Challenges and logistic solutions to address the implementation of massive redeployment, reorganization of team allocation, and overall complete restructuring of operating room and intensive care unit management are important to follow for future pandemics. George and colleagues[2] have started the conversation that should continue. How do we, as cardiothoracic surgeons, continue to provide care for the cardiovascular diseases that continue during a pandemic while balancing the needs of a new patient population? Discussions on this magnitude can and should continue well after the crisis abates to allow our specialty to continue to grow and evolve without depriving patients of necessary cardiovascular and thoracic care.

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See Article page 937.

Commentary: Vulnerability and resilience demonstrated: Cardiac surgeons during coronavirus disease 2019 (COVID-19)

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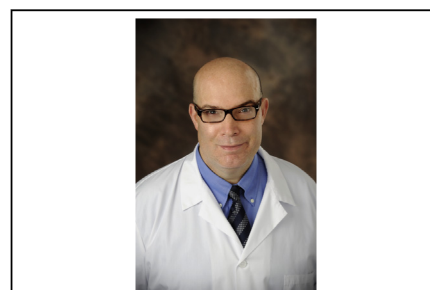

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CENTRAL MESSAGE

The COVID-19 pandemic impacted our practices, our patients, and ourselves. We acknowledge the changes we implemented and the impact on our professional and personal lives.

In this issue of the *Journal*, George and colleagues[1] from Columbia University distill the brutal lessons of their coronavirus 2019 (COVID-19) experience in hard-hit New York City into a pandemic playbook for cardiac surgery. The lessons are clear, well thought out, and merit contemplation by all cardiothoracic surgeons. The authors point out, in a pandemic, it is not who you are, but what you can do, and when should you do it? The pandemic forced a seismic redistribution of priorities, resources, and identities. As these lessons were solidifying in New York City, all across the world our colleagues were making similar plans with one goal—how can WE best save lives?

The authors begin with stratifying cardiac surgery patients by acuity and reduced surgeries to less than 10% normal case volumes. This reduction created capacity for the patients with COVID-19 and allowed the application of the liberated resources of elective cardiac surgery to the severely ill patients with COVID-19. Professor and student alike were redeployed, according to ability, to the rosters of team-based care. Many cardiac surgeons became intensivists, others placed lines, and one became an intensive care unit nurse.[2]

Targeted spaces, including operating rooms, were repurposed into much-needed patient areas. Skill-oriented teams were mated to these new "pods" to leverage the expertise of critical care resources. Focusing on providing safety for

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patients and whittling resources to the minimum necessary for ongoing cardiac operations, the authors mapped stewardship to the community, patients, and hospitals for our use. Programs that could not be supported or whose patients might consume scarce resources during the peak of the pandemic were paused. Unimaginable before the impact of COVID-19, decisions such as halting thoracic transplant programs were made quickly and quietly.

In addition to the stratagem in this report, our pandemic responses spanned other, neglected domains. In this pandemic's impact, we saw our vulnerability as cardiac surgeons and as humans. We used connection as the antidote to the isolation of self-imposed quarantine. Colleagues and friends reconnected. Through their bonds quickly passed knowledge. We used information to combat helplessness: Drs Craig Smith and Daniel Goldstein, among other New York surgeons, kept the rest of the world informed and instructed our preparation. More than knowledge flowed between these bonds. Gratitude, hope, and encouragement were sent to those who trained us and those we trained. We maintained identity and purpose through flexibility. Cardiac surgeons commonly define themselves by the volume of work they do. When elective surgery was halted, our lost identity was replaced with another: intensivist, extracorporeal membrane oxygenation specialist, logistics, or cheerleader. None stayed idle. At least, a partner said to me, we can finally make family dinner.

This disease will teach us many lessons, not limited to knowledge of its biology. We redefined treatment priority in this resource-constrained environment, accepting "good enough" for now. This pandemic selected the team as its opponent of choice, another lesson from a democratic disease that showed no respect for rank or privilege. Coupled with redesigned and re-ranked teams to deliver care, our experiences taught us much about who we are and what we contribute as physicians and surgeons as we start to rebuild.

In closing, the authors noted:

> *"Despite the unprecedented disruption of our practices and lives that this pandemic has produced, we will undoubtedly emerge from the experience stronger and more efficient as a specialty."*

As we enter the recovery and healing phase, we are resilient, having been trained to tolerate discomfort. Through our shared vulnerability and pain, we are better physicians and teammates. Our strength and empathy should guide our choices as we come together to heal.

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