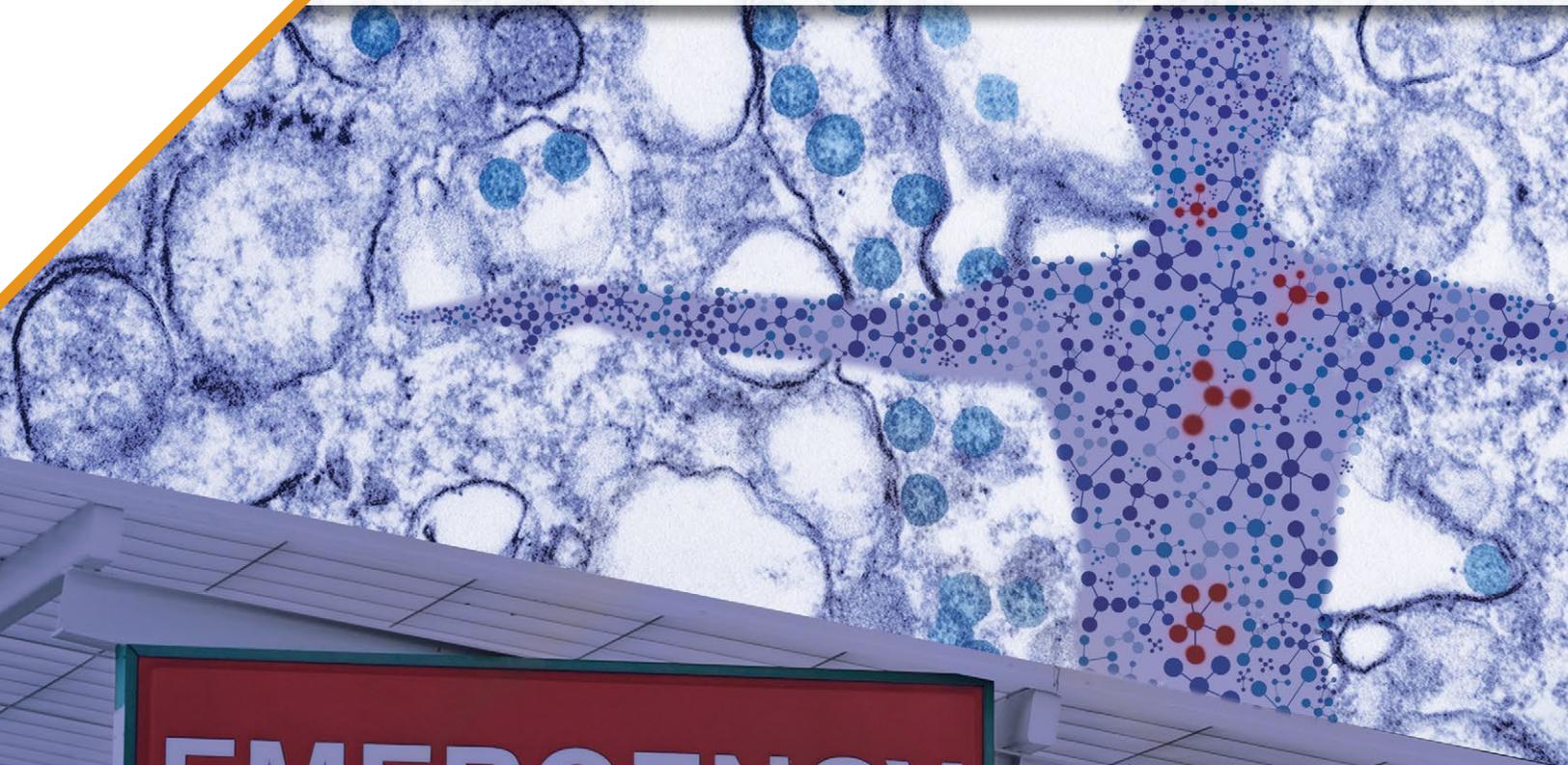


# The COVID-19 Chronicles:

Real-World Perspectives on Cancer Care,  
Emergency Medicine and Healthcare Disparities

This transcript has been edited for style and clarity and includes all slides from the presentation.



