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LET'S NOT FORM BLUE RIBBON PANELS TO STUDY DISPARITIES IN COVID-19 DEATHS—INSTEAD, LET'S FIND THE WILL TO ACT

The surprise among government leaders and the media regarding COVID-19 disparities is a symptom of a more powerful, endemic virus that always lurks beneath the surface: the virus of denial.

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In this issue

Editor & Publisher
Paul Goldberg

Associate Editor
Matthew Bin Han Ong

Reporter
Alexandria Carolan

Designer
Jacqueline Ong

Illustrator & Operations Manager
Katie Goldberg

Web Developer
David Koh

Editorial, Subscriptions and Customer Service
PO Box 9905 -
Washington, DC 20016

T 202-362-1809
F 202-379-1787
W www.cancerletter.com

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GUEST EDITORIAL

Let's not form blue ribbon panels to study disparities in COVID-19 deaths

Instead, let's find the will to act

On a chaotic COVID weekend two months ago, a friend's child (a young, talented black and Latino student athlete) came home from college not feeling well. The young man's mother, an executive administrative assistant, called off work to stay home with him because of his, as she described, "full-blown flu-like symptoms."

By Robert A. Winn, MD
Director, Virginia Commonwealth University Massey Cancer Center

By Katherine Y. Tossas, PhD, MS
Assistant professor, Harrison Endowed Scholar in Cancer Research,
Department of Health Behavior and Policy, School of Medicine;
Director, Catchment Area Data Alignment, Community Outreach & Engagement,
Office of Health Equity and Disparities Research,
Virginia Commonwealth University Massey Cancer Center

Concerned for her son, she called her doctor to ask if she could bring him to the ER and get him COVID-19 tested, but was discouraged from doing so. When he began experiencing respiratory distress, his mother rushed him to the ER, where they ruled out strep, and flu, but not COVID-19; he apparently at the time did not meet the "requirements" set by the CDC algorithm. He was given antibiotics, an inhaler and sent home. He began to slowly recover after several weeks. His mother (a middle age Latina woman, primary breadwinner of her family, and hourly worker), seeing that her son was on the mend, was relieved of her COVID-19 worries. She returned to work, where she shared an office with at least several other individuals. Several days later, she and her husband (a black, middle age male with multiple co-morbidities) started experiencing similar symptoms as his son. She again asked her doctor if she should be worried about COVID-19. Frustrated and scared, she texted: "The nurse said she nor [her] husband met the 'requirements' to get COVID-19 tested, and even if they did, they didn't have any on-site testing available." She was instructed to call and get approval from the health department for COVID testing. Two days later, she felt worse. This time, she did not call her doctor, given the previous "frustration and futility of calling," as she put it. Twenty days from her first request for a COVID-19 test for her son, she was rushed to the ER, where she was diagnosed with multi-lobar pneumonia; and admitted to the hospital. There, she tested positive for COVID-19, and so did her family.

The above example was repeated, rehashed, and relived throughout many parts of the U.S. As such, the growing COVID-19 pandemic also began to shine an even brighter light on the ever-present and long-existing racial disparities reflected within our communities. However, given the recent surge in news coverage, it would appear that both the media and nation have rediscovered the existence of racial health disparities in the U.S. all over again. W.E.B DuBois, more than a century ago, showed data that pointed to the differences in the life expectancy of Black Americans and their White counterparts. A novel T-shirt these days might read, "show me a new disease, and I'll show you an old racial health disparity." So, as unfortunate as it might seem, it was not surprising that deaths among black Americans during the COVID-19 crisis would be overrepresented at more than twice their relative demographic proportion. In fact, the former American Public Health Association president and health equity scholar Dr. Georges Benjamin predicted that we would see an explosion of COVID-19 in our minority communities. Thus, in Milwaukee, a city with 26% black residents, 81% of COVID-19 deaths were among blacks. Similarly, in Chicago, a city with 39% black residents, 70% of COVID-19 deaths were among blacks. Even smaller cities and towns were not immune to this phenomenon; in San Antonio with a 7% black population, blacks represented 36% of the COVID-19 deaths. In total, African Americans make up 13% of the U.S. but comprise greater than 33% of all COVID-19 deaths.

Amid the moral outrage, the immediate explanation for such disparity in mortality was the imbalance of comorbidities (diabetes, hypertension, asthma, etc.) among blacks, which made them more susceptible to succumb to the COVID virus. The "individual risk factor" explanation has become the scientific theory (why something happened) behind the scientific law (an observed phenomenon) of inequities. In other words, we have not only come as a society to accept that disparities will occur (as a law), but we can always explain them away by the differential distribution of individual risk factors (as the theory). Thus, the "individual risk factor theory" becomes a unifying, acceptable explanation and a refrain that is absolving from our collective, societal responsibility. To put it even more simply, underserved communities, are underserved, because they are underserved (as stated by Dr. Otis Brawley), and this has been made abundantly clear during the recent COVID-19 crisis.

Underserved communities did not create the U.S. Public Health Experiment of 1932, a.k.a. Tuskegee Study, the Jim Crow South, the unfair, biased processes of the prison system, nor the nationwide practice of redlining that continue to render our communities separate and unequal. Arguably, the underserved communities did not create the "perfect storm" of co-morbidities (diabetes, hypertension, obesity, etc.) that increased their risk of COVID-19. Thus, at a minimum, we should readily admit that political, economic, and social structures were created in the U.S. that have over time disadvantaged many underserved communities, that these very structures continue to substantially contribute to the increased poor outcomes from COVID-19 that we are experiencing today. These unfair structural factors (e.g. housing, education, access to health care, food insecurity, crime etc.) have a tremendous impact on the upstream determinants of health (excess co-morbidities), driving disparities within these communities. And they seem to have evaded the attention of our country leaders and even a number of our preeminent scientists.

The surprise among government leaders and the media regarding COVID-19 disparities is a symptom of a more powerful, endemic virus that always lurks beneath the surface: the virus of denial, the continuous, endemic infection that affects leaders across all levels to deny the fact that there are systemic differences with the quality and access to care for communities of color. That our response to disparities is to simply demand the same soggy data by race/ethnicity without delving deeper into upstream reasons, and demanding collective accountability reminds me of a quote by the writer Byron Katie that

"an unquestioned mind is the world of suffering." By the way, the friend and her family are almost fully recovered. But how many others like them are out there? And who is enumerating the uncountable (undocumented) groups? This is not an issue of data/methodologies. It is an issue stated best by Julian Richmond: "you need science, a mechanism, and most of all the political will to create something big."

While identification of these disparities has the potential to allow us to have the ability to address disparities, there remains a big disconnect between the known disparities that exist in many of our most vulnerable communities and the actions needed to reduce these disparities. The "action" plan and strategy for addressing disparities typically happens in a post hoc fashion that is often poorly funded, fragmented, and frequently lacking a national framework. Furthermore, admittedly even more vexing is that fact that most of the successful federal and state health disparities programs have been dismantled over time. This plays out in the way racial health disparities data are collected and disseminated. Our public health infrastructure has been poorly resourced and national leadership has been lacking on this issue to serve the critical function of public health surveillance. Data by race and ethnicity for COVID-19 cases was an afterthought and has been slow to come by. In fact, public health monitoring of racial/ethnic data were not reported by most cities, states, or even nationally until pressure from the Congressional Black Caucus and others was applied.

Positive intent forward, we acknowledge that the COVID-19 pandemic was unprecedented. Our ways of life have been challenged, and we will forever live under a new normal. The impact of this pandemic in the U.S. is new. The virus is new (to us). The widespread unmet need for sanitation and personal protective equipment in our society are all new. That there will be continued racial/ethnic disparity post-COVID-19, however, is not new nor news. The need to report data by race/ethnicity should also not be new or a simple afterthought. To talk about bias in the potential distribution and administration of tests in health care may be unpopular, especially during this time, when we are rightfully touting our healthcare workers as heroes. Indeed, they are. But they are also victims, as unaware, unquestioning implementers of a biased system that perpetuates disparities. Our frontline workers should be "essential," not "sacrificial".

The issue isn't so much that we don't know that racial health disparities exists. Nor is it that we have not come up with well thought-out policies and plans to address racial/ethnic health disparities. In fact, there have been a number of high-powered blue ribbon panels created to address health disparities, that have made a number of meaningful recommendations, most of which have collected a ton of dust or have simply fallen on deaf ears. There will almost certainly be a renewed call to carry out even more studies to get to the bottom of the COVID-19 health disparity issue. Many blue ribbon panels will be reassembled to come up with even more well thought-out recommendations. However, the missing link in all these well-meaning activities remains the actual "will" to execute a given plan. We submit that the appropriate response is not to do more studies during our COVID-19 experience, but to have more data transparency and take real, thoughtful action to reduce racial health disparities with already-designed plans and with an endgame in mind.

So, our national leaders propose the following "innovative" ideas:

1. Address the inequality in housing issue, but the answers for this were put forth in 1965: the Patrick Moynihan Report, the Rumford Fair Housing Act, the McCone Commission Report recommending the establishment of emergency literacy and preschool programs, improved police-community ties, increased low-income housing, job training projects, upgraded healthcare services, and more efficient public transportation;
2. Improve access to a high-quality education for all, but the answer for this was put forth in 1974: the Equal Educational Opportunities Act;
3. Improve access to high quality care, but we started this movement in 1985 with the Heckler Report.

We humbly propose a simpler solution applicable to all: let's find the will to act. We can overstock personal protective equipment, hand sanitizer, and COVID tests, but without the will to act, to ensure equitable and timely distribution, we will continue reliving the same issues, like a generational Groundhog Day. President Franklin D. Roosevelt said it best: "this nation asks for action, and action now."

Let's act now and write about COVID-19 later. Let's act now and establish the next set of blue ribbon panels later. As we rediscover Racial Health Disparities "All Over Again" through the COVID-19 period, let's not repeat the old mistakes.

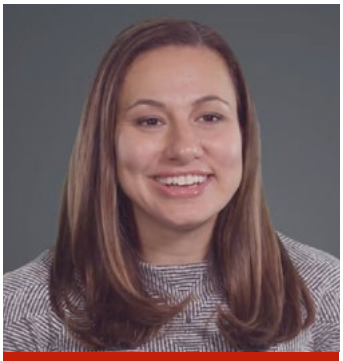
Let's make mistakes of a different sort, like having too much PPE, too many hand sanitizers—and having too many COVID tests performed.

The COVID-19 & Cancer Consortium

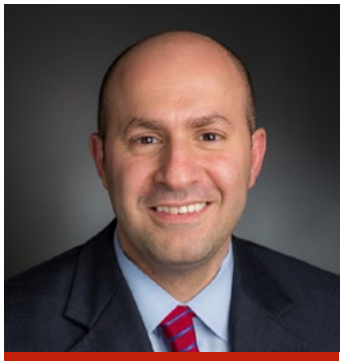
GUEST EDITORIAL

CCC19 bridging the knowledge gap for patients with COVID-19 and cancer

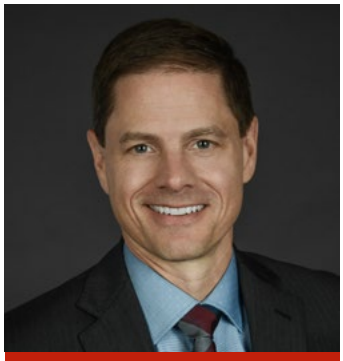
First results to be heard at 2020 ASCO Annual Meeting



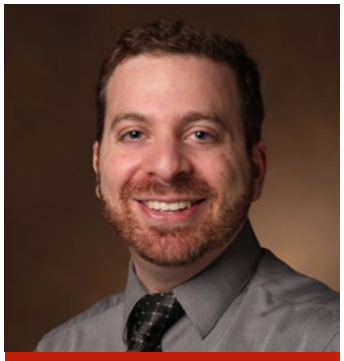
Rana R. McKay, MD
Leader, Genitourinary Oncology, Moores Cancer Center; Assistant professor of medicine, University of California San Diego



Toni K. Choueiri, MD
Director, The Lank Center for Genitourinary Oncology, Dana-Farber Cancer Institute; The Jerome and Nancy Kohlberg Chair and Professor of Medicine, Harvard Medical School



Brian I. Rini, MD, FASCO
Professor of medicine, Vanderbilt University; Chief of clinical trials, Vanderbilt Ingram Cancer Center



Jeremy L. Warner, MD, MS, FAMIA, FASCO
Associate professor of medicine and biomedical informatics, Vanderbilt University Medical Center; Associate editor, JCO Clinical Cancer Informatics

As the healthcare system faces the onslaught of the novel coronavirus SARS-CoV-2, clinicians caring for individuals with cancer face the challenge of a wide gap in knowledge needed to guide decision-making.

While initial reports suggest that individuals with cancer are at greater risk of COVID-19-related sequelae, available data are limited in volume and granularity. As a field that is driven by evidence-based practice, we are hungry for better data to inform clinical decisions and guideline measures to protect our patients and community.

