Presentation

 Manuel Gea & Thanos Beopoulos

 Presentation



# Telesphore Pharma mission is to provide therapeutic solutions for Chronic Low Grade Inflammatory Diseases (CLGIDs)



DIAGNOSIS



MONITORING



TREATMENT



# ■ Provide Therapeutic Solutions for Chronic Low Grade Inflammatory Disorders

CLGIDs include somatic and psychiatric disorders that share common mechanisms



\*Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) is a disabling and complex CLGID illness (CDC, WHO)

First objective: First-In-Class diagnostic & therapeutic solution for **ME/CFS** & how we entered the **Post-Covid** long haulers “2020 buzz” business

## ME/CFS FACTSHEET



0.5% of the population suffer from ME/CFS. Syndrome recognized by WHO



ME/CFS costs the U.S. economy about \$17-\$24 billion annually in medical bills and lost incomes



About 25% percent of patients remain bedridden

ME/CFS is debilitating CLGID

## SYMPTOMS



brain fog



extreme tiredness



muscle / joint pain



sleep disturbance



flu-like symptoms



# Why ME/CFS-ID & Long Covid and why now?

The Covid-19 crisis is the unique opportunity to help people suffering from the inflammatory form of ME/CFS (ME/CFS-ID), provide the healthcare system with the tools for its diagnosis, monitoring and treatment and prevent as many "Post Covid-19" patients as possible from therapeutic wandering they're already experiencing.



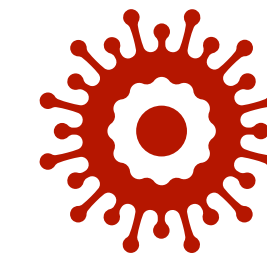
ME/CFS is a  
debilitating  
CLGID



0,5% of the  
population suffer  
from ME/CFS



There is no  
diagnostic test,  
no treatment, no  
cure



Is often  
manifested as a  
post-viral  
syndrome (WHO)

**Telesphore Pharma aims to become the worldwide golden standard for the treatment and diagnosis of the disease.**

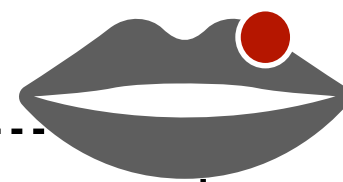


# ■ Acute infections & ME/CFS: it has already happened with previous ssRNA viruses

Telesphore Pharma's output : ME/CFS, is an immunological dysregulation caused by the superposition of conflicting immune behaviors that exhausts the organism.

## TRIGGER 1: Inflammatory background

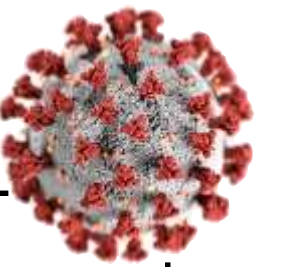
The inflammatory background for ME/CFS can be set by chronic dsDNA viruses as Herpes, Epstein-Bar or Cytomegalovirus with **genetic and environment factors**.



superposition

## TRIGGER 2: Acute infection

ME/CFS can be then triggered by acute infections from ssRNA viruses like coronaviruses.