**EMERGENCY**

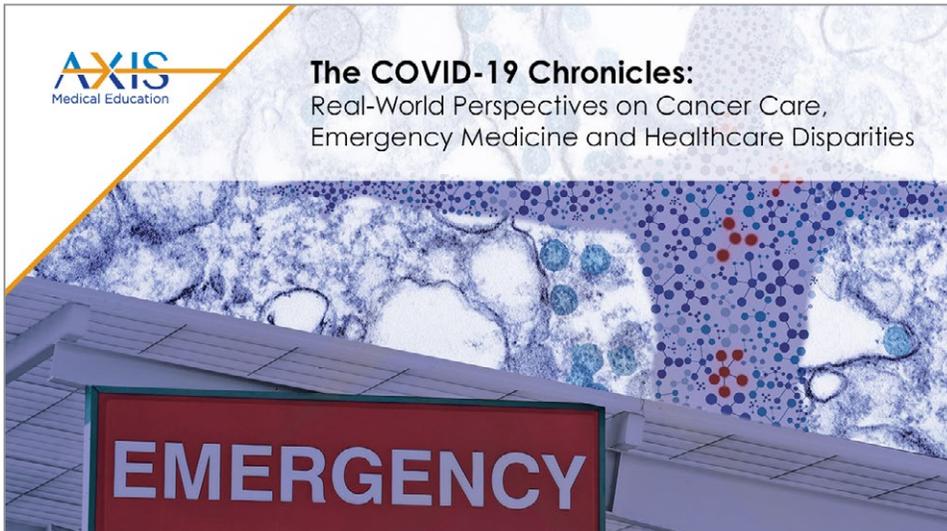
A photograph of a hospital building entrance. The main focus is a large, red, rectangular sign with the word "EMERGENCY" in white, bold, capital letters. Below the main sign is a smaller, white sign with the text "CLEARANCE 12'". The building has a modern, multi-story appearance with large windows and a white facade. The sky is overcast.

CLEARANCE 12'

This activity is provided by

# The COVID-19 Chronicles: Real-World Perspectives on Cancer Care, Emergency Medicine and Healthcare Disparities

Pelin Cinar, MD, MS and Malika Fair, MD, MPH, FACEP



- ▶ **Robert Mocharnuk, MD:**  
Hello, and welcome to this educational activity, *The COVID-19 Chronicles: Real-World Perspectives on Cancer Care, Emergency Medicine, and Healthcare Disparities*.

## Introduction

### FACULTY PANEL

#### **Pelin Cinar, MD, MS**

Medical Director of Quality & Safety  
University of California, San Francisco  
Helen Diller Family Comprehensive Cancer Center  
San Francisco, California

#### **Malika Fair, MD, MPH, FACEP**

Senior Director for Health Equity Partnerships and Programs  
Association of American Medical Colleges (AAMC)  
Associate Clinical Professor of Emergency Medicine  
George Washington University School of Medicine and Health Sciences  
Washington, DC

### MODERATOR

#### **Robert Mocharnuk, MD**

Emeritus Professor of Clinical Medicine



- ▶ I am Dr. Robert Mocharnuk, Professor of Clinical Medicine at Southern Illinois University. I am joined today by Dr. Pelin Cinar, Medical Director of Quality & Safety at the University of California and Helen Diller Family Comprehensive Cancer Center in San Francisco, California; and Dr. Malika Fair, Senior Director for Health Equity Partnerships and Programs at the Association of American Medical Colleges and Associate Clinical Professor of Emergency Medicine at George Washington University School of Medicine and Health Sciences Center in Washington, DC.



## DISCLAIMER

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this activity is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested in this activity should not be used by clinicians without evaluation of their patients' conditions and possible contraindications or dangers in use, review of any applicable manufacturer's product information, and comparison with recommendations of other authorities.

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▶ Here is a disclaimer and disclosure indicating that we may be discussing off-label usages of approved agents or agents that are in development.

## Disclosure of Conflicts of Interest

- Pelin Cinar, MD, MS, has no real or apparent conflicts of interest to report.
- Malika Fair, MD, MPH, FACEP, has no real or apparent conflicts of interest to report.
- Robert Mocharnuk, MD, reported a financial interest/relationship or affiliation in the form of *Common stock*: Merck.

▶ Here is our financial disclosure.



## Learning Objectives

**Upon completion of this activity, participants should be better able to:**

- Explain how to ensure the protection of health care workers providing care for patients with cancer and others at high risk of COVID-19
- Provide optimal care for cancer patients and others at high risk of COVID-19 based on evolving data and recommendations
- Recognize and address racial disparities and inequities in health care delivery that may be exacerbated by the COVID-19 pandemic

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▶ And here are the learning objectives for this activity. Today, Dr. Cinar and Dr. Fair will discuss, evaluate, and provide their interprofessional perspectives on cancer care, emergency medicine, and healthcare disparities as these clinical areas are affected by COVID-19.