Recognizing an immediate need to take action, a group of investigators assembled together to develop a real-time database to capture information on outcomes of patients with cancer and COVID-19. The initiative, which was initially launched by several enthusiastic Twitter denizens, garnered tremendous momentum within the oncology community.

On March 15, a series of Tweets were launched, and the name "CCC" was coined, which quickly morphed to "CCC19" (the COVID-19 and Cancer Consortium). On March 16, a REDCap survey

was built, and initial project application was submitted by Vanderbilt University Medical Center, led by Principal Investigator Jeremy L. Warner, associate professor of medicine and biomedical informatics.

By March 17, the project was approved and registry opened for data submission.

The mission of CCC19 is to rapidly collect and disseminate information about cancer and COVID-19. In addition to VUMC, founding institutions include Dana-Farber Cancer Institute; Fred Hutchinson Cancer Research Center; Sylvester Comprehensive Cancer Center, and Aurora Health Care. The CCC19 is overseen by a steering committee and includes several specialized subcommittees (e.g. informatics, epidemiology and statistics, biomarkers, patient advocacy, funding, publications and others).

Enthusiasm spread through social media and other modern-day communication networks, as there was a genuine eagerness to contribute to the effort. It was outstanding to witness individuals from all sectors of oncology come together under such a unified effort.

It was collaboration at its finest. The bureaucratic walls came tumbling down as investigators worked closely with their local institutions to ensure regulatory protocols were in place in an expeditious manner to allow participation.

The website (www.ccc19.org) was launched shortly after conception, and the official logo established on March 27. By May 18, two months after launch, the database has over 2,000 patients and over 100 academic institutions and community practices had joined the effort.

Additionally, CCC19 has integrated involvement from the nursing community and patient advocates to ensure the deliverables directly align with the needs of a broader oncology network.

The CCC19 registry is designed to help the community understand how the COVID-19 pandemic is impacting outcomes for patients with cancer. Key immediate questions that the registry aims to answer include:

- Which patients with cancer are most/least susceptible to COVID-19 complications?
- How do cancer-directed treatments, including surgery, radiation, and systemic therapy impact COVID-19 outcomes?
- How do alterations in cancer care delivery impact COVID-19 outcomes in patients?

The information gained through the CCC19 registry will provide large-scale real-world data to guide clinical decision-making, develop strategies to mitigate risk for patients, and understand how we can continue to deliver high-quality cancer care for patients in a safe and effective manner.

The CCC19 registry captures granular data on patient characteristics, COVID-19 outcomes, and cancer outcomes. Longitudinal data collection from the CCC19 registry allows for the development of readiness measures as we embark on the recovery phases of the pandemic.

Additionally, long-term data collection will allow us to investigate the impact of COVID-19 and disruptions in care delivery on cancer-related outcomes. The future opportunity for health care provider and patient reporting measures will also be critical for shaping rehabilitation strategies.

CCC19 will deliver regular reports in the form of peer-reviewed manuscripts, highlighting the key findings of our efforts. A unique aspect of the consortium is the democratic process for investigator-initiated projects seeking to provide a better understanding to unanswered questions in the field.

The expansive network will allow for multiple simultaneous investigations to take place, allowing for rapid discovery and delivery of information. Aggregate data are also planned to be publicly released after a six-month embargo period, and investigators of all stripes are encouraged to join the consortium (academic affiliation is encouraged, but not formally required).

Our first results will be presented as a late-breaking abstract at the virtual 2020 ASCO Annual Meeting.

The CCC19 registry collects information from SARS-CoV-2 positive or presumed positive COVID-19 patients of all cancer types. De-identified patient data is captured in a secure REDCap database. All US and Canadian oncology practices, both academic and community, are welcome to participate.

Understanding the global impact of this pandemic, efforts are being developed to expand to additional North and South American countries as well. Data collection and broad involvement within the oncology community is critical to the success of the registry.

To more efficiently collect information globally, a partnership between CCC19 and ESMO-CoCARE registry has been established.

CCC19 complements the efforts of other important multi-institutional registries, including those of the American Society of Clinical Oncology, American Society of Hematology, and National Cancer Institute.

During these unprecedented times, it is critical that we unite as a community with the likeminded mission to improve outcomes for our patients. To learn more about the CCC19 registry and how you can participate in our unified efforts, visit our website at www.ccc19.org.

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Funerals, church choirs, poultry plants fuel COVID-19 in rural Georgia—threatening Atlanta with a second spike

By Alexandria Carolan

In Georgia, COVID-19 did something different.

It hit the densely populated areas first—this part is not new. But then it went into the countryside, popping up at church services, funerals, poultry processing plants.

Georgia's Gov. Brian Kemp did something different, too. Georgia was the first state to reopen, on April 24. Relying on data that would later be questioned, he declared victory, or close enough, telling businesses they could reopen, which many did. The barbershops, the restaurants, the bars, the gyms, the tattoo parlors.

The doors at community events swung open for COVID-19. Close working quarters didn't help, plus in rural Georgia you don't get big-city resources. Testing is harder to find than it is in Atlanta, and a hospital bed can be several counties and hundreds of miles away.

Today, many of Georgia's non-urban communities are reporting worse per-capita outcomes than the Atlanta metro area, home to seven million people. Public health experts worry about COVID's rural hotspots, realizing also that the virus isn't just sitting in the countryside. It's bound to return to big cities—to spike again.

"I would think that urban areas would be more vulnerable to a second wave maybe than some of these rural communities," Amelia A. Langston, professor and executive vice chair in the Department of Hematology and Medical Oncology at Emory University School of Medicine and director of the Bone Marrow and Stem Cell Transplant Program at Winship Cancer Institute of Emory University, said to *The Cancer Letter.*

"It may run its course in a place like Albany [in Dougherty County]—whereas in Atlanta, when everybody's out at the bars and out at restaurants and getting their tattoos—I think that second wave phenomenon may actually hit the urban areas much more," said Langston, who is also medical director of Winship Cancer Network.

COVID-19 in the community

Overall, cases in Georgia peaked around mid-to-late April.

Earlier cases in rural Georgia were linked to big social gatherings. Nursing homes were hit, too—the usual. Recent cases have spiked in Hispanic populations in the Gainesville area of Northeast Georgia. That one was about people working in close quarters at a poultry plant.

In northeast Hall County, where cases in Gainesville have been traced back to the poultry plant, there have been 2,262 confirmed cases and 41 deaths. The county reported 1,096 cases per 100,000 people, according to data from Georgia's Department of Public Health.

Northeast Georgia Health System, part of the Georgia NCI Community Oncology Research Program, has reported an increase in COVID-19 cases.

"Gainesville is probably, in all areas of Georgia NCORP, the one that has been hit the worst—and while the state started to see a decline, they started to see an incline on the curve," Guilherme Cantuaria, principal investigator of Georgia NCORP, and chair of the Gynecologic Oncology Steering Committee at Northside Hospital Cancer Program, said to *The Cancer Letter*. "It has to do with the poultry plant up there, and exposure that they've gotten through that contamination."

While officials wait to see the full effects of Georgia's controversial reopening strategy, medical experts have also looked to the conditions in Georgia prior to a phased reduction of quarantine restrictions as a case study in the spread of the virus.

"It's a tale of two states. There's the metropolitan area that responded well, and rural areas that were challenged, because of outbreaks that may have been event-related," Len Lichtenfeld, deputy chief medical officer at American Cancer Society, which is based in Atlanta, said to *The Cancer Letter*. "There were some funerals in Southwest Georgia, but it went way beyond that and it spread into the community."

The word "dramatic" is too bland to convey the differences in spread urban versus rural Georgia.

Consider this:

Northwest Fulton County—which includes Atlanta—has 3,893 confirmed cases within a total population of just over 1 million. In southwest Dougherty County, the rural area that saw a spike after the two funerals, there have been 1,715 confirmed cases within a total population of 89,905, according to Georgia's Department of Public Health.

Fulton has 354 confirmed cases per 100,000 people, versus 1,908 in Dougherty—which has a majority black population of more than 70%.

"It seems to be more community-based and seems to spread outward after a small outbreak that might be related to, for example, the poultry processing plant," Winship's Langston said.

"In these smaller communities, they can't do in-house testing, and so they've been really dependent upon the state, which has been very slow to stand up any high-throughput testing," Langston said. "That's part of why it's been very difficult to manage these outbreaks in these smaller places, because without access to testing, you don't know who has it. You're forced into a situation where it's very difficult to tell who should be quarantined and who should not."

This was the case with public health before, and it's only starker now. Georgia's geography also makes it unique among southern states, where metropolitan areas are less common, Georgia NCORP's Cantuaria said.

"Look at other southern states, they don't have this massive metropolitan area of 6 million people in the middle of their state," he said.

"It's so absurd and so interesting. It's not only within cancer risks and incidence, now it's with coronavirus. You just drive your car outside—and like a painting, you're in one painting, then a different painting, a different screen," Cantuaria said. "Everything changes. People look different. It's amazing, it's two states in one."

Second wave and manipulation of data

Several other states followed Georgia's lead to reopen, but their rules vary.

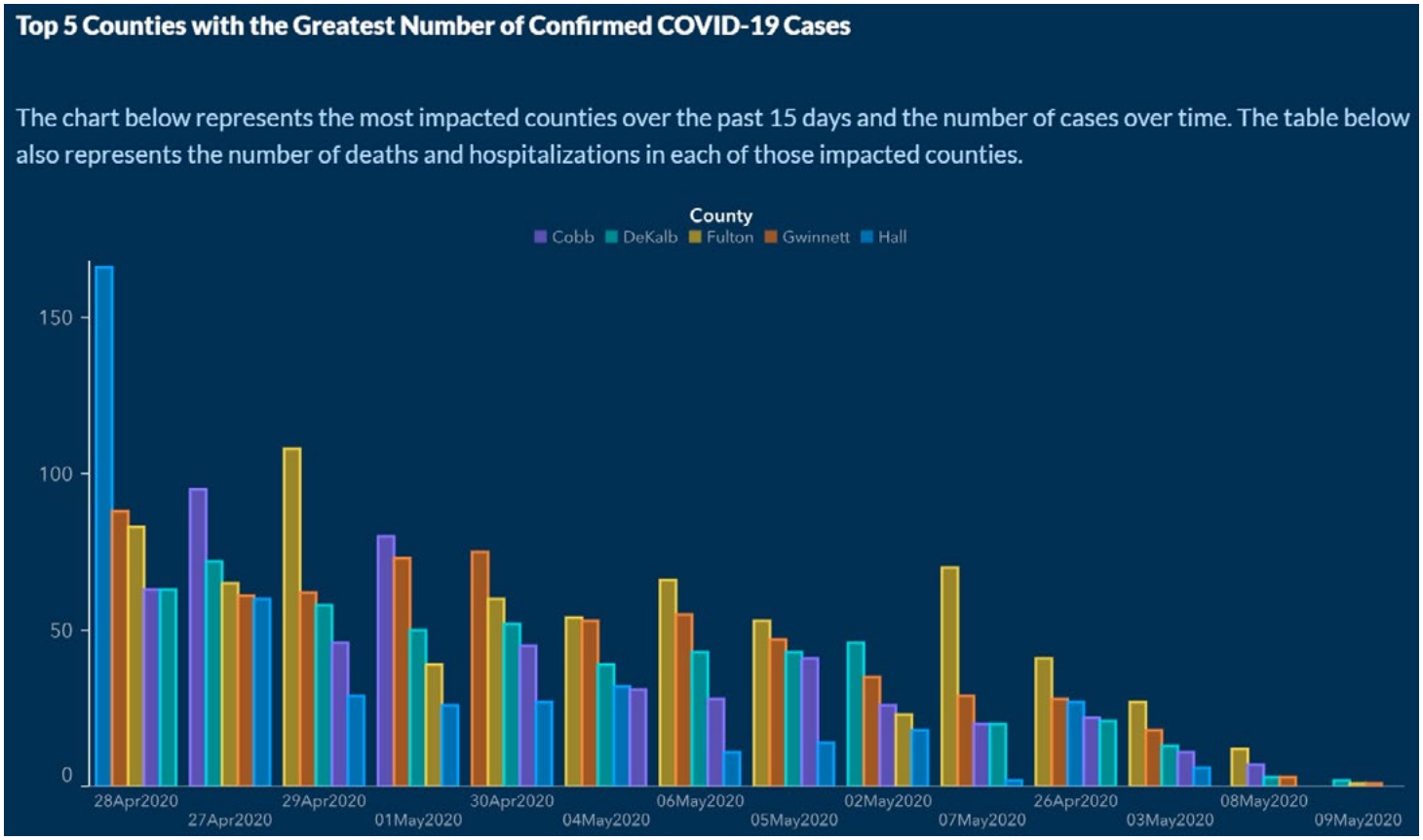
Maryland, a state with more strict reopening guidelines, recently lifted its active stay-at-home orders. Maryland still doesn't allow dining in at restaurants. Nor does it allow complete reopening of salons, which Georgia permits.