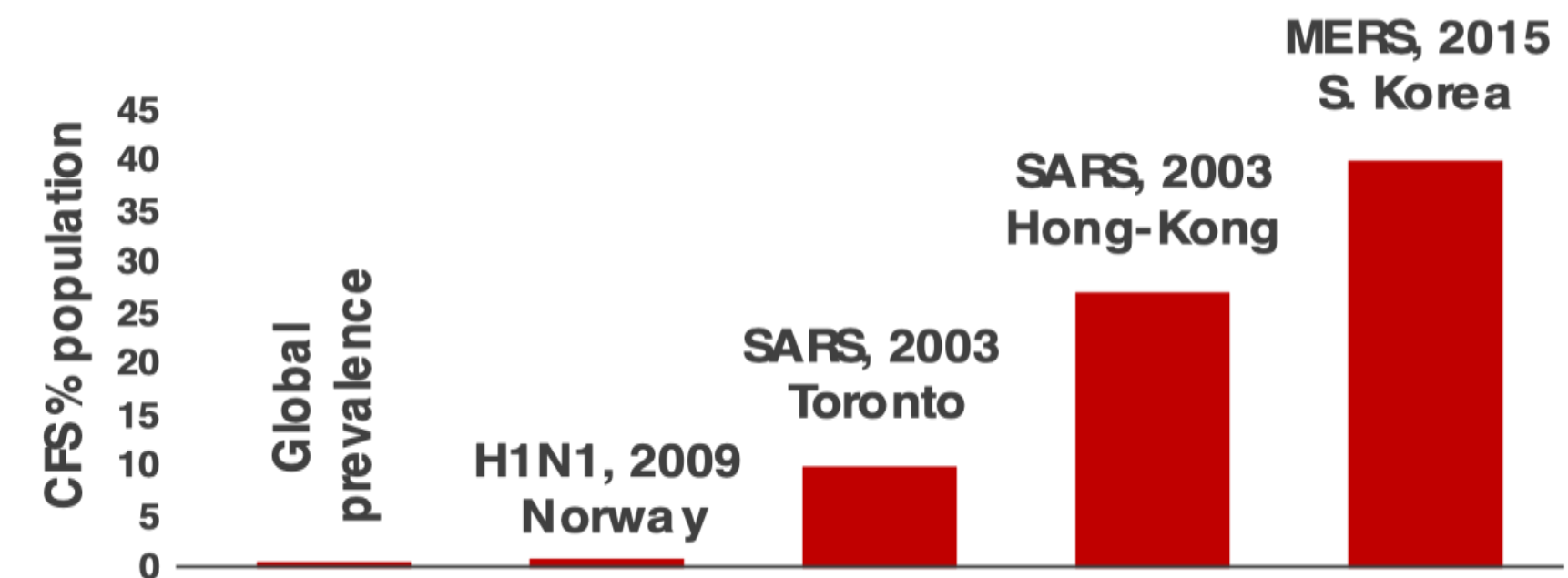


## ME/CFS pikes were observed in the previous ssRNA epidemics:

Worldwide ME/CFS prevalence : 0,5 %

### ME/CFS occurrence after ssRNA virus epidemics:

2% following the 2009 influenza A (H1N1) pandemic in Norway,  
10% of 2003 SARS epidemic survivors in Toronto,  
27% of 2003 SARS epidemic survivors in Hong Kong,  
40% of 2015 MERS survivors in South Korea

