

The other side of the coin: ‘centralization’ against ‘optimization’ in COVID-19 pandemic

The region of Lombardy has been the epicentre of the COVID-19 pandemic in Italy. Since the first case diagnosed on 20 February 2020 in Codogno Hospital (Lodi, Lombardy, Italy), the outbreak grew exponentially, reaching 563 000 confirmed cases, with 27 781 deaths as of 15 February 2021. The overwhelming pressure on the healthcare system forced many hospitals to shift their workforces to the escalating numbers of COVID-19 patients: As a consequence, there were rapid changes in the acute cardiac care network, with a prominent and sole focus on treatment of patients with ST elevation myocardial infarction (STEMI). A more restricted network of catheterization laboratories has been chosen as hubs on the basis of geographic location of the resident population and not necessarily according to their expertise in acute cardiac care. The remaining cardiac centres were appointed to spoke activities, mainly consisting in providing assistance for patients affected by SARS-CoV-2.¹ This centralized STEMI-focused reorganization may clearly lead to under-treatment of a wide array of cardiovascular emergencies such as acute decompensated heart failure (HF) and non-ischaemic cardiogenic shock cases, including acute myocarditis, all potentially needing left ventricular assistance. Notably, the marked reduction in the number of patients presenting with HF in Italian cardiology departments, observed during COVID-19 pandemic,² might have affected patients’ outcomes. In fact, some hospitals redesigned as spokes for STEMI, despite their expertise in the treatment of advanced HF, have seen their multidisciplinary teams (cardio-anaesthesiologists, HF specialists, cardiac intensivists and cardiac surgeons) dismembered in order to allocate resources for patients with SARS-CoV-2 infection, even at the cost of transforming highly specialized wards to low-intensity care units. Moreover, the increased workload pressure in hub centres affects negatively the quality of prevention and care of cardiovascular diseases.

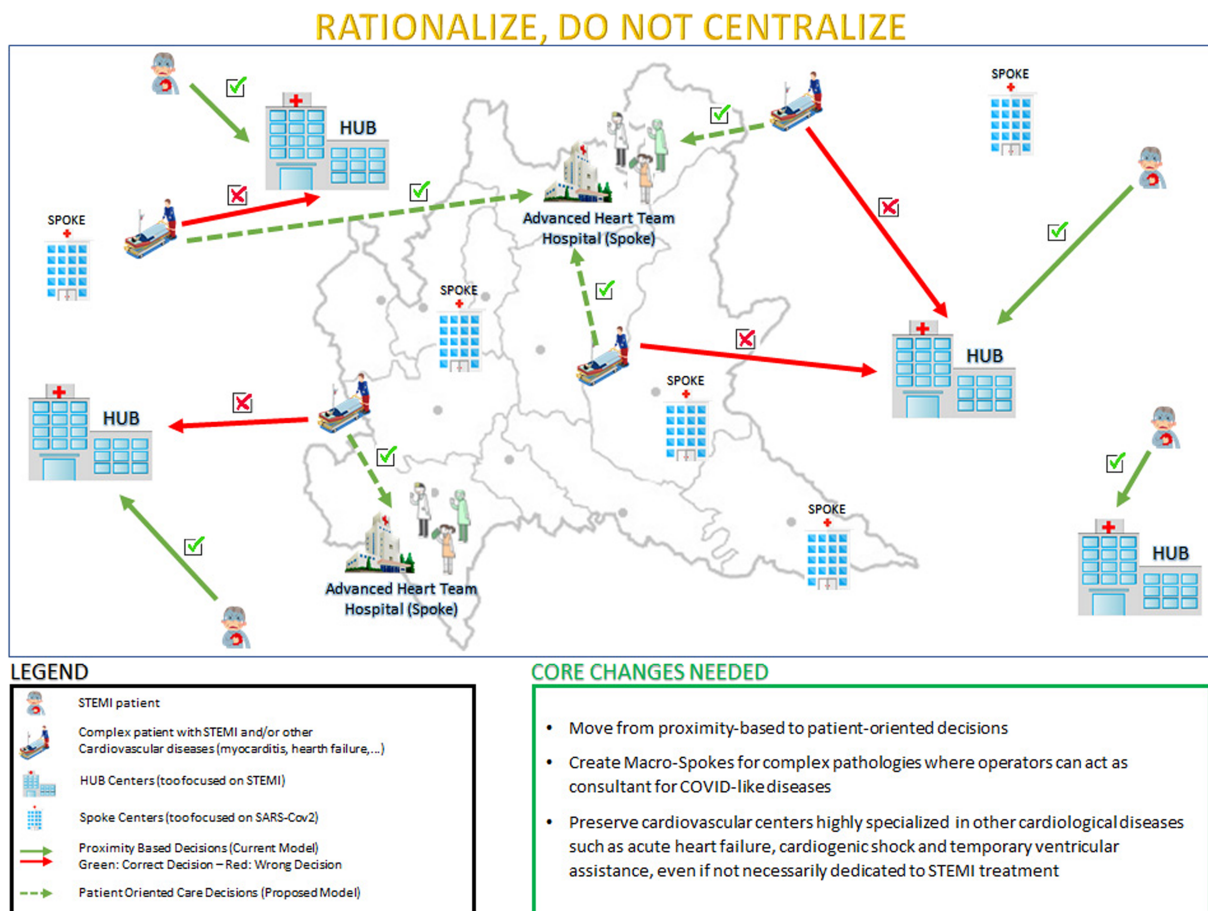
Accordingly, recent data drawn from England and Italy health records have shown a decline in HF admissions during the first and the second wave^{2,3} and an excess of deaths during the same period, which could not be fully explained by COVID-19 cases alone.^{4,5} An excess of home mortality in HF

