

MEP Heart Group Statement

Lessons learned from COVID-19 for Cardiovascular Health: Health Systems Resilience & Digital Transformation

Evidence and data collected during the pandemic have shown that **COVID-19 has had a significant impact on heart health and the delivery of cardiovascular care**. Already before the outbreak, cardiovascular disease was the leading cause of death and morbidity in the EU with¹:

- More than 60 million people living with cardiovascular disease
- Nearly 13 million new cases of cardiovascular disease diagnosed each year
- Cardiovascular disease accounting for 36% of all deaths (as a comparison, cancer accounts for 26% of all deaths)
- A large proportion of these deaths being premature (before the age of 65): 24% among men and 17% among women.

The pandemic has aggravated this already grim scenario, also leaving many patients with new cardiovascular conditions after recovering from COVID-19.

It is now clear that while COVID-19 primarily affects the lungs, causing severe acute respiratory distress syndrome, it also affects other organs, including the heart. Cardiovascular complications linked to COVID-19 are wide ranging and include: cardiac injury, arrhythmia and heart failure.

Pre-existing cardiovascular conditions are particularly important predictors of COVID-19 severity and mortality. Studies have shown that 15–40% COVID-19 patients had a history of cardiac disease and 10–30% showed laboratory signs of cardiac injury and cardiovascular involvement, associated with a more severe clinical course.^{2 3 4 5 6 7}

Analysis of COVID-19 cases reported to China's Infectious Disease Information System have shown that the fatality rate for patients with no comorbidities was less than 1%, whereas it was of more than 10% for patients with cardiovascular disease - compared to around 7% for those with diabetes,

¹ ESC & EHN. *Fighting cardiovascular disease – a blueprint for EU action*, 2020, <https://mepheartgroup.eu/facts-figures/>

² Guan WJ et al. *Clinical characteristics of coronavirus disease 2019 in China*, N Engl J Med 2020

³ Zhou F et al. *Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study*, Lancet 2020

⁴ Huang C et al. *Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China*, Lancet 2020

⁵ N Chen et al. *Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study*, Lancet 2020

⁶ S Shi et al. *Association of cardiac injury with mortality in hospitalized patients with COVID-19 in Wuhan, China*, JAMA Cardiol 2020

⁷ T Guo et al. *Cardiovascular implications of fatal outcomes of patients with coronavirus disease 2019 (COVID-19)*, JAMA Cardiol 2020

6% for subjects with hypertension, 6% for those with chronic respiratory disease, and 6% for those with cancer.⁸

These values are likely to be higher in COVID-19 patients in Europe because of the older age of the population. A study conducted in the Brescia area of the Lombardy region in Northern Italy has reported a significantly higher mortality for cardiac patients compared with non-cardiac patients (35.8% vs. 15.2%)⁹.

The repercussions of the pandemic on cardiovascular mortality and morbidity risk being exponential unless **bold action is taken. Improving cardiovascular health will have a crucial impact on the resilience of our healthcare systems. The digital transformation and the European Health Data Space** offer great opportunities to pool patient data across Europe for research and for improving cardiovascular disease prevention, management and delivery of care.

More specifically, the **MEP Heart Group calls for the following measures** to be implemented by European and national decision-makers according to their respective areas of competence:

- Ensure that patients can be treated safely in the case of cardiac emergencies through the development of **treatment pathways completely separate** to those being used for patients with viral infectious diseases to reduce their exposure to the risk of infection.
- **Resume cardiovascular clinical activity** in full and in a safe environment, so that prevention, diagnostic and treatment can take place in a “quasi-normal” environment. It is well reported that delaying visits and procedures lead to more severely damaged hearts and the need for more invasive and severe clinical interventions to try to fix them. As waiting times for several elective procedures are already quite long in different countries without the COVID-19 context, it is crucial to avoid any further delays.
- **Robust randomised evidence** is needed to support clinicians’ decisions on which treatments should be recommended for COVID-19 patients with pre-established cardiovascular disease or at high risk of developing it.
- Support research for the **validation and deployment of digital health technologies** in cardiovascular disease prevention, management and delivery of care.
- Invest in the creation of **agile and rapidly responsive Europe-wide health-data collection** (through registries or electronic health records) which allows a rapid feedback on admission and outcome trends. This is of paramount importance in a health emergency, but also essential for learning from individual countries’ experience, planning and targeting health investments to reduce health inequality.

⁸ S Ruan. *Likelihood of survival of coronavirus disease 2019*, Lancet Infect Dis 2020, [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30257-7/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30257-7/fulltext)

⁹ Riccardo M Inciardi et al. *Characteristics and outcomes of patients hospitalized for COVID-19 and cardiac disease in Northern Italy*, European Heart Journal, Volume 41, Issue 19, 14 May 2020, <https://academic.oup.com/eurheartj/article/41/19/1821/5834516>

- Support **high-quality prospective studies** to better understand the mechanisms through which pre-established cardiovascular disease worsen the prognosis in COVID-19 and assess how COVID-19 increases cardiovascular risk and cardiovascular sequelae.
- Recognise key areas of cardiovascular research as priorities in the **Horizon Europe Programme** to achieve earlier recognition of cardiovascular disease and development of innovative therapies for conditions where current treatments may temporarily relieve symptoms but do not improve patient outcomes.

A broader set of recommendations for EU action to address the huge burden of cardiovascular disease among the EU population is available in the European Society of Cardiology and European Heart Network joint [Blueprint for EU Action to Fight Cardiovascular Disease](#).