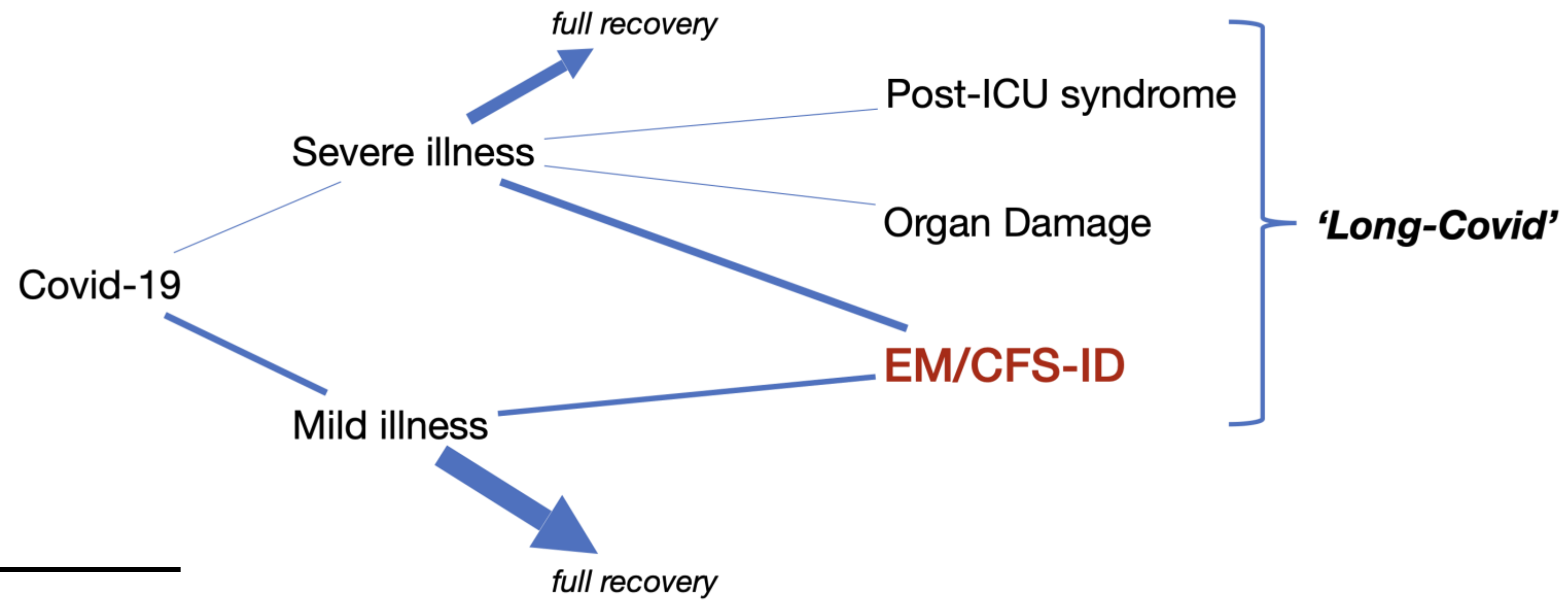




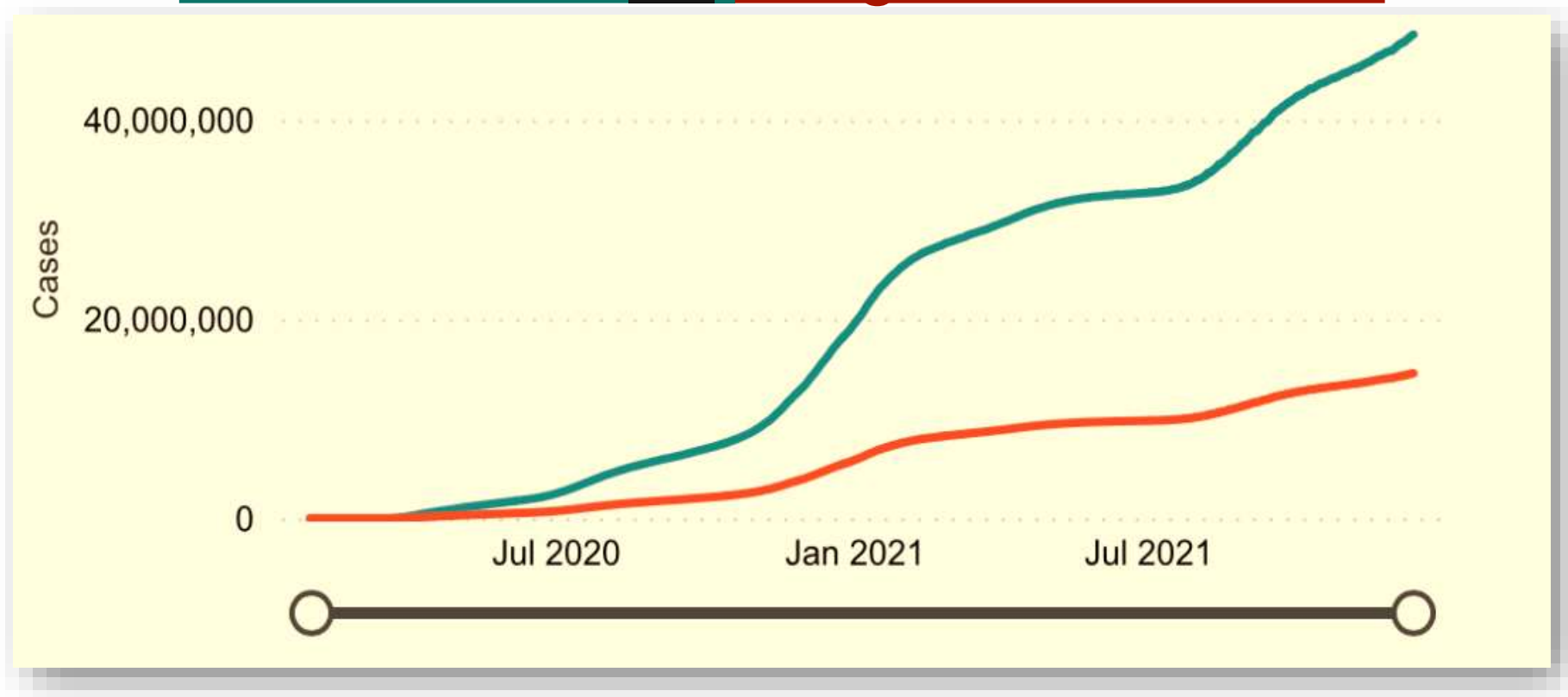
# ME/CFS and Long Covid: a massive emerging health crisis

