COVID-19: Tsunami of chronic health conditions expected, research and health care disrupted

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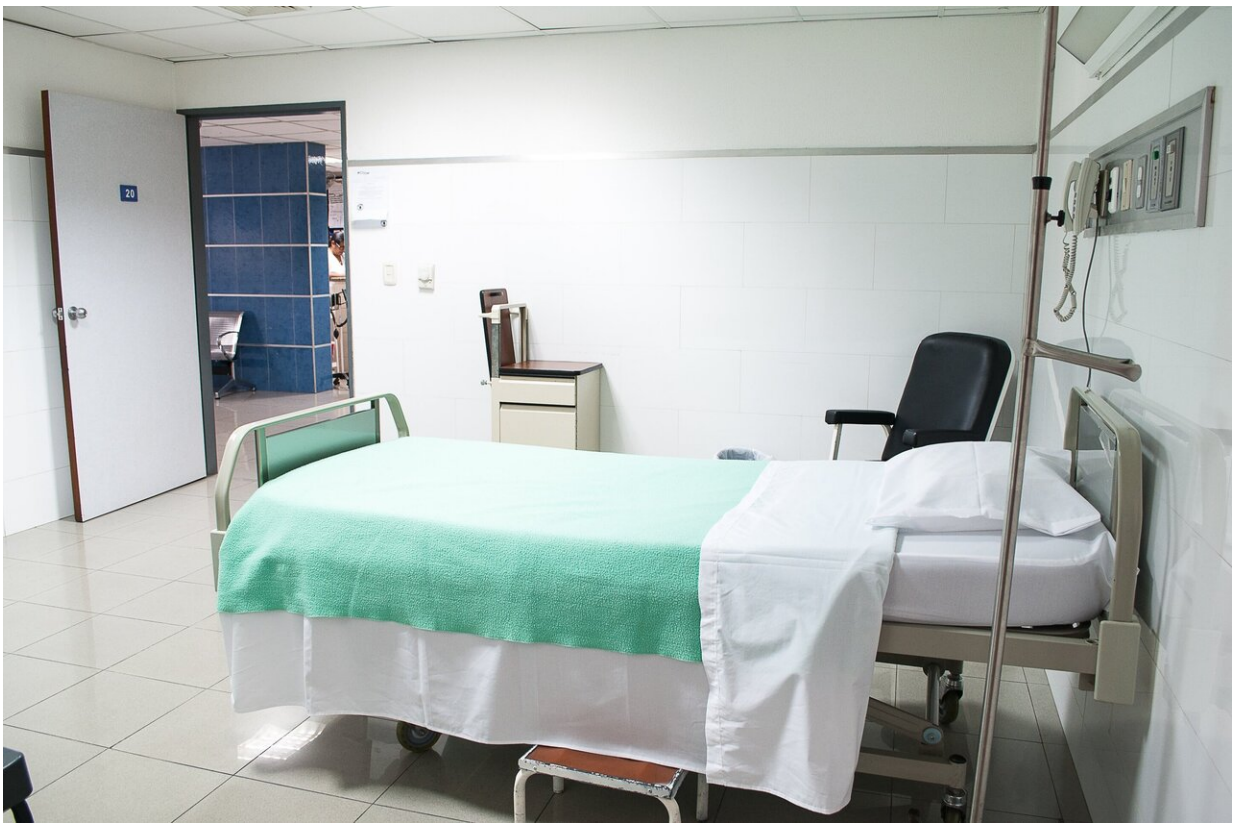

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A tsunami of chronic health conditions as a result of the SARS-CoV-2 pandemic, especially cardiometabolic disease, may produce an enormous

wave of death and disability that demands immediate, comprehensive strategies. In addition, COVID-19 has disrupted cardiovascular science and medicine, yet it presents opportunities to transform and create novel approaches that can yield new successes. These are the opinions of two esteemed leaders in cardiovascular disease care, research and strategy, detailed in two new Frame of Reference articles published today in the American Heart Association's flagship journal *Circulation*.

While COVID-19 has severely impacted everyone's daily lives, its societal and economic impact will be present for generations. It has prompted urgent responses in many sectors that could be models for rapidly developing real-world solutions that can improve efforts focused on prevention of chronic health conditions. Dramatic transformation in health care research is needed to align with the disruption of cardiovascular care and heart health caused by the COVID-19 pandemic.

The first article, "Avoiding the Coming Tsunami of Common, Chronic Disease: What the Lessons of the COVID-19 Pandemic Can Teach Us," is authored by Robert M. Califf, M.D. He is the head of clinical policy and strategy at Verily Life Sciences and Google Health, a former commissioner of the U.S. Food and Drug Administration, former vice chancellor for health data science at Duke University School of Medicine and the founding director of the Duke Clinical Research Institute.

In his article, Califf urges swift and comprehensive action to avoid the dramatic rise in chronic health conditions, particularly cardiometabolic disease, that are to be expected as a result of COVID-19. Three of the top 10 leading causes of death in the U.S., cardiovascular disease, stroke and type 2 diabetes, are linked to cardiometabolic disease.