The so-called second wave that health officials feared would come as a result of the controversial reopening hasn't materialized, not yet, at least, but health experts told *The Cancer Letter* it's too soon to tell. Cases of COVID-19 have fallen in most counties in Georgia, though the doubling time of infections remains rapid in Echols and Monroe Counties, at 3 and 8 days, respectively, according to *The New York Times*.

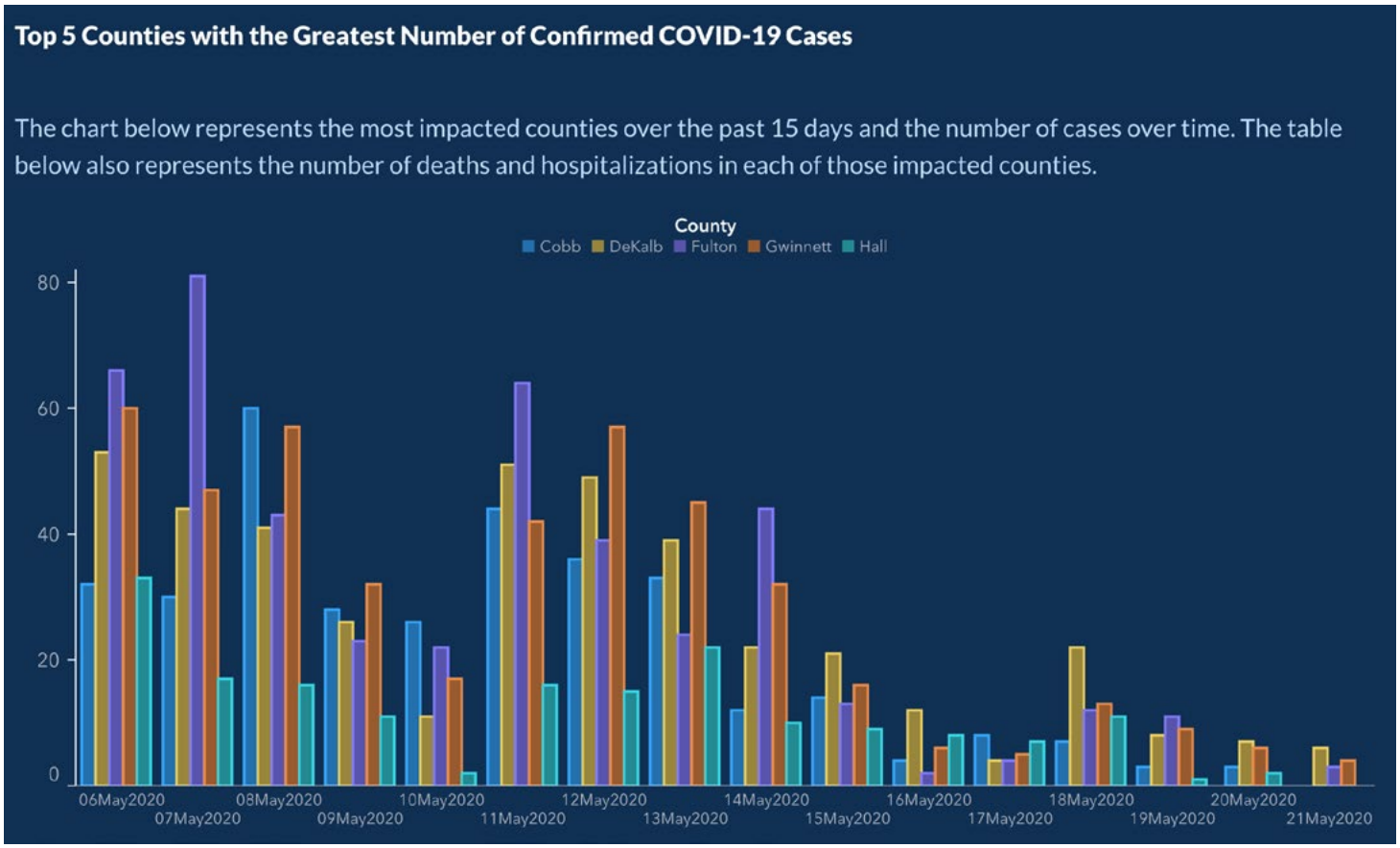
"It's still too early to tell to determine the impact of our early opening," Lichtenfeld said. "As always, time will tell what the impact is. And it may well be possible that, for whatever reason, all this may be unwarranted concern. However, we still have several weeks to go before we know whether we're going to see a significant increase in cases or not."

Gov. Kemp's reopening of the state—the first in the country—was only the beginning of the controversy. The state's response to COVID-19 has been further complicated by news reports that state health officials had manipulated data on which the reopening was based.

In the first instance, a chart from the website of Georgia's Department of Health showed that confirmed cases of COVID-19 had dropped each day for two weeks in counties with a high infection



Above: Georgia's Department of Public Health initial chart misrepresented data that showed a decline in cases of COVID-19. Below: the corrected chart. – *Source: Georgia Department of Public Health*



rate. In reality, there was not a clear drop, *The Atlanta Journal-Constitution* reported.

"It's one thing to make an honest mistake and fess up. It is quite another to rearrange dates to produce a false sense of security," Lichtenfeld said. "That was no honest mistake with respect to the trend lines. The person responsible should be held accountable. They violated the public trust and the public health in a material and intentional way."

Second, published test counts in Georgia were inflated in official reports by 57,000, or about 14% of total tests in the state, *The Atlanta Journal-Constitution* reported May 20. The Department of Public Health included antibody tests in the count of total tests given in the state—403,000.

In a webinar with other public health officials, Lichtenfeld recalled the riddle of the day: the data presented in state graphs appeared to show a decrease in cases by placing the dates out of order.

"Where does May 2 come before April 26? The answer was on the Department of Public Health COVID reports," Lichtenfeld said. "People were just shaking their heads that the information could be manipulated. Why it was manipulated in a bizarre way—I have no idea, but it was manipulated."

"There are people who read that information as an honest representation of the current situation. They want informed personal freedom and believe we are doing better in our fight against the virus—which by some measures we are, at least for today. They may not have made the same decisions had the data been correctly counted and displayed," Lichtenfeld said.

Manipulation of the data builds further distrust of public health officials and the government, Lichtenfeld said.

"What does it mean? Number one, the attempt to manipulate data, to make it appear better than it actually is, is one more step to increase distrust of how this situation has been handled in Georgia," Lichtenfeld said. "The second question is trust in government, which is key to having a successful response to any public health emergency, let alone one that's responsible for a number of fatalities—and a circumstance where we remain, as a state, at increased risk of recurrence."

"Event-related" spread

In Albany, a city in predominantly rural southwest Dougherty County, two funerals in March sparked a sharp increase in cases. In Rome, located in northwest Floyd county—about 70 miles outside of Atlanta—a high number of cases were linked to a church service in Atlanta.

A spike of cases in Hall County was traced back to workers at a poultry plant—where there's hardly any room to allow for social distancing. Other areas, in rural McDuffie County and then the Atlanta metropolitan region, haven't been hit as hard.

Jose Tongol, a hematologist/oncologist at Phoebe Putney Memorial Hospital in Albany, said at least two of his cancer patients contracted COVID-19 from the funerals.

"There was a person who attended the funeral here. There were two funerals—and a lot of those people got sick," Jose Tongol, a hematologist/oncologist at Phoebe Putney Memorial Hospital in Albany, said to *The Cancer Letter*. "A lot of people were affected by that. It precipitated a lot of deaths—a lot of patients."

Dougherty County, where Albany is located, has reported 1,715 confirmed cases and 138 deaths.

The National Guard was called in to establish makeshift hospitals and testing centers at rural areas across Georgia. Still, there was overflow—some patients admitted to the hospital for reasons unrelated to COVID-19 were sent to the seventh floor of Phoebe Putney Memorial, which had been reserved for cancer patients.

During the COVID-19 peak, Phoebe Putney Memorial Hospital was taking care of 180 patients with the disease. Now, that number stands at about 60 to 70 patients, Tongol said. Some of Tongol's cancer patients were among those infected with COVID-19 and admitted to the hospital.

Health officials suspect that patients with hematologic malignancies who are under active treatment would be most vulnerable to COVID-19. Data from Wuhan, China, presented at the first virtual meeting of the American Association for Cancer Research, showed that cancer patients under active treatment were more likely to die from COVID-19 than those who have completed treatment, while data from Europe did not show that cancer is necessarily an adverse prognostic factor (*The Cancer Letter*, May 1, 2020).

Secretaries and nurses at the hospital, and even a neighbor of Tongol's contracted the virus—likely from one of the funerals, he said.

"Some of our patients were in the hospital," Tongol said. "I'm also a hematologist. I have a few sickle cell patients who developed it. Fortunately, they survived the illness. Based on my leukemia and myeloma patients, we had one or two here that developed it—and we had to delay treatment."

In Rome, the largest city in Floyd County, with a population of nearly 40,000, the majority of COVID-19 cases can be linked back to a church service in Cartersville, a town in neighboring rural Bartow County, said Melissa Dillmon, hematologist/oncologist at Harbin Clinic Cancer Center, and chair of the Government Relations Committee of the Association for Clinical Oncology.

"Our first index case in our county was caused by the neighboring county—

that church service. Most of our deaths were then related to that church service," Dillmon said to *The Cancer Letter*. "It was an of-out-of town person who went to the church service, and then a lot of their choir members got sick."

Floyd County had 220 confirmed cases and 13 deaths. This translates into 220 cases per 100,000 people, according to data from Georgia's Department of Public Health.

Two of Dillmon's patients died from the disease—one of whom had attended the church service. She suspects that another of her patients had the disease when the outbreak began, in early March.

"One was on a chronic immunosuppressive therapy, and also he had low ability to fight infection and was also receiving high intravenous immunoglobulin," Dillmon said. "He had not had any treatment in several months, but acquired it."

Dillmon's other patient who died was not under active treatment, but died as a result of COVID-19 that spread in a nursing home. Dillmon suspects another patient with chronic leukemia, who is under active treatment, developed COVID-19 in early March and recovered.

"I have another patient who I feel pretty sure had coronavirus the first week as well—her son-in-law came back from China two weeks before," Dillmon said. "It's kind of classic, but that was in that first week, when we really didn't have adequate testing—and she was in the hospital and very ill for a week, but they never tested her."

"There's some things you just can't do over the phone, even over a video"

The Atlanta Metropolitan Area—where Winship's Langston treats patients with hematologic malignancies, has not seen spread at the same scale.

"We have certainly seen a steady stream of COVID in the Atlanta Metro area, but it's not the Atlanta Metro area that's actually been the most stressed within our region," Langston said. "We've been resourced appropriately to deal with the cases we've seen, but some of these other areas have not—and so they've had to have little pop-up tent hospitals and other kinds of resources brought to bear in order to care for patients."

Then, there are rural communities that haven't felt the same reverberations of SARS-CoV-2. At the peak of COVID-19 in Thomson this April, about 12 patients would come to the Monday clinic for patients with COVID-19 at the Center for Primary Care.

Usually, Monday is the busiest clinic day, Jacqueline W. Fincher, an internal medicine physician and partner at Center for Primary Care, said to *The Cancer Letter*.

There have been 63 confirmed cases and five deaths in McDuffie County, an eastern part of Georgia where Thomson is located. The county has 292 cases per 100,000 people.

"The numbers dropped enough over the last 10 days that we actually have gone now to Monday, Wednesdays and Fridays starting this week, as opposed to every day," Fincher, who is also president of the American College of Physicians, said.

The makeup of patients at Fincher's practice include some of the most vulnerable to COVID-19, with about 70% of her patients over age 65. Still, at the start of testing at the beginning of March, Fincher's practice only received two testing kits.

"My concern is my diabetic, my hypertensive patients with chronic kidney disease—or who is on dialysis, or my patient with congestive heart failure," Fincher said. "We don't want them to end up in the hospital. And the way you do that is you see them on a regular basis, before they get into trouble, so that you can cut these things off at the path, and be able to treat them more vigorously or aggressively as an outpatient."

Before widespread testing became available in Georgia, the majority of Fincher's patients who are older and have less access to resources, would have had to travel to Augusta—about 45 miles out from her practice—for testing of COVID-19.

"A drive-through clinic for a nose swab was very difficult," Fincher said.

As in other states where COVID-19 has hit hard, the pandemic has exacerbated existing disparities. Older populations can have a harder time navigating phone apps and video platforms that are inherent to telehealth. There are also those who don't have access to the internet to begin with because cost is a barrier. Other times, internet isn't up-to-speed in more rural areas.

Cancer, too, is still around.

On a recent day, Fincher evaluated two patients. She did so the old-fashioned way, in person. One came in with severe jaundice and was ultimately diagnosed with pancreatic cancer. The other had a cyst that was found to be benign.

"There's some things you just can't do over the phone, even over a video," Fincher said. "Ideally, we'd like to have everything done on time, but we're in an unprecedented time, so we have to do unprecedented things that are the safest for patients, for hospital and clinic staff," Fincher said.

"As many who have said in the economic realm, we have to go on living. And that's true. But it doesn't have to be the Wild West. We can do that in safe, risk-controlled, phased-in approaches."