Covid generates ME/CFS

**ME/CFS**  
Is often manifested as a post-viral syndrome



## US Survivors Vs Long-COVID Cases

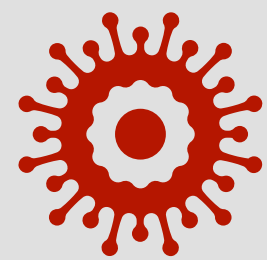


Up to 10% of recovering COVID-19 patients may develop ME/CFS-ID

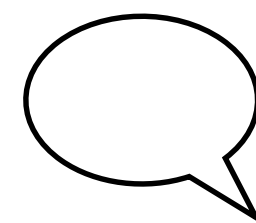
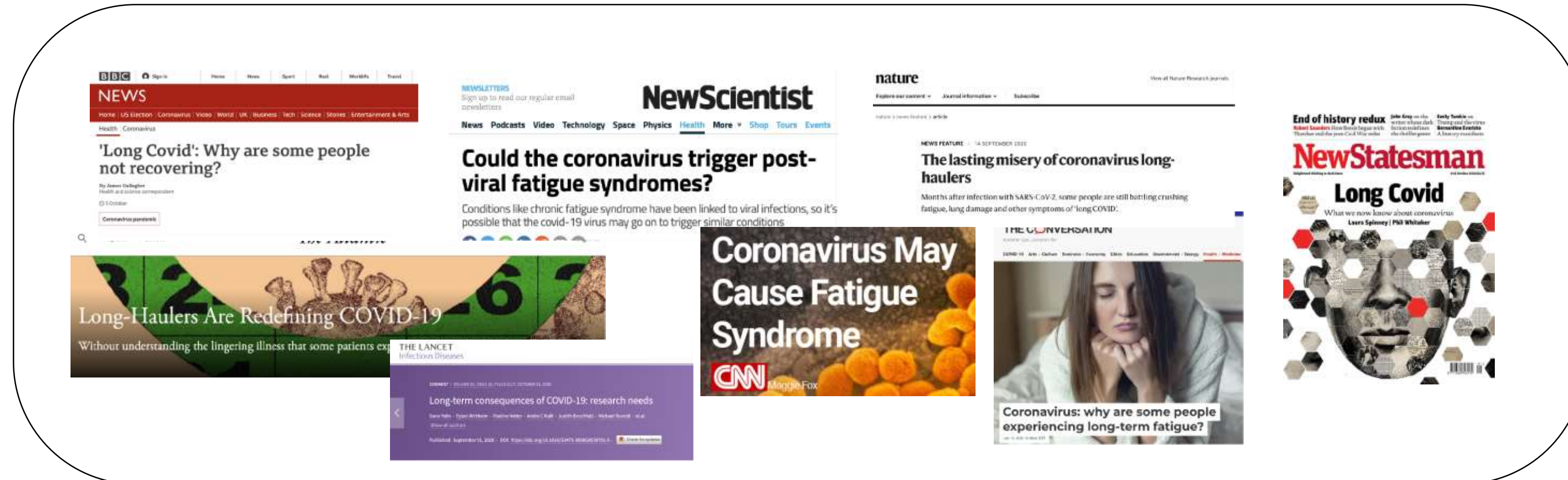
American Academy of Physical Medicine and Rehabilitation's "PASC Dashboard" <https://pascdashboard.aapmr.org/>