patients, discouraged from seeking medical attention, was suggested as a possible explanation.²

COVID-19 is a systemic disorder: Most people are asymptomatic or with few flu-like symptoms, but around 20% may experience symptoms requiring hospitalization and respiratory support. Cardiovascular disease is a well-known risk factor among most critically ill COVID-19 patients, with a recent case series finding a prevalence of pre-existing cardiac HF, approximately 43%, in subjects requiring intensive care unit care.⁶ Observational studies also suggest that an excess of the death toll (up to 35%) of patients hospitalized for SARS-CoV-2 infection can be attributed to an underlying cardiovascular disorder.^{7,8} A system based only upon STEMI has been shown to provide ineffective care for other important, and often fatal, cardiovascular emergencies, such as stroke, acute HF and pulmonary embolism.⁹

Considering these premises, there is an obvious need for a multidisciplinary ‘advanced heart team’ with an emphasis on cardiac intensivists, advanced HF specialists, acute mechanical circulatory support team and cardiothoracic surgeons in order to guide clinical decision making.^{10,11} Thus, what should we prioritize? Maybe a better patient-oriented care, aiming at improving patients’ treatments and outcomes. With further and lasting outbreaks, we cannot act as in a battlefield. Preservation of specialized centres able to manage complex cases, such as acute HF, cardiogenic shock and temporary ventricular assistance, even if not necessarily dedicated to STEMI treatment, should be set among the priorities of cardiovascular care. A major shift appears to be underway; COVID-19 can be a unique opportunity to rethink healthcare policy, focusing on primary care equipped with telemedicine for most cases and highly equipped specialists for patients requiring intensive care. It is prominent to preserve specialized centres where patient care is optimized by highly skilled workers, with well-trained cardio-intensivists (cardio-anaesthesiologists and cardiac intensivist) caring for patients without SARS-CoV-2 infection in their usual intensive coronary care unit setting and available around the clock for COVID-19 critically ill patients with heart disease allocated in dedicated wards of the same hospital (*Figure 1*). Even if this approach is not easily applicable in all European realities,

Figure 1 Optimized network in acute heart disease management.



it will involve the larger metropolitan areas. Furthermore, two widely implementable principles should be highlighted: strengthen the bond between primary care and hospital consultants throughout an integrated approach starting from general practitioners' leading activities (which should be applied to SARS-CoV-2 infection as well as most chronic disorders)^{12,13} and prioritize cardiovascular networks starting from third-level centres highly specialized in the treatment of advanced HF, as well as respiratory insufficiency. In conclusion, an effort to organize with a rationalization based on high-level competences has to be warranted.

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Conflict of interest

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