Q & A

Kobetz spoke with Paul Goldberg, editor and publisher of The Cancer Letter.

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CONVERSATION WITH THE CANCER LETTER

Erin Kobetz: How Sylvester's cancer outreach is used to monitor COVID-19 in Miami-Dade

> Think about having outreach teams in the community in full PPE to support serologic antibody testing. It is brutal. So, for those sites, without appropriate shade, the Game Changers have been a much needed way to provide some reprieve for the teams.

Erin N. Kobetz, PhD, MPH
Professor,
Associate director for population science and cancer disparity, Sylvester Comprehensive Cancer Center;
Chief of Population Health and Cancer Disparities, UHealth Oncology Service Line;
Program co-leader, Cancer Control Research Program,
Incoming vice provost for research, University of Miami

Programs designed to meet the NCI Community Outreach and Engagement requirements for cancer center designation have positioned the University of Miami Sylvester Comprehensive Cancer Center to monitor the prevalence of SARS-CoV-2 in South Florida.

"At NCI-designated cancer centers, we have the potential to be at the forefront of helping drive solutions in a pandemic. This is typically outside the scope of what we do, but the community relationships we've developed are deep. And they can serve a purpose beyond what we want to accomplish for our COE requirements," Erin N. Kobetz, associate director for population science and cancer disparity at Sylvester and incoming vice provost for research at the University of Miami, said to *The Cancer Letter.*

"And I think that's what we found here in Miami at Sylvester: Our relationship with our catchment area allowed us to be a resource in a time of unprecedented need."

This conversation is part of an informal series of stories, interviews, and commentaries that track cancer institutions as they seek to reopen, reorganize, and reinvent in the wake of the COVID-19 pandemic:

- Three months after the start of the COVID-19 pandemic, the Seattle Cancer Care Alliance is ramping up plans for a comeback of cancer services (*The Cancer Letter,* May 15, 2020).
- Health systems and academic cancer centers are cutting expenses to make up for operational shortfalls resulting from the pandemic—laying off employees, furloughing staff, and cutting salaries and benefits (*The Cancer Letter,* May 8, 2020).
- Community oncology practices are experiencing a significant decrease in patient volume, as weekly visits dropped by nearly 40%, while cancellations and no-shows have nearly doubled (*The Cancer Letter,* May 1, 2020).

The COE program Kobetz leads at Sylvester has been working with the Office of the Mayor of Miami-Dade County to ascertain the prevalence of infection within the county's 2.75 million residents.

The program tested 2,500 residents for antibodies. The sampling was random, and it was weighted across the county's municipal statistical areas.

The program is currently on pause, following an FDA guidance mandating the use of 12 serological tests that meet the agency's requirements (*The Cancer Letter,* May 15, 2020). Sylvester is in the process of switching to one of the tests listed in the guidance.

During two weeks of testing, 6% of participants were found to be positive for COVID-19 antibodies, which can be extrapolated to equate to 165,000 Miami-Dade County residents. This figure directly contrasts with testing site data, which indicated that there were 10,000 positive cases in Miami-Dade, suggesting that the actual number of infections is potentially 16.5 times the number of those captured through testing sites and local hospitals. Using the 95% confidence interval of 4.4% to 7.9%, this would estimate that the number of people infected falls between 123,000 and 221,000.

More than half of individuals who tested positive for the antibodies were asymptomatic in the seven to fourteen days prior to screening.

Individuals from African American and Caribbean communities were twice as likely to be infected with COVID-19 than other racial groups.

At this writing, Florida has had 46,944 confirmed cases of COVID-19 and 2,052 deaths linked to the disease.

Sylvester attained its NCI Cancer Center designation last July (*The Cancer Letter,* July 29, 2019).

Kobetz's COE program relies in part on Game Changer vehicles, which bring evidence-based interventions to underserved communities in the cancer center's catchment area (*The Cancer Letter,* April 27, 2018). The center's cancer control program also includes the Firefighter Cancer Initiative, a long-term study of exposures to carcinogens and ways to reduce and prevent cancer risks for Florida firefighters.

Kobetz spoke with Paul Goldberg, editor and publisher of *The Cancer Letter.*

Paul Goldberg: You run outreach and engagement at Sylvester. You are, in effect, the NCI person focused on disparities in South Florida. Focusing on disparities, what do you see now, in the middle of the COVID crisis? What do you see in terms study opportunities? What are the scientific questions that can be asked because of COVID?

Erin Kobetz: The COVID epidemic has brought into national media dialogue the observed difference in the burden of COVID infection between Hispanics, blacks, and other minorities. And so, I'm hoping that with the raised consciousness about the disproportionate burden of COVID in minority and underrepresented communities, that there is opportunity to leverage greater attention to the fact that those very same com-

munities are often overrepresented in the statistics for most chronic conditions, including cancer.

Maybe the question is not just why do they have more COVID or why are they more susceptible to death from COVID?

The question is, why are they contributing to excess incidence and mortality for most health conditions overall? And where there might be an opportunity to attenuate the risk conditions underlying these disparities independent of COVID. Let's have that conversation. Now.

What have you been doing since COVID struck Florida?

EK: Steve Nimer, our cancer center director, is in a position of unique leadership within our health care system, and at the outset of the epidemic, he started to mobilize institutional testing resources and enhance testing capacity to support increased demand within our catchment area.

And as a complement to that, my team started to build the necessary infrastructure for contact tracing within our healthcare workforce, and then for other university faculty, staff and students, who were symptomatic for infection. We felt strongly that testing paired with contact tracing needed to be squarely in place to reduce risk of transmissibility.

Can we talk about NCI's Community Outreach and Engagement—COE—requirements for designation of cancer centers?

EK: There is something very powerful about the roles that NCI-designated cancer centers can play in this epidemic.

A Game Changer vehicle pictured at the launch event, Feb. 2018.

One, because from a community perspective, with increased attention to COE, many of us have established a pretty significant foothold in our local catchment areas.

As a result, we are able to work collaboratively with community stakeholders, particularly in communities that are disproportionately affected by the epidemic, and to generate solutions through research and intervention to try to attenuate that impact. I have been so impressed by how many of my Sylvester colleagues have stepped up, and out of their traditional work roles, to support our institutional response.

It is perhaps one of the silver linings of this entire COVID-19 insanity. In trying to navigate collective chaos, people have demonstrated the best versions of themselves, even in the worst of situations.

Steve sets that example. He harnessed cancer center resources to support the institutional response and encouraged cancer center members to use our skills, such as those that have a role in population science to mitigate disease risk. It was through this example that our contribution to contact tracing was born.

My team has been doing a lot of contact tracing since mid-March. To date, we've traced over 2,000 individuals with a 96% response rate, which is really promising.

Now, we're working with the CIO of the university to develop an app that provides operational scalability for what we've been doing, which has really been very old-school gumshoe epidemiology contact tracing, where the primary goal is to identify close contacts over a known positive and then advise them to self-isolate for 14 days while monitoring symptoms.

I've also had the opportunity to work really, really closely with the mayor of Miami-Dade County, Carlos Gimenez, on a community surveillance effort, to try to estimate the prevalence of coronavirus infections through serologic antibody testing.

You have the Game Changer vehicles, you're in the community. Have you been in the community, by the way, recently?

EK: As part of this community surveillance effort—yes.

In terms of other research or outreach—no.

Our university has been encouraging anybody who can work from home or work remotely to do so. And then, also in terms of research, right now we're still in a phase where only critical research has been approved.

Normal outreach activity is also on pause. But Sylvester's outreach team is still in the field, staffing the community surveillance effort, and making sure that this work resonates with our understanding of local need, and, more importantly, that we effectively dissuade concerns about participating in an effort that involves giving blood "to the government!"

So, the Game Changer buses are going around?

EK: The vehicles are supporting community surveillance, particularly in the larger sites, which tend to have less shade.

I mean, this is South Florida in May—it's really hot!

Think about having outreach teams in the community in full PPE to support serologic antibody testing. It is brutal. So, for those sites, without appropriate shade, the Game Changers have been a much needed way to provide some reprieve for the teams.

I suspect that the focus of the Game Changers is going to change, probably sooner than I expected, to play a more active role in some of our university testing efforts. But right now, their deployment has really been, in terms of the community surveillance effort that we're doing with the county.

What have you learned about the prevalence of SARS-CoV-2 in South Florida? What are some of the numbers around it?

EK: In a random representative sample of Miami-Dade County residents, the prevalence of infection is significantly higher than what is reported from testing sites alone, which is not surprising, because testing availability has been very much limited to individuals who are symptomatic.

We found that about half of the individuals who had antibodies for coronavirus infection had no known symptoms in the seven to 14 days prior to participating in the screening initiative. We also saw about a two-times higher burden of antibodies in blacks or African-Americans.

How did your role come about?

EK: The mayor's team randomly contacted me early in March and said, "We need to figure out how many people in South Florida have been exposed to this infection."

And so, together, we crafted a unique community surveillance effort using serologic antibody tests.

Our primary goal was to have a random sample. We wanted to be avoid overestimating the burden by simply recruiting the worried well or those had symptoms at some point.

We divided the county into its 25 minor statistical areas, and then randomly selected individuals from these areas, proportionally to population density, and with consideration for their racial/ethnic, age, and gender distribution.

We are really mindful about representing the multiculturalism that's present in South Florida, understanding that there may be unique disparities that we would see here that haven't been reported nationally. We're still analyzing the data.

We did the surveillance for a series of about four weeks, and we were supposed to go back into the field this past week. But with the FDA's new guidance on serologic antibody tests for serologic antibody testing, we've actually had to pause what we were doing and regroup, and think about how we could do this work with the new expectations in place.

So, you need to change the test you've been using?

EK: We are definitely changing the test that we've been using, likely to the Roche serologic antibody test.

And we're just figuring it out, because the community surveillance worked exceptionally well with the finger prick test by Biomedomics that we were using at the outset. The ease of test administration made if feasible to get 700 people screened in one day across the county, which, you know, is not small, geographically speaking.

I always think the beauty of good science is that it has to be nimble, particularly in an epidemic situation. I'm not

at all surprised by the fact that we're having to regroup and reconfigure, because as we gain more knowledge collectively, not only about COVID, but also about the technology to detect it, we have to be able to modify what we are doing in real time to accommodate new information.

And this is something that I was very clear with the mayor and his team about from the get-go, that our work together would have to be very, very fluid.

I anticipated that what we were doing in one moment may actually not be what we'd be doing two weeks later, given new technology or improved understanding of the disease that would influence surveillance aims or implementation strategy.

But basically, if you were to draw a preliminary conclusion based on the number of samples you have screened, what would be two or three of the most important things you've learned?

EK: I'll give you three.

I think number one, because this is *The Cancer Letter*, and you typically write about issues of importance to NCI-designated cancer centers and other community-based cancer centers…

I'm not sure that I could appreciate how critical the COE requirement is, in allowing cancer centers to be more to their catchment area than just a resource for cancer.

And I feel really proud that Sylvester had such established community infrastructure and resources like the Game Changer in place that could be deployed in a moment of national crisis, to help our catchment area navigate things a little easier.

I think that's a really important lesson learned. Some of what we have been doing provided us necessary flexibility to be a partner in the truest sense of the word in a time when human connection and access to information was potentially more important than ever before.

And then I think the other lesson I've learned is building the plane and learning to fly at the exact same time requires a degree of intellectual flexibility—and tremendous patience. A lot of patience.

Some of my junior faculty that have been working with me on this have struggled with the flexibility part. As scientists, we are trained to be somewhat rigid in the way we approach study design and implementation.

In this unprecedented COVID situation, we have had to marry need with opportunity. Since our understanding about the disease is evolving very rapidly, in real time, we have to be able to modify our approach to accommodate the new knowledge and still uphold scientific rigor. It is somewhat of an uncomfortable position, but one that likely accelerates personal and professional growth.

And last, I've learned to look for the silver linings or to better reframe things as my mentor, Jo Anne Earp used to encourage me to do somewhat unsuccessfully at the time. I think my team's willingness to push themselves outside of their comfort zone to take on new work and potentially new risk is amazing.

And, our new shared understanding that we must constantly critically appraise what we are doing and become more nimble will pay dividends. I'm certain of it.

Yes. You have to be able to change the test, for example.

EK: You have to be able to adapt. I'm not sure that we always do that so well in science.

This situation is forcing us to do that, and I think forcing a lot of us outside of our comfort zones. Me—certainly. And when I'm outside of my comfort zone, it's an opportunity for growth. Whether that's growth as an individual researcher or growth in terms of the field, it's the potential for progress, nonetheless.

Speaking of which, what are your thoughts on reopening?

EK: As the person who is leading the Miami Dade County community surveillance effort, my job is to ensure that there's necessary objectivity and integrity in data collection. And that our methods are sound, and that we're attending to issues like randomness, and we're flexible when we need to reconsider which tests to use, to be consistent with FDA guidelines.

If my job is to be the scientist and collect the data, I need to actually do that, and that alone. Once I start to make comments about reopening, then people will think that I'm politically motivated in my data collection efforts. And I want to stay above that.