# ■ Post COVID-19 Long haulers & ME/CFS: it's already happening

COVID-19 & ME/CFS: It is documented and confirmed by Infection experts who know the disease.



Is often manifested as a post-viral syndrome (WHO)



There are a considerable number of individuals who develop a post-viral syndrome. They report symptoms such as brain fog, difficulty concentrating and fatigue that resemble the symptoms of ME/CFS”

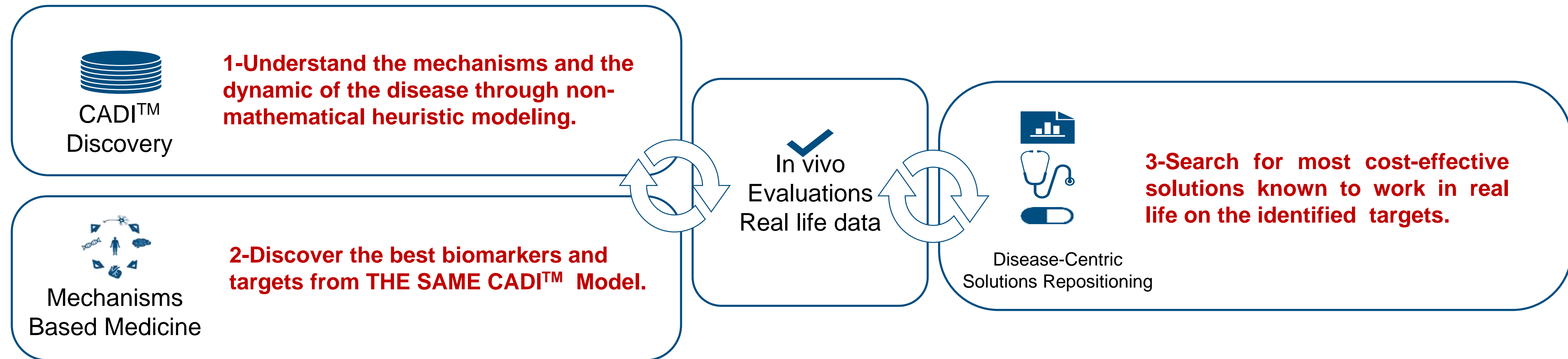
- Anthony Fauci, Head of NIAID & White House Coronavirus Task Force



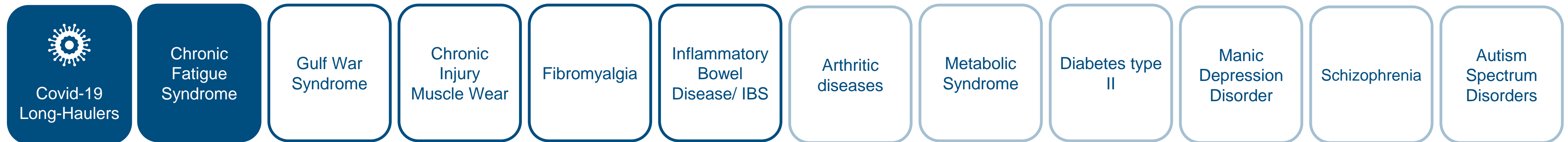
# From CADI™ Discovery to first-in-class CADI-T1031 & CADI-D1031 solution

We Discovered the causal mechanisms of ME/CFS

**Patentable** CADI-T1031 (combination of small molecules) & CADI-D1031 Diagnostic companion



The base diagnostics & treatment for ME/CFS & Long haulers is expandable to other CLGIDs with the addition of identified compounds





## ■ ME/CFS and Long Covid: Telesphore's systemic approach

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Systemic approach: Mechanisms Based Medicine

With the understanding of the fundamental mechanisms of the disease and its progression, ME/CFS is no longer a "black box".

