



FROM PEOPLE TO SYSTEMS:  
LEADERSHIP FOR A SUSTAINABLE FUTURE

15-17 June 2022  
Brussels, Belgium

organised in collaboration with



## The potential of innovative diagnostic tools: personalised disease management for improved health outcomes in COVID-19 patients

On Friday, 17 June, the COVIRNA project hosted a session at the EHMA 2022 Annual Conference titled 'The potential of innovative diagnostic tools: personalised disease management for improved health outcomes in COVID-19 patients'. The session looked at the impact and benefits of the adoption of novel diagnostic tools. In particular, it explored how health managers can help design patient-centred care pathways and create enabling environments for the uptake of innovative tools such as COVIRNA.

The session speakers were:

- **Dr Yvan Devaux**, Head of the Cardiovascular Research Unit at Luxembourg Institute of Health (Luxembourg) and COVIRNA Project Coordinator;
- **Dr Damien Gruson**, Chief of Department of Laboratory Medicine of the St-Luc Hospital (Belgium);
- **Mr Ed Harding**, Director of the Heart Failure Policy Network and Managing Director of The Health Policy Partnership (United Kingdom); and
- **Prof Sandra Buttigieg**, Head of Department Health Systems Management and Leadership at the University of Malta (Malta).

The session was moderated by **Ms Anett Ruszanov**, Director of Policy and Programmes at EHMA (Belgium).

The EHMA 2022 Annual Conference, hosted by the COVIRNA partner the European Health Management Association (EHMA), took place from 15 to 17 June in Brussels, Belgium under the theme 'From people to systems: leadership for a sustainable future'. It aimed at exploring challenges and solutions for creating sustainable health systems and ways health managers can lead towards them.

## The impact of COVIRNA solution

The COVIRNA session opened with an address by Dr Yvan Devaux, Head of the Cardiovascular Research Unit at the Luxembourg Institute of Health, Luxembourg and COVIRNA Project Coordinator, who provided an overview of the European Cooperation in Science and Technology (COST) and of the COVIRNA project.

COST is a funding organisation for the creation of research networks, called COST Actions. These networks offer an open space for collaboration among scientists across Europe and beyond, facilitating research advancements and innovation. COVIRNA project built on the network within the EU-CardioRNA COST Action, a collaborative pan-European network of multidisciplinary researchers, clinicians, and industrial partners aiming to accelerate the understanding of transcriptomics in cardiovascular diseases (CVDs) and further the translation of experimental data into usable applications to improve personalised medicine in this field.

Dr Devaux then presented the COVIRNA project which will develop a simple, minimally invasive and rapid molecular diagnostic kit to predict cardiovascular outcomes of COVID-19 patients. He reflected in particular on the expected impact of the COVIRNA solution. The kit will help improve individualised surveillance, care and follow-up of COVID-19 patients in the context of the current pandemic. This will result in improved clinical outcomes and quality of life of these patients, and reduced mortality rates. Ultimately, the project will reduce the societal and economic burden of COVID-19.

Dr Devaux concluded his presentation by highlighting the importance of communicating about the project to healthcare providers and the general population to raise awareness of the diagnostic kit.

## Current management of cardiovascular complications in COVID-19 patients

Dr Damien Gruson, Chief of the Department of Laboratory Medicine of the St-Luc Hospital in Brussels, Belgium, joined the session with a presentation on the current management of cardiovascular complications in COVID-19 patients.

Dr Gruson provided an overview of the potential long-term consequences of COVID-19, reflecting in particular on cardiovascular manifestations of the disease such as myocardial infarction (heart attack), coronary heart disease, cardiomyopathy (heart muscle disease), and arrhythmias. The long-term cardiovascular outcomes of COVID-associated myocardial injury (heart muscle injury) include hospitalisation, recurrent myopericarditis, heart failure, stroke, acute coronary syndrome, chronic thromboembolic, and pulmonary hypertension. The long-COVID symptoms include mental health impairment, inability to return to work, reduced exercise tolerance, and risk of obesity.

Dr Gruson then presented the biomarkers of COVID-associated CVDs, in particular, myocyte injury and myocardial stretch. He highlighted that there is a troponin elevation in COVID-19 patients. Troponin is an important stratification biomarker associated with a heart muscle injury.

Dr Gruson proceeded by providing an overview of how data science can be used for CVDs management. In addition to being used for early risk estimation and to improve diagnosis of CVDs, data science can also enhance precision care and outcomes monitoring and assist with real-time monitoring of diseases and associated risks. Furthermore, it can be utilised for data aggregation and integration of omics.