What's so interesting about the whole COVID pandemic is that science has been really politicized. Even the discussion of antibody tests has been really politicized. And not that I think you ever really take politics out of science, but this has been much more explicit, Paul. You know what I mean.

I have become very practiced at saying that I'm not in a position to draw any conclusions about reopening, because we're in the process of data collection and I don't want to unintentionally undermine my objectivity or credibility.

We can talk about my thoughts about reopening once surveillance is done!

Can you say more about the prevalence SARS-CoV-2—and about disparities?

EK: The only thing we've really commented on thus far in terms of disparities was that there seems to be two times the rate of antibodies in blacks or African-Americans who are participating in this work.

Also, we tend to see a higher burden of antibodies in the minor statistical areas that are predominately minority in composition. I believe that this finding requires further examination that the community surveillance effort alone is not well suited to contribute to.

When the mayor and his team ask me about observed disparities, I typically say that I think that we need to engage community leaders and have real, meaningful conversation about what they think or even know is driving the observed disparity.

Working with community leaders in those neighborhoods, and to potentially do more targeted testing, facilitating access, certainly, to RT-PCR for individuals who are symptomatic. And then thinking about how, through Sylvester's outreach and engagement team and some other similar groups across the institution, how we may be able to bridge gaps in resource allocation and other social determinants that may be really, really important in why we're seeing these disparities.

Something that struck me that I read in *The New York Times*, but isn't surprising, is that in a number of these communities, there is a scarcity of access to primary care physicians. Individuals don't have anybody to check in with to describe symptoms and to assess whether those symptoms are severe enough that they require further medical intervention.

And so, many people are delaying, and delaying, and delaying, until there's nothing they can do except show up at the ER. And at that point there are not great clinical algorithms to prevent them from having to be intubated.

And so, we're thinking about maybe bringing a group of our nursing students or some of our medical school students together to fill this gap. Also, we're starting to think about education, trying to dispel common myths in many communities around the etiology of COVID, what happens if you have to go to the hospital etc. This is not anything that we would decide alone

We would have to do so in collaboration with key stakeholders, who, with the appreciation of what's happening in their community, could ultimately inform the scope and delivery of an evidence-based multi-level intervention to attenuate risk factors and risk conditions that underlie the excess burden of COVID and other disparities, including cancer disparities within those areas.

If you can help me understand this issue with the communities of color having twice the prevalence of antibodies, are you able to also measure this among—I don't know how best to say that—among rich white people?

EK: We used random sampling to select representative subsets of our county. When I say that we see two times a higher prevalence of antibodies in blacks, that's compared to other racial ethnic groups that are in Miami-Dade County. And proportionally represented within our sample.

We did this for four weeks in a row, and then we paused, and we were going to a month-to-month basis when the FDA issued new guidelines.

I also believe with the surveillance work, given the reliance on serologic antibody testing, you must assess how the data varies over time, and also in relation to hospitalization and death data.

Together, these individual datasets tell an important story of what's happening.

The hospitalization, and the testing data that's being reported by our Department of Health are people who were symptomatic and met criteria for screening.

In my mind, these data represent the tail end of the viral distribution in the county. The community surveillance probably captures the rest of that distribution, because it reflects what is happening in the community, regardless of symptomology.

But if you really want to understand impact, you can't just think about any of these data sources in a vacuum. We're trying to figure all of this out. I don't think it's perfect, but it is arguably better than drawing conclusions in the absence of any data at all.

I think that there is, really, utility for community surveillance to fill that gap. And I think there's a real opportunity for NCI-designated cancer centers to be at the forefront of that kind of work, because it's so aligned with what we already do, as part of our COE efforts anyway.

You aren't exactly building a plane while flying it, are you? You were working with viral issues, with the Game Changer. You were screening for HPV, you were working with HIV.

EK: I mean, we're doing HPV testing, HIV testing, testing for other sexually transmitted infections, including hepatitis B. And so, this is really not that different than our normal capacity. And whether COVID screening will become part of what the Game Changer routinely does, I think that's open for conversation, certainly with Steve, who ultimately drives a lot of what we do in our COE space.

I think, because it's COE, we were well poised to be responsive. And to help think about not only a healthcare system response, but a community response, using the power of data to ultimately inform operational decision-making and public health planning.

Maybe it's too early to ask this: Are you finding what's the prevalence versus the known rates of infection? Is it twenty-fold? Forty-fold?

EK: It's 16 times higher, if I remember correctly, but recognizing that there are very wide confidence intervals surrounding that estimate, given our need to account for test sensitivity and specificity, which was highly variable in different publications.

I do think there's something that's really interesting, Paul, about how we communicate science in a way that makes sense to people who are outside the scientific community, but who are hearing new information that's driven by the principles of research.

Figuring this out has been a fun exercise, because the work has involved a lot of interdisciplinary collaboration on the university side, and with each discipline came a different discourse for how to talk about the work and its findings . It's been a fun group of people who are working together. There are public health experts, there are data scientists. And many, many students.

Arguably, the best part of this story is that, with the contact tracing and with the community surveillance, we were able to offer 150 medical school and public health students a way to fulfill their capstone and field experience requirements, because all of their clinical rotations were paused or summer internships were cancelled.

We were able to immerse the students in a public health learning opportunity that was very real, very timely, and helped fill gaps in their educational curriculum, given that the pandemic had imposed real constraints on what they could do to fulfill experiential requirements.

There's a lot of nice stuff that's come out of that, including that I think parts of the institution who haven't traditionally worked together have started to do so, because we needed each other's resources and capacity to build something that could fulfill the intent of what we were trying to accomplish, with both community surveillance and the contact tracing.

Is there anything we forgot, anything you'd like to add?

EK: At NCI-designated cancer centers, we have the potential to be at the forefront of helping drive solutions in a pandemic. This is typically outside the scope of what we do, but the community relationships we've developed are deep. And they can serve a purpose beyond what we want to accomplish for our COE requirements.

And I think that's what we found here in Miami at Sylvester: our relationship with our catchment area allowed us to be a resource in a time of unprecedented need.

> "In this unprecedented COVID situation, we have had to marry need with opportunity. Since our understanding about the disease is evolving very rapidly, in real time, we have to be able to modify our approach to accommodate the new knowledge and still uphold scientific rigor."

A telesitevisit: Cancer center site visits go virtual amid COVID-19 pandemic

By Matthew Bin Han Ong

A telesitevisit? No, this is not a typo.

Like so much else in our neo-Zooming, Webexed lives, the cancer center site visit, that much-anticipated—and sometimes feared—rite of passage for those who yearn to earn, upgrade, or retain an NCI designation, has gone virtual.

If there's telehealth, why shouldn't there be a telesitevisit?

Adapting to COVID-19 travel bans, NCI has moved site visits online—and nary a kvetch has been heard by *The Cancer Letter.*

Four cancer centers were due for site visits in May: UNC Lineberger Comprehensive Cancer Center, the Abramson Cancer Center of the University of Pennsylvania, Karmanos Cancer Institute, and The Ohio State University Comprehensive Cancer Center – James Cancer Hospital and Solove Research Institute.

All four institutions decided to proceed with the virtual option instead of delaying the Cancer Center Support Grant site visits to the fall.

"We all knew that our site visits were going to be in May, and as COVID-19 became more widespread, we knew there were going to be issues," Shelton Earp, director of UNC Lineberger and the Lineberger Distinguished Professor of Cancer Research, said to *The Cancer Letter.* "NCI contacted the four centers separately in the beginning and asked us if we actually wanted to delay the site visit to the fall, because they thought that there wouldn't be a chance for an in-person site visit in May. And, of course, they were correct with that.

"The core grant is at least a 12-month process, and so, we were ready. I felt, and our institution felt, that the travel bans were not going to be lifted by August and September."

Virtual site visits are a new thing. So, how does NCI transport a multi-day in-person visit, as well as multiple teams, presentations, and discussions, into the Zoomiverse?

NCI has been receptive to the idea of virtual site visits from the beginning, Earp said.

Are home internet connections reliable?

"It was David Darr, the UNC associate director, who came up with the idea, 'Well, why don't we record the slide show and the talks?'" Earp said. "And

All the hard work from the NCI to conduct a virtual site visit of this scale … speaks to the national commitment and vital imperative to continue cancer research even during the pandemic.

Robert H. Vonderheide, MD, DPhil
John H. Glick Abramson Cancer Center Professor; Director, Abramson Cancer Center; Vice dean, Cancer Programs, Perelman School of Medicine; Vice president, Cancer Programs, University of Pennsylvania Health System, University of Pennsylvania

The question and answers were very similar to what one would have at a regular site visit. I was pleased with it.

H. Shelton Earp, III, MD
Distinguished Professor; Lineberger Professor of Cancer Research; Director, UNC Lineberger Comprehensive Cancer Center; Director, UNC Cancer Care; The University of North Carolina at Chapel Hill

The site visitors were very professional and we are pleased to report that the visit was flawless; we have no complaints about the process.

Gerold Bepler, MD, PhD
President, CEO, Barbara Ann Karmanos Cancer Institute, Wayne State University

We have been pleased with how the virtual site visit preparations have been going and the willingness and ease of the NCI to work closely with us to ensure a secure and fair process.

Raphael E. Pollock, MD, PhD
Director, The Ohio State University Comprehensive Cancer Center; Vice chair, clinical affairs, OSUCCC – James; Surgeon-in-chief, OSUCCC – James & The Ohio State University Health Care System; Professor, Division of Surgical Oncology; Director, Sarcoma Research Laboratory, The Ohio State University

everybody came to the conclusion that that would be a more failsafe way to do it, that you would introduce yourself, you would press a button, your slide show would come on, and you would give your presentation, and then you would come back live.

"The idea of pre-recording the talks, I think, was key to making this run on time and without problems."

The approach worked at Chapel Hill, and two more virtual site visits have since been completed.

"Penn's Abramson Cancer Center underwent its CCSG site visit two weeks ago under an entirely virtual format," Robert Vonderheide, director of the Abramson Cancer Center, said to *The Cancer Letter*. "All the hard work from the NCI to conduct a virtual site visit of this scale, and no delay because of COVID-19, speaks volumes, in my opinion, to the national commitment and vital imperative to continue cancer research even during the pandemic."

NCI's virtual process was streamlined and well-organized, said Gerold Bepler, president and CEO of Karmanos Cancer Institute.

"The site visitors were very professional and we are pleased to report that the visit was flawless; we have no complaints about the process," Bepler said to *The Cancer Letter*. "Although we prefer in-person site visits, we are grateful for the swift adaptation that allowed us to complete the visit virtually during these unprecedented times."

The site visitors did exactly what they would normally do, UNC's Earp said.

"They got together the night before on Webex from their own homes, and they discussed and came up with a list of questions," Earp said. "And then, when the presentations were done, the site visit chair had the people that were going to review that group ask questions. So, the question and answers were very similar to what one would have at a regular site visit. It is different, not looking at the body language in the same way, but it was quite good. And I was pleased with it.

"There was an agenda, just like there would be at a site visit, and it was adhered to. The overview gets 30 minutes and 20 minutes for questions, and virtually all the rest of the presentations are 10 minutes, and 10 minutes for questions."

It's possible that virtual site visits may be here to stay, or remain a viable option if an in-person visit isn't optimal.

"If, for example, a year from now we have a vaccine and everybody is comfortable, it's not clear that some site visits wouldn't go on this way," Earp said. "I think it's going to be interesting to see what comes out of it. I've read some of *The Cancer Letter's* articles about COVID-19, I don't think any of us know what 12 to 18 months is going to bring, both in clinical care and financing, and how we do research.

"And all of these things are going to be up in the air, but I think this is one thing that we don't need to worry about. It can be done, I think, in a professional manner and well."

Raphael Pollock, director of the OSUCCC – James, is getting ready for his center's turn on the screen at the end of the month.

"We have been pleased with how the virtual site visit preparations have been going and the willingness and ease of the NCI to work closely with us to ensure a secure and fair process," Pollock, who is also the surgeon-in-chief for the OSUCCC – James and The Ohio State University Health Care System, said to *The Cancer Letter*. "We've been very comfortable with this.

"We have spent a lot of time preparing our presentations, taping them, analyzing them as a group—probably on the order of 30 hours a week, minimum, in group activities—and optimizing the use of Webex. It's a new skill set for most of us."

Other cancer centers that may be working up to a virtual site visit might want to consider making extra time to prepare, Pollock said.

"If there was one caveat, I would recommend that my colleagues elsewhere budget enough time, because it's truly amazing how much time it takes—I suspect longer than a more traditional on-site approach, even, just to be certain that the web connectivity and those types of issues are really there," Pollock said. "We've been very fortunate, we have very strong IT support in the cancer center. I think that's a necessity, because none of us have the computer expertise to handle it on our own."