ME/CFS triggers cause a state of dysimmunity (polarization) which causes systemic low-grade inflammation that exhausts the organism

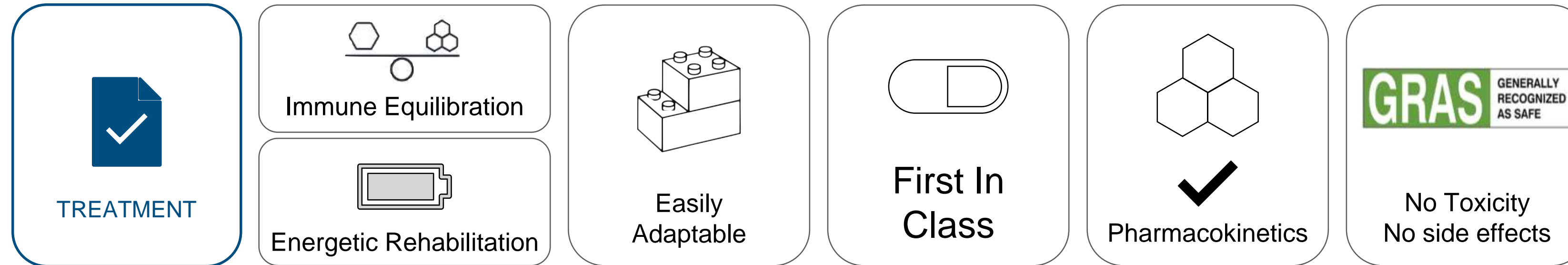
The immune system, in addition to fighting infections, is responsible for the organism's **housekeeping functions** and in particular the constant monitoring and repair of tissues and organs.

In ME/CFS, **this function is compromised** because the immune system is 'stuck' in a constant, low grade pro-inflammatory mode. Instead of repairing, its intervention causes muscular weakness and pain, flu-like and cognitive symptoms, while it depletes the organisms' energy and sleep fails to be restorative.



ME/  
CFS

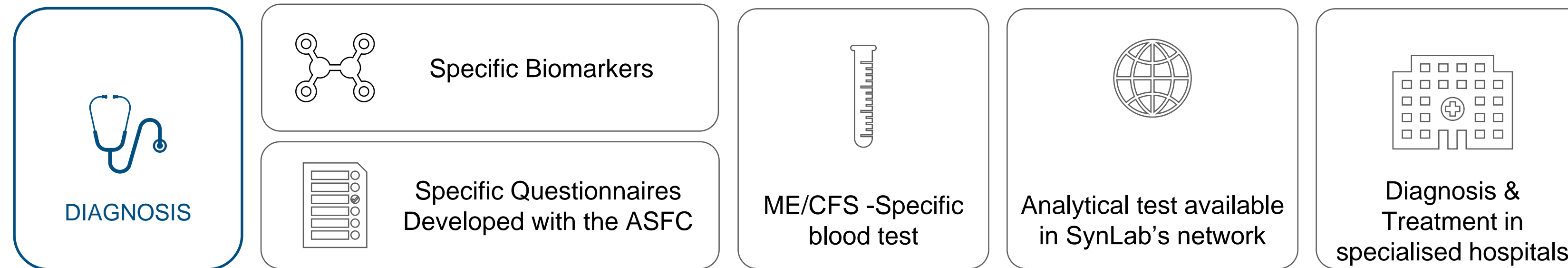
## ■ ME/CFS-ID treatment



- 2-way intervention treatment: Immune Equilibration & Energetic Rehabilitation
- Easily adaptable to cover patients needs, much like assembling lego bricks
- First In Class repositioning of existing molecules
- Components pharmacokinetics already public & validated
- Components have no toxicity nor side effects either individually or in combination