He calls for critical shifts in the U.S. health care system to include universal health care, public health and research strategies that

incorporate "big data," and improved health data sharing that can inform more effective and efficient prevention and treatment protocols and programs across society."

Califf also notes the impacts of structural racism and that social determinants of health must be incorporated at all levels of research, clinical care and within communities and society at large for equitable, systemic improvement in health outcomes to be realized. He advocates for universal access to broadband internet that could increase access to medical information, digital support programs and telehealth appointments with health care professionals.

He recommends more real time, in-depth tracking of chronic health conditions similar to the rapid data dashboards that were implemented to track COVID-19 cases, hospitalizations and deaths. With better information accessible more quickly, strategies to prevent and treat chronic health conditions can be measured and adapted accordingly.

Califf also proposes a new effort called "Operation Warp Evidence," modeled after the rapid COVID vaccine effort "Operation Warp Speed," to be a speedy, prioritized clinical trial infrastructure that assesses the risks and benefits of new therapies compared to existing therapies for chronic health conditions. This would allow the vast pool of clinical trials to be more focused on immediate interventions that can improve prevention, care and outcomes.

A number of Califf's comments align with the American Heart Association's November 2020 Presidential Advisory, "Call to Action: Structural Racism is a Fundamental Driver of Health Disparities," in which the Association outlined an aggressive and meaningful plan to address structural inequity to eliminate disparities, remove barriers and increase diversity, equity, access and inclusion for all. They also echo the Association's findings in the recent Heart Disease and Stroke

Statistics—2021, showing that COVID-19 will likely influence cardiovascular health and mortality rates for years to come.

The second article, titled "Incremental Change versus Disruptive Transformation: COVID-19 and the Cardiovascular Community," is from Nanette K. Wenger, M.D., FAHA, professor of medicine in the division of cardiology at Emory University School of Medicine, consultant to the Emory Heart and Vascular Center, founding consultant to the Emory Women's Heart Center and director of the Cardiac Clinics and Ambulatory Electrocardiographic Laboratory at Grady Memorial Hospital in Atlanta.

Wenger has been at the forefront of advancing patient care for the last 60-plus years, and she was among the first physicians to focus on coronary heart disease in women and to evaluate the different cardiovascular risk factors, symptoms and conditions for women compared to men. She was one of the first women to graduate from Harvard Medical School and has received numerous accolades throughout her distinguished career for her pioneering work on cardiovascular disease in women. Notably, she was an author of the Association's 2007 Guidelines for Cardiovascular Disease in Women, and she has received multiple awards from the Association including the Gold Heart Award, the Lifetime Achievement Award and, most recently, the 2020 Eugene Braunwald Academic Mentorship Award.

Wenger's article documents her perspective that the U.S. has been experiencing three simultaneous pandemics: COVID-19, economic disruption and social injustice. The COVID-19 pandemic magnified societal and health care disparities; millions of people lost jobs; numerous industries and small businesses have been financially decimated; and every aspect of scientific research and medicine has been altered—education, research and clinical care. Yet, she acknowledges there were numerous successes and critical shifts, such as

the quick adoption of telemedicine, that can lead to broad transformation in health care delivery and potentially improve access to care for more patients.

Disparities were revealed to include patient hesitancy to receive care. Many improvements achieved over the past five decades in acute coronary and stroke care were compromised because patients self-quarantined to avoid the emergency room and exposure to COVID-19.

While COVID-19 drove research urgency to understand the disease, its course, treatments and vaccines, it opened the door for successful new public-private partnerships that realized rapid results. Wenger asks, "Could these be a model for future advancements?"

Academic education moved to virtual settings, many labs were closed and some programs fast-tracked students to join the pool of professionals providing emergency patient care. Career opportunities for medical students and professionals shifted in unexpected ways, and women scientists have been disproportionately affected by quarantines because of historic childcare responsibilities. "What will the long-term effects be on science and discovery?" Wenger noted.

In scientific publishing, COVID-19 research was accelerated through the peer-review process to meet the pressures and yielded an effective model for greater efficiencies that should be continued. Health registries that were implemented quickly to track COVID-19 patients could be expanded to include cardiovascular disease measures, treatment and outcomes, particularly since there are still so many unknowns about long-haul COVID and lasting cardiovascular effects.

The recognition of social injustice and its correlation to poorer health outcomes were unmasked by the disproportionate COVID-19 deaths in African American, Hispanic/Latino, American Indian/Alaska Native and

Pacific Islander communities this past year. COVID-19 magnified these disparities and has catalyzed critical commitments to dismantle structural racism, as addressed in the previously mentioned AHA 2020 Presidential Advisory.

Wenger concludes, "The convergence of all of these issues, their impact on cardiovascular disease and care, presents unique opportunities for transformation in cardiovascular medicine, clinical care and research. We must remain focused and flexible during this unprecedented time to maximize innovation and achieve equity for all."

More information: *Circulation* (2021). www.ahajournals.org/doi/10.116 … LATIONAHA.121.053461

Circulation (2021). www.ahajournals.org/doi/10.116 … LATIONAHA.121.053860

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