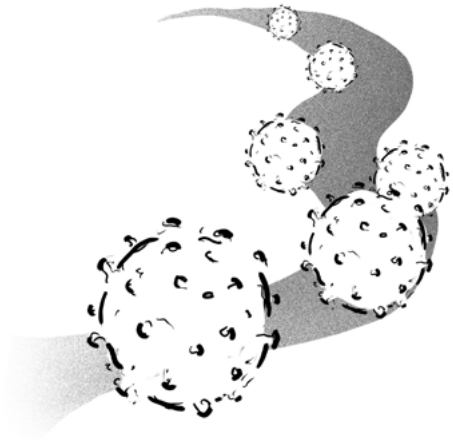
For Pollock, the virtual process was also an intensive exercise in acquainting leadership with the cancer center's programs and activities.

"The other aspect is that, for me as a new director, it has been a tremendous learning experience, about the connectivity between different components in the cancer center," Pollock said. "Because I've been hearing it in presentations, literally for the past two months, I am much more aware, just on the basis of repetition, and probably would not have had an easier time extracting this information simply from our written application, even though we were all very involved in its production.

"There's something about hearing this repeatedly from different presenters and hearing the potential questions that might be asked at the time of the site visit that really focuses your attention.

"I'm grateful for that aspect of the process."

COVID-19 UPDATES



UCLA tests prostate cancer drug for COVID-19 in men

UCLA researchers have launched a phase II trial that uses TMPRSS2, a hormone suppressor commonly used to treat prostate cancer, to improve clinical outcomes for men infected with COVID-19.

The phase II trial will assess whether temporarily suppressing male hormones will reduce the severity of COVID-19 illness—by helping patients get out of the hospital faster, decreasing the need for intubation, and improving mortality. The UCLA-led study is being conducted at the Veterans Affairs Greater Los Angeles Healthcare System and other VA sites.

"It's becoming pretty clear that men are more likely than women to die from COVID-19, and we think there is a connection between prostate cancer research and our understanding of COVID-19 research," principal investigator Matthew Rettig, professor of medicine and urology at the David Geffen School of Medicine at UCLA and member of the UCLA Jonsson Comprehensive Cancer Center, said in a statement.

Rettig is also the chief of hematology/oncology at the Veterans Affairs Greater Los Angeles Healthcare System, said in a statement.

Recent data from New York City show that men are infected in greater numbers and are dying at nearly twice the rate of women.

The convergence between prostate cancer research and COVID-19 research begins with the TMPRSS2 protein receptor, which is abnormal in about half of all prostate cancer patients, and plays a role in the development and progression of prostate cancer.

Researchers believe the COVID-19 virus uses TMPRSS2 to enter the lungs and attack lung tissue. The receptor is regulated by male hormones in prostate cancer, and researchers believe it may also be regulated in lung tissue by male hormones.

In the UCLA-led clinical trial, researchers will use degarelix, an FDA-approved medication, to temporarily shut down the production of TMPRSS2 and block the virus from entering lung tissue.

A link to the research study that provides the scientific underpinnings for this clinical trial can be found here.

IN BRIEF

UChicago Medicine receives $10M to develop a center for cellular therapy

The University of Chicago Medicine received $10 million to develop personalized therapies for hard-to-treat cancers.

The gift, by the Jonas family, establishes the David and Etta Jonas Center for Cellular Therapy at UChicago Medicine, named for David Jonas and his late wife, Etta.

Researchers at the center will work to improve cellular therapy, CAR T-cell therapy.

Through the David and Etta Jonas Center for Cellular Therapy, researchers at UChicago Medicine will work to improve the therapy's overall effectiveness and extend its benefits to a roader group of patients, including those with difficult-to-treat cancers.

The Jonas family's gift will provide infrastructure and funding to advance research initiatives. The Jonas Center will enable:

- Recruitment of leaders in T cell biology and cell engineering,
- Expand research and clinical trials infrastructure,
- Acquisition of specialized technology and equipment necessary to translate discoveries made in the laboratory to the clinic; and
- An annual lecture that brings together leaders in cellular therapy and fosters dissemination of the latest innovations in the field.

Researchers at the center will advance work by Hans Schreiber, professor of pathology at the University of Chicago, who has developed a new method for personalized T-cell therapy. By characterizing a patient's T cell receptors, Schreiber can

use personalized medicine to accurately target the tumor's unique antigens.

Schreiber's approach has the potential to treat other cancer types including hard-to-treat solid tumors. Through a collaboration with Michael Bishop, professor of medicine and director of the Cellular Therapy Program, and Amittha Wickrema, professor of medicine, researchers at the Jonas Center can accelerate Schreiber's method and develop the therapy in clinical trials for patients with metastatic solid tumors.

"This gift will allow us to translate these groundbreaking discoveries made in the laboratory into novel cancer therapies, which have the potential to treat not just blood cancers, but also solid tumors," Kenneth Polonsky, dean and executive vice president for medical affairs at the University of Chicago, said in a statement.

In addition, Bishop and his colleagues seek to predict how a patient will respond to the therapy in advance. This way, a patient's T cells could be sequenced prior to undergoing treatment. In cases where the patient's T cells are deemed unfit, the researchers aim to develop interventions to improve their fitness.

This gift represents the single largest donation to UChicago Medicine for cellular therapy research.

Peter C. Adamson named global development therapeutic area head of oncology and pediatric innovation at Sanofi

Peter C. Adamson was named global development therapeutic area head of oncology and pediatric innovation at Sanofi. Based in Cambridge, MA, Adamson will lead the global development in cancer, and will work with leaders across therapeutic areas to further pediatric drug development efforts.

Adamson joins Sanofi from the Perelman School of Medicine of the University of Pennsylvania, where he was professor of pediatrics and pharmacology, and held the Alan R. Cohen Endowed Chair in Pediatrics at Children's Hospital of Philadelphia. For almost 10 years prior to joining Sanofi, Adamson chaired the Children's Oncology Group, an NCI-supported international consortium of more than 220 centers that conduct clinical-translational research, including large-scale clinical trials, in children and adolescents with cancer.

Adamson is board certified in hematology/oncology and clinical pharmacology. He was appointed by President Obama to the National Cancer Advisory Board, where he continues to serve. Adamson also served on the blue-ribbon panel for the Beau Biden National Cancer Moonshot Initiative.

Vassiliki Papadimitrakopoulou named clinical development leader of Pfizer Oncology

Vassiliki Papadimitrakopoulou was named clinical development leader of Pfizer Oncology and will join Pfizer Sept. 23.

Papadimitrakopoulou specializes in personalized genomics-driven cancer therapies, immunotherapies, translational research and cancer chemoprevention. She comes to Pfizer from MD Anderson Cancer Center, where she was professor of medicine in the Department of Thoracic/Head and Neck Medical Oncology. There, she led clinical and translational research projects focused on the development of biomarker-based targeted therapies to overcome therapeutic resistance in advanced disease.

Papadimitrakopoulou was recently a member of the FDA Oncologic Drugs Advisory Committee and has served as co-principal investigator on the Master Lung Protocol (Lung-MAP) study, an umbrella trial simultaneously testing multiple precision medicines in squamous cell lung cancer, supported by NCI and run through patient advocacy organizations, pharmaceutical companies (including Pfizer) and public institutions.

CPRIT awards $56M in grants

The Cancer Prevention and Research Institute of Texas has awarded new grants totaling over $56 million and consisting

of 13 academic research recruitment awards and a product development research award.

"Special recognition is given for first-time recruitment awards to the Texas A&M Engineering Experiment Station, the new School of Veterinary Medicine at Texas Tech University in Amarillo, and the Jane and Robert Cizik School of Nursing at UTHealth Houston," Wayne Roberts, CPRIT chief executive officer, said in a statement.

Four Academic Research Established Investigator grants were awarded, including one to the Texas A&M Engineering Experiment Station for a leader in mechanobiology and advanced mathematical image analysis for the study of cancer.

MD Anderson Cancer Center received two awards for an expert in positron emission tomography radiochemistry and an internationally regarded researcher who focuses on the role of oncogene addiction in cancer and its impact from translation to targeted therapy. The University of Texas Southwestern Medical Center received a grant for a researcher with a highly innovative program that targets cancer vulnerabilities for the development of novel cancer therapies.

MD Anderson and UT Southwestern each received a Rising Star award. First-Time, Tenure Track Faculty awards were made to Baylor College of Medicine, Baylor University, MD Anderson, Texas Tech University, UTHealth Houston, and UT Southwestern.

CPRIT's recruitment awards are used to establish the finest cluster of cancer researchers in the world. Recruits accepting the awards are given the "CPRIT Scholar" designation.

CPRIT awards three types of recruitment grants: Established Investigators for senior research faculty with distinguished professional careers and established cancer research programs; Rising Stars for early-stage investigators who have demonstrated promising continued and enhanced contributions to the field; and First Time, Tenure Track Faculty for emerging investigators pursuing their first faculty appointment who are expected to make outstanding contributions in cancer research.

Additional information on CPRIT Scholars at Texas institutions is available here.

A Company Relocation Product Development Award was given to Invectys USA Inc., a French biopharmaceutical company developing innovative anti-cancer products in immunotherapy based on leading technology from Institut Pasteur in Paris. Invectys seeks to advance its novel CAR T platform to conduct early stage clinical studies in Texas.

Company Relocation awards seek to support early stage "startup" and established companies in the development of innovative products and services with significant potential impact on cancer patient care. Recipients of the Company Relocation Product Development Award must relocate to Texas within one year upon receipt of the award.

Recipients of academic research grants are:

Recruitment of Established Investigators Awards* - Four grants totaling $22,073,674

- **Dean Felsher**, Recruitment to MD Anderson Cancer Center from Stanford University - $6,000,000
- **Tanmay Lele**, Recruitment to Texas A&M Engineering Experiment Station from the University of Florida - $5,073,674
- **Henry Charles Manning**, Recruitment to MD Anderson Cancer Center from Vanderbilt University Medical Center - $6,000,000
- **Wenyi Wei**, Recruitment to UT Southwestern Medical Center from Beth Israel Deaconess Medical Center, Harvard Medical School - $6,000,000

Recruitment of Rising Stars Awards* - Two grants totaling $8,000,000

- **Veronika Fedirko**, Recruitment to MD Anderson Cancer Center from Emory University - $4,000,000
- **Ken Wang**, Recruitment to UT Southwestern Medical Center from Johns Hopkins University - $4,000,000

Recruitment of First-Time, Tenure-Track Faculty Members Awards* - Seven grants totaling $11,900,000

- **Klementina Fon Tacer**, Recruitment to Texas Tech University from St. Jude Children's Research Hospital - $1,400,000
- **Robert Hillman**, Recruitment to MD Anderson Cancer Center from MD Anderson Cancer Center - $2,000,000
- **Jason Lee**, Recruitment to Baylor College of Medicine from the University of Colorado, Boulder - $2,000,000
- **Matthew Parker**, Recruitment to UT Southwestern Medical Center from the University of California, Berkeley - $2,000,000
- **Liela Romero**, Recruitment to Baylor University from the Massachusetts Institute of Technology - $2,000,000
- **Eric Von Nostrand**, Recruitment to Baylor College of Medicine from the University of California, San Diego - $2,000,000

- **Megan Whisenant**, Recruitment to UT Health Science Center at Houston from MD Anderson Cancer Center - $500,000

** Recruitment grants awarded indicate only approval to negotiate offers; at the time of release candidates have not accepted offers.*

Awarded product development research grants:

Company Relocation Product Development Research Awards – One grant totaling $14,196,990

- **Invectys USA, Inc**.
- **CARGo**: a CAR T cell program targeting HLA-G - a novel immune checkpoint and tumor specific antigen for advanced clear cell renal and ovarian carcinomas - $14,196,990

NCCN Foundation awards leading young investigators advancing cancer research

The National Comprehensive Cancer Network and the NCCN Foundation announced five new recipients for the 10th annual NCCN Foundation Young Investigator Awards Program.

The honorees will receive up to $150,000 in funding to study ways to improve care and help find cures for people with breast, colorectal, pancreatic, and small cell lung cancer, as well as pediatric acute myeloid leukemia. The NCCN Oncology Research Program managed the selection process and will oversee the projects, which will each extend for the next two years.

The 2020 NCCN Foundation YIA recipients are:

- **Agnieszka Czechowicz**, assistant professor of pediatrics, Stanford University School of Medicine: "Development of anti-hKIT Chimeric Antigen Receptor T-Cells as a Dual Hematopoietic Stem Cell Transplantation Conditioning and Immunotherapeutic Agent for Cure of Pediatric Acute Myeloid Leukemia."
- **Wade T. Iams**, assistant professor of medicine, Vanderbilt University Medical Center: "Quantifying Minimal Residual Disease in Patients with Small Cell Lung Cancer."
- **Shivan Mehta**, assistant professor of medicine, University of Pennsylvania: "Choice Architecture and Mailed Colorectal Cancer Screening Outreach in a Community Health Setting."
- **Mustafa Raoof**, assistant clinical professor, City of Hope Beckman Research Institute: "Targeting Transcription-Replication Conflicts in KRAS-driven Pancreatic Cancer."
- **Jennifer Y. Sheng**, assistant professor in oncology, Johns Hopkins University School of Medicine: "An Adaptive Nutrition and Exercise Weight loss (A-NEW) Study for Breast Cancer Survivors."