AXIS

## Protecting Cancer Patients and Others at High Risk of COVID-19

▶ Let's start by discussing how we can protect cancer patients and others at high risk for COVID-19. Dr. Cinar, can you tell us briefly why cancer patients are at higher risk for COVID-19?

# Incidence of COVID-19 in Patients with Cancer

Higher incidence of COVID-19 has been reported in patients with cancer

Yu et al <sup>1</sup>	<ul style="list-style-type: none"><li>• 1,524 patients with cancer admitted between Dec 2019-Feb 2020</li><li>• 0.79% were diagnosed with COVID-19 (cumulative incidence in community 0.37%)</li></ul>
Liang et al <sup>2</sup>	<ul style="list-style-type: none"><li>• Incidence of 1% compared with 0.29% in the general population</li></ul>
Rogado et al <sup>3</sup>	<ul style="list-style-type: none"><li>• Incidence of 4.2% compared to 0.63% in the community</li></ul>
Richardson et al <sup>4</sup>	<ul style="list-style-type: none"><li>• Higher prevalence of cancer in those with COVID-19 has been reported from NYC</li><li>• 6% of 5,700 hospitalized patients with COVID-19 had cancer</li></ul>
Grasselli et al <sup>5</sup>	<ul style="list-style-type: none"><li>• In Italy, 8% of the 1,591 patients admitted to the ICU with COVID-19 had histories of cancer (active and in remission)</li></ul>

PE, pulmonary embolism.

1. Yu J, et al. JAMA Oncol. 2020;6:1108-1110; 2. Liang W, et al. Lancet Oncol. 2020;21:335-337; 3. Rogado J, et al. Clin Transl Oncol. 2020;1-5; 4. Richardson S, et al. JAMA. 2020;323:2052-2059; 5. Grasselli G, et al. JAMA. 2020;323(16):1574-1581.

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► **Pelin Cinar, MD, MS:** Thank you, Dr. Mocharnuk. I'm happy to talk about the high-risk patient population for patients with cancer and COVID-19. From the data available to us at this point, we've seen a higher incidence of COVID-19 in patients with cancer. There's certainly geographic variation in the incidence of COVID-19 in patients with cancer. And we've seen 2 reports from China that have shown that compared to the general population, the incidence in the community there has a higher rate in patients with cancer.

So when Yu et al looked at their cancer patients admitted to their hospital between December 2019 and February 2020, there were about 0.8% who were diagnosed with COVID-19 compared to 0.37% in the community. Similarly, in the general population in another region of China, they've seen 0.3% in the general population compared to the cancer patients who had an incidence of 1.0%.

When we look at Madrid, Spain, their community rates were relatively similar at 0.63; however, the incidence

in patients with cancer was much higher at 4.2%. And this was similar to the New York experience where there was a higher prevalence of cancer in those patients with COVID-19 who were hospitalized. That was about 6%. In Italy, 8% of the patients who were admitted to the ICU with COVID-19 had histories of cancer. And clearly, some of these cancers were active while other patients had their cancer in remission. So certainly, different rates of incidence but nevertheless a higher incidence.

## Which Cancer Patients Are at Risk?

Patients who are older, obese, with medical co-morbidities and who have been diagnosed with heme malignancies, lung cancer, and metastatic disease are at higher risk

Passamonti, et al <sup>1</sup>	<ul style="list-style-type: none"><li>• Mortality rates higher (37%) among 536 symptomatic patients with hematologic malignancies and positive PCR for COVID-19 (Feb 25 to May 18, 2020)</li><li>• Compared with general Italian population with COVID-19, standardized mortality ratio was 2.04 (95% CI 1.77–2.34)</li></ul>
Malard, et al <sup>2</sup>	<ul style="list-style-type: none"><li>• 25 patients with hematologic malignancies (mostly multiple myeloma)</li><li>• Patients with hematologic malignancies appear to be a population very vulnerable to COVID-19 infection; very high mortality (~40% at 1 month)</li></ul>
Van Doesum, et al <sup>3</sup>	<ul style="list-style-type: none"><li>• Among 59 patients with hematologic malignancies, 34% died due to COVID-19</li><li>• Mortality rates:<ul style="list-style-type: none"><li>• Patients &gt;60 years of age, 45%</li><li>• Patients ≤60 years of age, 11%</li></ul></li><li>• No difference in survival between lymphoid and myeloid malignancies</li></ul>

1. Passamonti F, et al. *Lancet Haematol.* 2020;7:e737–745; 2. Malard F, et al. *Bone Marrow Transplant.* 2020;1–5; 3. van Doesum J, et al. *Leukemia.* 2020;34:2536–2538.