He highlighted the need of using the potential of health-based apps and wearable sensors to support patients and physicians in CVDs management, emphasising that these tools show a degree of variability associated with the imprecision of the point-of-care testing device.

Dr Gruson concluded his address by underlying the value of a multidisciplinary approach to CVDs management and the need to invest resources in the early prevention of CVDs.

### **Health systems management and leadership perspective on healthcare innovation**

Prof Sandra Buttigieg, Head of the Department of Health Systems Management and Leadership at the University of Malta shared the perspective of health management and leadership on innovation development and uptake in healthcare.

Prof Buttigieg started by presenting the framework of healthcare innovation. Quality, costs, safety, efficiency, and outcomes are the factors that need to be considered in innovation development and adoption. These will have a direct impact on treatment, diagnosis, prevention, education, research, and outreach. We need to look through the eyes of the patient, taking into account how the patient is seen and heard and how their needs are met.

Prof Buttigieg then presented the needs, wants and expectations of different healthcare stakeholders in the context of innovation development and adoption. Patients, for example, want an improved experience and physiological well-being, accurate diagnosis, holistic management of illness, no side effects associated with the disease management, and responsive healthcare providers. Caregivers' needs lie with improved clinical outcomes and improved diagnosis and treatment. Management, that is, government, policymakers, regulatory agencies, healthcare organisations, and innovation companies, expect enhanced efficiency of internal operations, cost reduction, increased productivity, improved quality and outcomes, reduced risks, and improved patient safety. Innovations within healthcare will only be successful when the interests of all stakeholders are taken into account.

Prof Buttigieg also provided an overview of the common barriers to the uptake of innovation in healthcare, including: difficulty to change the behaviour of clinicians and current medical practices; lack of vision and systems thinking approach; the tendency of clinicians to protect their individual autonomy and reputation; the existence of laws regulating healthcare innovation that make changes more challenging; a thorough scrutinisation of new practices in patient care; and the challenge of engaging a broad range of stakeholders from a very early stage.

Prof Buttigieg also spoke about the 5 stages that health leaders should plan for in battling COVID-19: resolve, resilience, return, reimagination, and reform. COVIRNA solution belongs to the return stage, when organisations need to balance the need to re-activate business systems with the possibility that the virus might re-emerge, and the re-imagination stage, when healthcare organisations and their key players need to reimagine how health systems are structured and how to deliver health services more effectively.

Speaking about the COVIRNA project, Prof Buttigieg underlined that it is a great example of evidence-based medicine. She suggested that COVIRNA uses technology and research without forgetting about its social and economic dimension and impact.

Prof Buttigieg emphasised that in addition to transformational leadership we need leadership agility to facilitate the uptake of innovative solutions in healthcare. Agile leaders are those able to understand environmental change, embrace inconsistencies and navigate diverse followers, whilst sustaining some sense of stability and coherence in an ever-changing world. Prof Buttigieg concluded her address by highlighting the need to re-imagine patient-centred, better still person-centred pathways.

### **Potential of innovative diagnostics for CVDs management**

Mr Ed Harding, Director of the Heart Failure Policy Network and Managing Director of The Health Policy Partnership, also joined the session, speaking about the potential of innovative

diagnostics for the management of cardiovascular diseases.

Mr Harding started by underlying that CVDs diagnosis is often delayed. He then presented an overview of how innovative diagnostic tools can be used. In addition to helping with the CVDs prevention (preventive therapies, immediate CVD prevention in acute settings, comprehensive CVD prevention), they can also escalate person-centred planning at hospital discharge and post-discharge review and follow-up.

Mr Harding also provided an overview of systemic barriers to enabling CVDs prevention. CVD biomarker tests are often underused and are not reimbursed. The initiation of secondary prevention strategies is suboptimal across the care pathway. There is a lack of access to specialist nurse-led disease management programmes and cardiac rehabilitation. Primary care is not equipped to deliver long-term secondary prevention.

He also reflected on the reasoning for the existence of some of the systemic barriers previously listed. In addition to the existing gaps in CVD strategic leadership, research and innovation, diagnostics are consistently under-recognised across health systems globally. Furthermore, the COVID-19 pandemic has increased the risk of CVDs and weakened healthcare services.

Mr Harding concluded his presentation by looking at what we can do to ensure better care for people at high risk of CVDs. The first step is challenging political complacency and misunderstandings around CVDs. We should showcase new opportunities in diagnostics, such as new technologies and digital solutions, to provide value and assist patients who most need it. We need to build policy alliances, linking patients and advocates with diagnostics, cardiac rehabilitation, allied healthcare professionals, and preventive cardiology. Lastly, to encourage best practices and promote peer learning, we should showcase leading case studies.