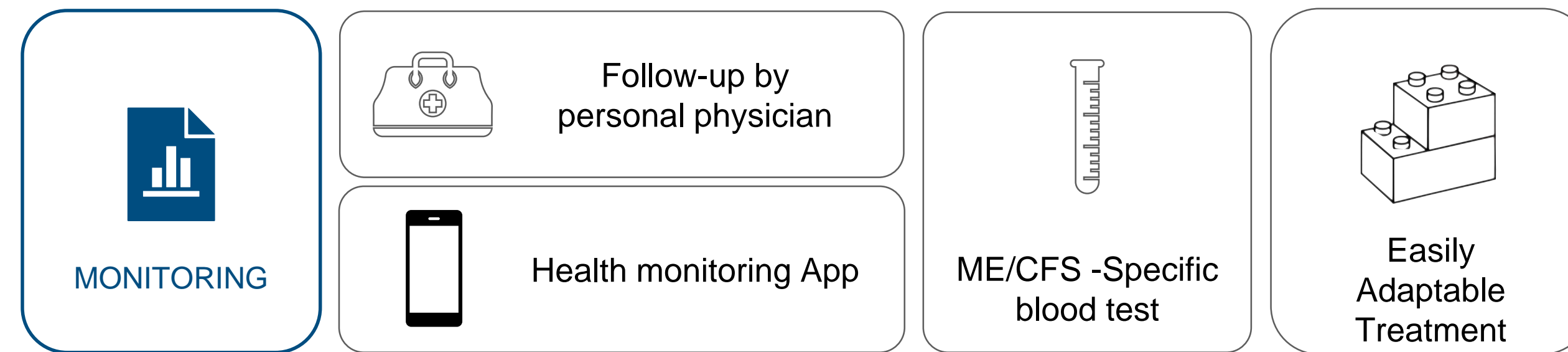
## ■ ME/CFS-ID diagnosis



- Diagnosis & Monitoring through a combination of specific biomarkers & questionnaires developed with the ASFC
- ME/CFS-ID specific blood test, already validated with our analytical partner
- ME/CFS-ID Analytic test will be then available in all of our partner's medical network & diagnostic centres
- Diagnosis & Treatment will be assigned by trained personnel in specialised medical centres & hospitals



## ■ ME/CFS-ID monitoring



- Patients can be followed by personal physician & special App designed together with the patient associations
- App monitors health status by combining specific questionnaires & blood tests score to help adapt the treatment
- Treatment can then be easily adapted to match patients immune status and energy needs





# ■ Telesphore Pharma leading Team

An experienced and multidisciplinary leading team with a robust experience in ME/CFS



**François Iris**  
Founder & Chief  
Scientific Officer

Geneticist, physiologist & molecular biologist. 40 years of experience in life sciences in academia and industry : Dept. of Medicine University of Otago, The Christchurch School of Medicine (NZ) Millennium Pharmaceuticals' (USA) collaborator of Nobel Laureate Prof. Jean Dausset. Inventor of CADI™ and of new technologies in molecular biology. MRC Overseas fellow, Member of H.U.G.O., Wellcome Trust, and other. Chairman, CSO & CTO of BMSystems.



**Manuel Gea**  
Founder & Chief  
Executive Officer

Pharma operations: 30 years of experience in IT and life sciences. Scientific Engineering Degree from Ecole Centrale Paris. Various experiences R&D and business from consumer goods Industry to cosmetics, biotechnology & pharmaceutical companies: Colgate-Palmolive McKinsey, Boehringer Ingelheim, HemispherX Biopharma (ME/CFS, Pherecydes-Pharma, BMSystems, and other. Vice-President & CEO of BMSystems.