G. David Roodman receives $1.6M from NCI for multiple myeloma bone disease therapies

G. David Roodman, an Indiana University Melvin and Bren Simon Comprehensive Cancer Center researcher, received a five-year, $1.6 million grant from the National Cancer Institute to study ways to build bone and decrease tumor growth in multiple myeloma bone disease.

G. David Roodman, distinguished professor at IU School of Medicine, is leading the research to investigate a molecule developed with collaborators at the University of Pittsburgh that could repair bone, decrease tumors and improve outcomes for multiple myeloma patients on specific targeted therapies.

Previously, Roodman and colleagues had shown the importance of the marrow microenvironment on the growth of the tumor cells in the bone destructive process. They, with collaborators at the University of Pittsburgh, developed a small molecule called XRK3F2 to target that bone disease. Animal models and preclinical tissue models have shown that the molecule could have an important role also in stopping drug resistance in myeloma cells.

"This grant allows us to look at using a small molecule to show how we can overcome resistance to some of the most potent drugs that are in use for myeloma," Roodman said in a statement. "Many patients develop drug resistance over time, and it becomes very difficult to treat them."

Among newer treatments developed for multiple myeloma are proteasome inhibitors, including the drugs Bortezomib and Carfilzomib. In models developed by Roodman's research team, the XRK3F2 molecule enhanced the effects

of these drugs in preclinical models of multiple myeloma.

The molecule also caused new bone formation in animal models, which could lead to treatments for healing bone lesions. There are no safe therapies to build bone mass that are approved for multiple myeloma bone disease.

Roodman and his team will further explore the XRK3F2 molecule to understand the mechanism responsible for its effects on multiple myeloma cells and its potential for new therapies for the disease.

MD Anderson and Innovent Biologics to develop anti-PD-1 therapy in rare cancers

MD Anderson Cancer Center and Innovent Biologics Inc. signed an agreement to co-develop TYVYT (sintilimab injection), Innovent's anti-PD-1 monoclonal antibody, in rare cancers in the U.S.

The joint development will focus on advancing sintilimab as an effective immune checkpoint inhibitor for patients with rare cancer types. This research will be enabled by MD Anderson's experience conducting clinical trials of rare cancers.

Under the agreement, Innovent and MD Anderson will co-fund the development activities for sintilimab, which may include multiple clinical research studies to be conducted by MD Anderson. MD Anderson plans to develop an approach, upon commercialization in rare diseases, to allow royalty payments it receives on sales of the product in the U.S. to be used to fund care for uninsured patients.

Innovent seeks to pursue approval of sintilimab by FDA for multiple rare cancer indications in addition to larger cancer indications for sintilimab.

TYVYT (sintilimab injection) was approved in 2018 by the National Medical Products Association in China for the treatment of relapsed or refractory classic Hodgkin's lymphoma after second-line or later systemic chemotherapy, where it is being evaluated in additional clinical trials for solid tumors.

"We are conducting more than 20 related clinical trials including over 10 registration clinical trials," Michael Yu, founder, chairman and CEO of Innovent, said in a statement.

FUNDING OPPORTUNITIES

Hope Foundation announces John Crowley award for statistical excellence in cancer clinical trials

The Hope Foundation for Cancer Research, the public charity supporting SWOG Cancer Research Network, is launching the John Crowley, PhD, Award, to encourage statistical excellence in clinical trials.

Successful applicants will spend four consecutive weeks in Seattle at the SWOG SDMC, which is colocated on the campuses of the Fred Hutchinson Cancer Research Center and CRAB. Awardees can pursue unique projects in statistical research in collaboration with CRAB and SDMC staff. All related travel and living expenses will be covered for the duration of the residency through support from The Hope Foundation.

Additional information about the award can be found on Hope's program page. Applications will be accepted through Oct. 15, 2020, and the first residency will take place in the summer of 2021.

Crowley was the long-time group statistician for SWOG and the founder of its statistical partner, Cancer Research And Biostatistics, which today remains part of the SWOG Statistics and Data Management Center in Seattle, WA.

"The award acknowledges the foundational contributions of Dr. Crowley to the field of biostatistics, especially in the design and conduct of cancer clinical trials and survival analysis," group statistician Michael LeBlanc said in a statement. "His biostatistical innovation and leadership were key to SWOG's outstanding success conducting high quality and impactful clinical trials."

In the spirit of Crowley's innovative methods and committed mentorship, the award provides an opportunity to collaborate with faculty and data management staff at a publicly funded, national multi-center clinical trials organization through a one-month residency in Seattle.

This interactive mentorship program will be a joint effort between CRAB, the SWOG SDMC, and The Hope Foundation.

"Dr. Crowley has been an incredibly influential statistician and mentor with SWOG since he was first elected to lead—and found—the group's statistical center in 1984," Johanna Horn, president and CEO of The Hope Foundation, said in a statement.

THE CLINICAL CANCER LETTER

CLINICAL ROUNDUP

Flatiron Health, Foundation Medicine, Genentech to launch novel prospective lung cancer clinical study

Flatiron Health, Foundation Medicine, and Genentech, a member of the Roche Group, in partnership with community and academic oncology practices, have launched a novel, low-interventional study to assess and improve clinical trials for patients living with advanced lung cancer.

The Prospective Clinico-Genomic study (NCT04180176) will pilot the use of a technology-enabled prospective data collection platform to facilitate, streamline and simplify the execution of clinical trials for advanced lung cancer.

The PCG Study, funded and sponsored by Genentech, is a feasibility study with secondary aims to better understand how genomic changes in a patient's tumor may predict response or impact resistance to treatment in people diagnosed with metastatic non-small cell lung cancer or extensive stage small cell lung cancer by building a linked data- and bio-repository.

Flatiron's prospective real-world data collection technology will be leveraged for this study, which will enroll approximately 1,000 patients. These patients will undergo serial liquid biopsies using Foundation Medicine's liquid biopsy assay to assess genomic changes in their cancer over the course of treatment.

The clinical, genomic, imaging and outcomes data will be a part of a comprehensive data platform that is designed to accelerate research.

"Through technology-driven innovation, we have realized our vision of building a platform that enables meaningful clinical research while also minimizing the burden on clinicians and research teams," Bobby Green, chief medical officer at Flatiron Health, said in a statement. "This includes features such as centralized and remote study monitoring, streamlined patient identification, and technology-assisted abstraction to eliminate duplicate data entry and the need to use a separate electronic data capture system."

Since launching the study in December 2019, 14 practices from Flatiron's network were activated: Alabama Oncology, Cancer & Hematology Centers of Western Michigan, Clearview Cancer Institute, Fort Wayne Medical Oncology and Hematology, Hematology Oncology Associates of Central New York, Hematology Oncology Associates of Fredericksburg, Highlands Oncology Group, Jackson Oncology Associates in Mississippi, New York Cancer & Blood Specialists, Oklahoma Cancer Specialists and Research Institute, RCCA-Central Jersey, Southeast Nebraska Cancer Center, Virginia Cancer Institute, and West Cancer Center. Additional research sites are planned over time.

"Clinical trials are critically important to advancing cancer research, but the way trials are run has in many ways not changed in decades, and continues to be burdensome and time-consuming," Lee Schwartzberg, chief medical officer at OneOncology, and physician at West Cancer Center. "The PCG Study has the potential to help transform how clinical trials are conducted, ultimately making research more feasible for all sites and increasing the number of trial opportunities for patients. We hope that the study design and technology deployed in PCG will ultimately become standard practice and used across a wide swath of trials."

At this year's ASCO virtual scientific program, Genentech, Flatiron, Foundation Medicine and co-authors will present the study design and objectives in a Trials-In-Progress abstract titled, "A multi-stakeholder platform to prospectively link longitudinal real-world clinico-genomic, imaging, and outcomes data for patients with metastatic lung cancer."

Advanced prostate cancer rates continued to rise after USPSTF guideline change

Five years after the U.S. Preventive Services Task Force recommended against

prostate-specific antigen-based screening for all men, rates of advanced prostate cancer continued to increase in men 50 and over in the U.S., according to a new study.

The study, led by American Cancer Society investigators, says the rise in cancers that had spread beyond the prostate gland was accompanied by drops in early-stage disease during the same time period. The study appears in the *Journal of the National Cancer Institute*.

The USPSTF began recommending against prostate-specific antigen-based screening for men 75 and older in 2008, and for all men in 2012. In 2018, USPSTF recommended individual decision-making for men 55 to 69, and said men 70 and over should not be screened.

National self-reported survey data found past-year routine PSA testing rates among men 50 and over declined from 40.6% in 2008 to 38.3% in 2010, to 31.5% in 2013, and remained unchanged in 2015.

Previous studies reported that prostate cancer incidence rates in the U.S. declined for local-stage disease and increased for regional- and distant-stage disease soon after the USPSTF recommendations against routine screening. The new study looked at whether these patterns persisted in the longer-term, through 2016.

Researchers, led by Ahmedin Jemal, used data from the U.S. Cancer Statistics Public Use Research Database to look at trends—annual percent change—in invasive prostate cancer incidence from 2005 to 2016 in men 50 and older, stratified by stage, age group, and race/ethnicity.

The researchers found that for all races/ethnicities combined, incidence for local-stage disease decreased by 6.4% per year from 2007-2016 in men 50 to 74. In men 75 and older, incidence declined by 10.7% per year from 2007-2013 then stabilized during 2013 to 2016.

In contrast, incidence for prostate cancer spread beyond the gland (regional- and distant-stage disease) increased in both age groups during the study period. Distant-stage incidence in men 75 and older increased by 5.2% per year from 2010-2016.

"These data illustrate the trade-off between higher screening rates and more early-stage disease diagnoses (possibly overdiagnosis and overtreatment) and lower screening rates and more late-stage (possibly fatal) disease," write the authors. "Several modeling studies, however, showed that the harms associated with higher PSA screening rates can be mitigated while preserving the benefit of screening through PSA-stratified strategies including longer screening interval based on baseline PSA, higher PSA threshold for biopsy referral in older men, and restricting routine testing to men aged ≤70 years."

The study did not cover the period after 2018, when USPSTF recommendations changed again to include screening as an option for men 55 to 69, and against screening for men 70 and over. The impact of that most recent change on prostate cancer rates has yet to be seen, as cancer registry data is not yet available.

Study: Text messages are ineffective reminders to maintain AI regimens

Text messages were not effective in reminding breast cancer patients to maintain their aromatase inhibitor regimens, a study conducted by SWOG shows.

SWOG Cancer Research Network Vice Chair Dawn Hershman, director of the Breast Cancer Program at NewYork-Presbyterian and Columbia University Irving Medical Center's Herbert Irving Comprehensive Cancer Center, led the study, which was published in the *Journal of Clinical Oncology*.

The study is the first large, long-term, randomized trial to test any intervention aimed at directly improving AI adherence. Hershman and her team enrolled 724 post-menopausal women with early-stage breast cancer into the study from 40 SWOG sites across the United States. Every woman had been taking AIs for at least a month, and would continue to take the pills at least 36 months under their doctors' orders.

Of the women enrolled, 348 received brief, twice-weekly text messages reminding them to take their medication or reminding them of the benefits of taking their medication. Another 354 did not receive the texts. Patients and physicians both reported on drug adherence—and women took routine urine tests to screen for AI biomarkers. After 36 months, there was no difference between the two groups. The percentage of women who remained AI adherent was 55%—the same number for both groups, no matter how adherence was measured.

Hershman, who presented preliminary results of her study at the 2019 ASCO annual meeting, said the take-home message is not that text messages are ineffective tools in the fight for cancer drug adherence.

"Persuading patients to take AIs, or any long-term cancer drug, will likely require a more personalized approach, one that includes many interventions and supportive efforts to provide relief from symptoms and also provide encouragement and support for patients," Hershman said in a statement. "Texts alone don't do the trick."

Hershman's study was funded by NCI grant award CA189974 and in part by the Conquer Cancer Foundation and the Breast Cancer Research Foundation.

DRUGS & TARGETS

Opdivo + Yervoy combination receives FDA approval for first-line mNSCLC (PD-L1 tumor expression ≥1%)

FDA has approved the combination of Opdivo (nivolumab) plus Yervoy (ipilimumab) as first-line treatment for patients with metastatic non-small cell lung cancer whose tumors express PD-L1(≥1%), as determined by an FDA-approved test, with no epidermal growth factor receptor or anaplastic lymphoma kinase genomic tumor aberrations.

Opdivo and Yervoy are sponsored by Bristol-Myers Squibb Co.

FDA has also approved the PD-L1 IHC 28-8 pharmDx, sponsored by Agilent Technologies Inc., as a companion diagnostic device for selecting patients with NSCLC for treatment with nivolumab plus ipilimumab.

Efficacy was investigated in CHECKMATE-227 (NCT02477826), a randomized, open-label, multi-part trial in patients with metastatic or recurrent NSCLC and no prior anticancer therapy. In Part 1a of the trial, 793 patients with PD-L1 tumor expression ≥1% were randomized to receive either the combination of nivolumab plus with ipilimumab (n=396) or platinum-doublet chemotherapy (n=397).

