

TOWARDS PERSONALISED MEDICINE - AN INNOVATIVE DIAGNOSTIC TOOL TO IDENTIFY CARDIOVASCULAR COMPLICATIONS IN COVID-19 PATIENTS

Key learnings from the EHMA 2021 Annual Conference

It is difficult, if not impossible, to predict whether a patient is going to develop poor outcomes or will recover after being infected with SARS-COV-2. Hence, **there is a need to identify predictors of outcome.**

Cardiovascular complications arising from COVID-19 are known to contribute significantly to mortality rates.

ABOUT COVIRNA

The project aims to **develop a cost-effective molecular diagnostic test to improve individualised surveillance, care and follow-up of COVID-19 patients** by identifying those who are at risk of developing fatal cardiovascular complications shortly after infection.

To do so, the project will **test blood samples** from **2,000 COVID-19 patients** with a view to identifying long noncoding RNAs (lncRNAs) that may predict poor cardiovascular outcomes. This data, together with clinical data, will be **assessed with AI tools** to select the best outcome predictors that will be **translated in the COVIRNA IVD diagnostic test.**

The project is expected to have three types of impacts:

- X** Healthcare **by improving patient triage, management, treatments, and follow-up.**
- X** Patients **by improving their clinical outcomes, quality of life and decreasing mortality rate.**
- X** Society at large **by reducing the societal and economic burden of COVID-19 and helping the scientific community.**

It is **crucial to have effective data processes**, including clear and broad patient consents and clear legal and ethical frameworks for data collection, treatment and sharing.

To overcome data sharing challenges, it is recommended to:

- **consult data protection officer** early in the process;
- **execute data processing and sharing user agreements** as early as possible;
- **provide training on GDPR and data stewardship;**
- **rely on collaborators with technical skills** to handle the data.

The COVIRNA team also aims to investigate the functional association between lncRNAs and clinical outcomes to identify the opportunities to translate the project to other diseases.

The session was hosted by