**Thanos Beopoulos**  
Founder & Chief  
Development Officer

Biologist - Biochemist with a PhD in Biotechnology from INA-PG, France. 11 years of experience in metabolic engineering at CNRS, INRA & MIT. Predictive biological models developer for identifying therapeutic mechanisms for (auto) immune, inflammatory, neurological, metabolic and cancer-related pathologies. Integrative Biology director of BMSystems.



**Dr. Gérard Dine**  
Founder & Chief  
Medical Officer

Physician, biologist. 35 years of experience in clinical and medical research. Former Head of hospital's Hematology Dept. Former President of the Institute for Sports Medicine; IRMES - Institute for Research in bio Medecine and Epidemiology of Sport. Author: Biological monitoring of the athlete: Biological measurements, pathologies, biological passport of the athlete, genomics. CMO BMSystems. ME/CFS medical experience.



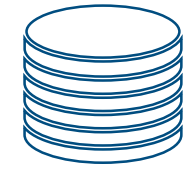
**Isabelle Fornasieri**  
Founder & Member of  
the Scientific board

ME/CFS Expert: Senior Lecturer, University of Strasbourg, Faculty of Psychology. Member of the Scientific Council of the French Association for Chronic Fatigue (ME/CFS) 1991: Doctorate University of Strasbourg 1 University, Ethology Specialty. "Scent communications and social relations in two species of lemurs • DEA "Physiological and Behavioral Regulations"



# ■ Keys to success

If not now, when?



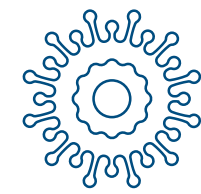
## CADI™ Treatment

Diagnosis and Treatment derive from the understanding of the causal mechanism of the disease and are novel and resilient solutions that resisted the negative selection process



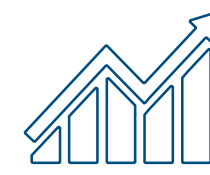
No alternative, No competition

Lack of: comprehension of the organic nature of the disease, solid diagnostic criteria, treatment, cure, dedicated market & competition



## Covid-19 Accelerator

There is an imminent necessity for the treatment because of the exploding number of Covid-19 long-haulers that are on the verge of developing CFS



Expand to a vast market

CFS/ME-ID treatment consists the basis for the treatment of other CLGIDs, including Gulf War Syndrome, Fibromyalgia, chronic injury & muscle wear, with disease-specific compound complementation. CADI™ treatments already identified.



Outstanding Leading Team

A unique assembly of aptitudes for CLGIDs-ME/CFS project development and scale-up: CEO with pharmaceutical managing experience in ME/CFS; CSO of exceptional level, experience and career, CMO being a leading expert in haematology and sports medicine, CDO expert on metabolic & inflammatory pathways and a scientific expert that is also a ME/CFS patient. Long experience in creating spin-offs.



Collaborative environment

Collaborative environment with the inclusion of patient associations, leading team expertise, Biowin know-how and leverage of regional resources and funding





## ■ What makes Telesphore-Pharma a paradigm shift for patients and investors

- ***Disease Paradigm shift:*** From an unclear syndrome to a diagnosable and treatable organic disease.
- **A unique business opportunity:** CFS-Post Covid Long haulers: No diagnosis, no treatment, no cure, no competition.
- ***CADI™ Discovery origin:*** Only 3 years from research to cost-effective & low-risk solutions funded by BMSystems.
- ***Full Telesphore IP ownership*** for diagnostic & therapies patents (ready to be filed).
- ***A ‘rare disease business model’ for a big profitable diagnostic and treatment business.***
- ***ASFC Leadership:*** From a small Association to an innovative pioneer for the European ME Alliance.
- ***Co-construction:*** Our Patient scientist will be co-inventor of the Patents.



# Q&A

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Thank  
You.

## The first question:

### What is the Telesphore brand origin?

In ancient Greek religion, Telesphorus is a son of Asclepius (God of Medicine). He frequently accompanied his sister, Hygieia.

**He symbolizes recovery from illness**, as his name means "the accomplisher" or "bringer of completion" in Greek.

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