The trial demonstrated a statistically significant improvement in overall survival for patients with PD-L1 tumor expression ≥1% receiving nivolumab plus ipilimumab compared to those treated with platinum-doublet chemotherapy. Median OS was 17.1 months (95% CI: 15, 20.1) versus 14.9 (95% CI: 12.7, 16.7) (HR 0.79; 95% CI: 0.67, 0.94; p=0.0066).

Median progression-free survival per blinded independent central review was 5.1 months (95% CI: 4.1, 6.3) in the nivolumab plus ipilimumab arm and 5.6 months (95% CI: 4.6, 5.8) in the platinum-doublet chemotherapy arm (HR 0.82; 95% CI: 0.69, 0.97). Confirmed overall response rate per BICR was 36% (95% CI: 31, 41) and 30% (95% CI: 26, 35), respectively. Median response duration was 23.2 months in the nivolumab plus ipilimumab arm and 6.2 months in the platinum-doublet chemotherapy arm.

Pomalidomide receives accelerated approval to for Kaposi sarcoma

FDA has expanded the indication of pomalidomide (Pomalyst) to include adult patients with AIDS-related Kaposi sarcoma after failure of highly active antiretroviral therapy, and Kaposi sarcoma in adult patients who are HIV-negative.

Pomalyst is sponsored by Celgene Corp.

Efficacy was investigated in Study 12-C-0047, an open-label, single-arm clinical trial, conducted by NCI. Twenty-eight patients (18 HIV-positive, 10 HIV-negative) received 5 mg of pomalidomide orally once daily on days 1 through 21 of each 28-day cycle until disease progression or unacceptable toxicity. All HIV-positive patients continued highly active antiretroviral therapy.

The main efficacy outcome measure was overall response rate, which included complete response, clinical complete response, and partial response. Response was assessed by the investigator according to the AIDS Clinical Trial Group Oncology Committee response criteria for Kaposi sarcoma. Among the 18 HIV-positive patients, the ORR was 67% (95% CI: 41, 87) with a median response duration of 12.5 months (95% CI: 6.5, 24.9). Among the 10 HIV-negative patients, the ORR was 80% (95% CI: 44, 98) with a median response duration of 10.5 months (95% CI: 3.9, 24.2).

Rucaparib receives FDA approval for BRCA-mutated metastatic castration-resistant prostate cancer

FDA has granted an accelerated approval to rucaparib (Rubraca) for patients with deleterious BRCA mutation (germline and/or somatic)-associated metastatic castration-resistant prostate cancer who have been treated with androgen receptor-directed therapy and a taxane-based chemotherapy.

Rubraca is sponsored by Clovis Oncology Inc.

Efficacy was investigated in TRITON2 (NCT02952534), an ongoing, multi-center, single arm clinical trial in 115 patients with BRCA-mutated (germline and/or somatic) mCRPC who were treated with androgen receptor-directed therapy and taxane-based chemotherapy. Pa-

tients received rucaparib 600 mg orally twice daily and concomitant GnRH analog or had prior bilateral orchiectomy.

Objective response rate and duration of response were assessed in 62 patients with measurable disease. The confirmed ORR was 44% (95% CI: 31, 57). Median DOR was not evaluable (NE; 95% CI: 6.4, NE). The range for the DOR was 1.7-24+ months. Fifteen of the 27 (56%) patients with confirmed objective responses had a DOR of ≥6 months.

Ripretinib receives FDA approval for advanced gastrointestinal stromal tumor

FDA has approved ripretinib (Qinlock) Deciphera Pharmaceuticals LLC for adult patients with advanced gastrointestinal stromal tumor who have received prior treatment with three or more kinase inhibitors, including imatinib.

Qinlock is sponsored by Deciphera Pharmaceuticals.

"Despite the progress that has been made over the past 20 years in developing treatments for GIST, including four FDA-approved targeted therapies—imatinib in 2002, sunitinib in 2006, regorafenib in 2013 and avapritinib earlier this year—some patients don't respond to treatment and their tumors continues to progress," Richard Pazdur, director of the FDA's Oncology Center of Excellence and acting director of the Office of Oncologic Diseases in the FDA's Center for Drug Evaluation and Research, said in a statement.

Efficacy was evaluated in INVICTUS (NCT03353753), an international, multi-center, randomized (2:1), double-blind, placebo-controlled trial in 129 patients with GIST who were previously treated with imatinib, sunitinib, and regorafenib. Patients received ripretinib150 mg or placebo orally once daily until disease progression or unacceptable toxicity. Crossover was permitted at disease progression for patients randomized to receive placebo.

The major efficacy outcome measure was progression-free survival based on assessment by blinded independent central review using modified RECIST 1.1 in which lymph nodes and bone lesions were not target lesions and a progressively growing new tumor nodule within a pre-existing tumor mass must meet specific criteria to be considered unequivocal evidence of progression. Additional efficacy outcome measures included overall response rate by BICR and overall survival.

The trial demonstrated a statistically significant improvement in PFS for patients in the ripretinib arm compared with those in the placebo arm (HR 0.15; 95% CI: 0.09, 0.25; p<0.0001). The median PFS was 6.3 months (95% CI: 4.6, 6.9) for ripretinib compared with 1.0 month (95% CI: 0.9, 1.7) for placebo. The ORR was 9% (95% CI: 4.2, 18) in the ripretinib arm compared with 0% (95% CI: 0, 8) in the placebo arm, though this difference was not statistically significant. The median OS in the ripretinib arm was 15.1 months (95% CI: 12.3, 15.1) compared with 6.6 months (95% CI: 4.1, 11.6) in the placebo arm with a HR of 0.36 (95% CI: 0.21, 0.62), though OS was not evaluated for statistical significance as a result of the sequential testing procedure for the secondary endpoints (i.e., PFS, then ORR, then OS).

Tecentriq receives FDA approval as first-line monotherapy in NSCLC indication

FDA has approved Tecentriq (atezolizumab) as a first-line (initial) treatment for adults with metastatic non-small cell lung cancer whose tumors have high PD-L1 expression (PD-L1 stained ≥ 50% of tumor cells [TC ≥ 50%] or PD-L1 stained tumor-infiltrating [IC] covering ≥ 10% of the tumor area [IC ≥ 10%]), as determined by an FDA-approved test, with no EGFR or ALK genomic tumor aberrations.

Tecentriq is sponsored by Genentech.

"We are pleased to offer people with certain types of lung cancer a new chemotherapy-free option that can help prolong their lives and be administered on a flexible dosing schedule, including an option for once-a-month Tecentriq infusions," Levi Garraway, chief medical officer and head of Global Product Development, said in a statement.

This approval is based on an interim analysis from the phase III IMpower110 study, which showed Tecentriq monotherapy improved overall survival by 7.1 months compared with chemotherapy (median OS=20.2 versus 13.1 months; hazard ratio [HR]=0.59, 95% CI: 0.40–0.89; p=0.0106) in people with high PD-L1 expression (TC3/IC3-wild-type [WT]). Safety for Tecentriq appeared to be consistent with its known safety profile, and no new safety signals were identified. Grade 3-4 treatment-related adverse events were reported in 12.9% of people receiving Tecentriq compared with 44.1% of people receiving chemotherapy.

Tecentriq is the first and only single-agent cancer immunotherapy with three dosing options, allowing administration every two, three or four weeks. The supplemental Biologics License Application for the Tecentriq monotherapy was granted Priority Review.

In the U.S., Tecentriq has received four approvals across NSCLC, including as a single agent or in combination with targeted therapies and/or chemotherapies. It is also approved in combination

with carboplatin and etoposide (chemotherapy) for the first-line treatment of adults with extensive-stage small cell lung cancer.

Olaparib receives FDA approval for HRR gene-mutated metastatic castration-resistant prostate cancer

FDA has approved olaparib (Lynparza) for adult patients with deleterious or suspected deleterious germline or somatic homologous recombination repair gene-mutated metastatic castration-resistant prostate cancer, who have progressed following prior treatment with enzalutamide or abiraterone.

Lynparza is sponsored by AstraZeneca Pharmaceuticals LP.

FDA has also approved FoundationOne CDx (sponsored by Foundation Medicine Inc.) for selection of patients with mCRPC carrying HRR gene alterations and BRACAnalysis CDx test (sponsored by Myriad Genetic Laboratories Inc.) for selection of patients with mCRPC carrying germline BRCA1/2 alterations as companion diagnostic devices for treatment with olaparib.

Efficacy was investigated in PROfound (NCT02987543), an open-label, multicenter trial randomizing (2:1) 256 patients to olaparib 300 mg twice daily and 131 patients to investigator's choice of enzalutamide or abiraterone acetate. All patients received a GnRH analog or had prior bilateral orchiectomy.

Patients were divided into two cohorts based on their HRR gene mutation status. Patients with mutations in either BRCA1, BRCA2, or ATM were randomized in Cohort A (N=245); patients with mutations among 12 other genes involved in the HRR pathway were randomized in Cohort B (N=142); those with co-mutations (Cohort A gene and a Cohort B gene) were assigned to Cohort A.

The major efficacy outcome of the trial was radiological progression-free survival (Cohort A). Additional efficacy outcomes included confirmed objective response rate (ORR) (Cohort A) in patients with measurable disease, rPFS (combined Cohorts A+B), and overall survival (Cohort A).

A statistically significant improvement was demonstrated for olaparib compared to investigator's choice in Cohort A for rPFS with a median of 7.4 months vs 3.6 months (HR 0.34; 95% CI: 0.25, 0.47; p<0.0001), for OS with a median of 19.1 months vs. 14.7 months (HR 0.69; 95% CI: 0.50, 0.97, p=0.0175) and for ORR 33% vs 2% (p<0.0001). A statistically significant improvement for olaparib compared to investigator's choice was also demonstrated for rPFS in Cohort A+B, with a median of 5.8 months vs. 3.5 months (HR 0.49; 95% CI: 0.38, 0.63; p<0.0001).

BRACAnalysis CDx receives approval as companion diagnostic for Lynparza in mCRPC indication

FDA has approved the BRACAnalysis CDx test for use as a companion diagnostic to identify men with metastatic castration-resistant prostate cancer who are eligible for treatment with Lynparza (olaparib).

Lynparza is approved for the treatment of adult patients with deleterious or suspected deleterious germline or

somatic homologous recombination repair gene-mutated metastatic castration-resistant prostate cancer who have progressed following prior treatment with enzalutamide or abiraterone. Lynparza is a novel PARP inhibitor jointly developed and commercialized by AstraZeneca, and Merck outside of the U.S. and Canada.

"This approval is our seventh regulatory approval for BRACAnalysis CDx in support of Lynparza and further demonstrates our commitment to improve the lives of patients with cancer,"Nicole Lambert, president Myriad Oncology and Women's Health, said in a statement.

BRACAnalysis CDx is the only FDA-approved germline test to identify men with BRCA1 and BRCA2 mutations, a subpopulation of HRR gene mutations. In the PROfound trial, patients with metastatic castration-resistant prostate cancer who have HRR gene mutations had a statistically-significant and clinically meaningful improvement of radiographic progression-free survival when treated with Lynparza versus abiraterone acetate or enzalutamide.

"Studies have demonstrated that PARP inhibitors are highly effective in men with BRCA1/BRCA2 mutations, in addition to other mutations in HRR pathways. Once we identify who these men are, they will have more options for treatment," Todd Cohen,board-certified urologist and vice president of Medical Affairs for Myriad Urology, said in a statement. "NCCN guidelines recommend that men with metastatic castration-resistant prostate cancer undergo genetic testing alongside an assessment of HRR gene mutations in the tumor."

The collaboration between Myriad and AstraZeneca began in 2007 and has resulted in eight regulatory approvals for BRACAnalysis CDx and myChoice CDx.

Karyopharm submits sNDA for Xpovio as treatment for multiple myeloma after at least one prior line of therapy

Karyopharm Therapeutics Inc. has submitted a supplemental New Drug Application to FDA, seeking approval for Xpovio (selinexor), its first-in-class, oral selective inhibitor of nuclear export compound, as a new treatment for patients with previously treated multiple myeloma.

"Earlier this year, we reported positive top-line results from the pivotal phase III BOSTON study evaluating the combination of Xpovio (selinexor), once-weekly Velcade (bortezomib) and low-dose dexamethasone as a second line treatment for patients with relapsed or refractory multiple myeloma," Sharon Shacham, founder, president and chief scientific officer of Karyopharm, said in a statement.

The full study results, which were included in the sNDA, will be presented May 29 during the 2020 American Society of Clinical Oncology virtual scientific program. In the BOSTON study, the SVd arm demonstrated a statistically significant reduction in the risk of disease progression or death, along with a 47% increase in median progression-free survival, as well as a significantly higher overall response rate, as compared to the standard Velcade and dexamethasone regimen.

Karyopharm also plans to submit a Marketing Authorization Application to the European Medicines Agency requesting approval for Xpovio in this same indication later this year. The abstract for the phase III BOSTON clinical data to be presented at the 2020 ASCO annual meeting and can be found here.