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▶ Patients who are older, who have multiple comorbidities, including obesity, diabetes, hypertension, perhaps smoking history, and who have been diagnosed with hematologic malignancies, lung cancer, and metastatic disease appear to be at higher risk for COVID-19. And this comes from several different groups that have reported it. Passamonti reported that mortality rates were higher for patients with hematologic malignancies who were tested positive for COVID-19 and who were symptomatic from their

disease. The standard mortality ratio was about 2 in the Italian population.

Similarly, in the Malard study, they have a smaller sample size of 25 patients, but they specifically looked at hematologic malignancies. Most patients had multiple myeloma. And these patients also appeared to have a higher mortality rate at about 40% at 1 month. And that seems to be around the range of the mortality rate.

Similarly, in a retrospective case study that involved

hospitals from Italy, Spain, and the Netherlands, Van Doesum reported that of approximately 59 patients with hematologic malignancies 34% of them died due to COVID-19. And the mortality rates were different for the different age populations in this particular group. For patients who were older than 60 years of age, mortality was 45% but much lower, at 11% for those who were younger than 60 years of age. They didn't appear to see any survival difference between lymphoid and myeloid malignancies.

► **Mocharnuk:** Some patients with COVID-19 will develop severe respiratory symptoms or COVID-19 association coagulopathy. Are patients with certain types of cancers, such as lung cancer or hematologic malignancies, more vulnerable to these virus-related complications?

## Factors Associated With COVID-19 Severity

► **Cinar:** These are data from Memorial Sloan Kettering in New York, and they observed higher frequencies of hospitalizations and severe respiratory illness in patients who had cancer, specifically hematologic malignancies seemed to have a higher risk of developing COVID-19 and having severe disease from it. Interestingly, systemic chemotherapy, given within 30 days, was not significant; however, those patients who were treated with immune checkpoint inhibitors appear to have severe illness secondary to their COVID-19. Patients with lung cancer, once again, appeared to have a higher risk, and it appeared to be even higher if those patients received immunotherapy or immune checkpoint inhibitors.

Variable	Univariate		Multivariate	
	OR (95% CI)	P	OR (95% CI)	P
<b>Predictors of hospitalization, by logistic regression (n=411)</b>				
Age (>65 y)	1.81 (1.20-2.71)	.004	1.53 (0.96-2.43)	.072
Sex (female)	0.89 (0.60-1.32)	.575		
Race (non-white)	1.36 (0.91-2.04)	.135	1.62 (1.05-2.51)	.029
BMI (≥30 kg/m <sup>2</sup> )	0.89 (0.58-1.36)	.585		
Smoking (current/former)	1.60 (1.07-2.40)	.022	1.37(0.88-2.13)	.169
Asthma/COPD	1.39 (0.81-2.37)	.226	1.07 (0.59-1.92)	.828
Cancer (non-metastatic solid)	1.00 (Ref)	-	1.00 (Ref)	
Cancer (metastatic solid)	0.89 (0.53-1.50)	.647	0.76 (0.43-1.34)	.338
Cancer (hematologic)	2.24 (1.25-4.06)	.007	2.49 (1.35-4.67)	.003
Major surgery (within 30 days)	1.24 (0.53-2.84)	.612		
Diabetes	1.20 (0.73-1.96)	.467		
Cardiac disorder	1.86 (1.13-3.07)	.015	1.35 (0.7-2.36)	.297
HTN/chronic kidney disease	1.84 (1.24-2.75)	.003	1.51 (0.96-2.39)	.077
Systemic chemotherapy (within 30 days)	1.04 (0.70-1.54)	.845		
Chronic lymphopenia or corticosteroids	1.86 (1.11-3.15)	.019	1.85 (1.06-3.24)	.030
ICI	2.53 (1.18-5.67)	.017	2.84 (1.24-6.72)	.013

Cancer	Endpoint	Non-ICI/total n (%)	ICI/total n (%)
Lung cancer	Hospitalization	12/23 (52)	10/12 (83)
	Severe respiratory illness	8/23 (35)	7/12 (58)
Other solid cancers	Hospitalization	82/216 (38)	8/17 (47)
	Severe respiratory illness	34/221 (15)	5/19 (26)

BMI, body mass index; COPD, chronic obstructive pulmonary disease; HTN, hypertension; ICI, immune checkpoint inhibitor. Adapted from Robitelli EV, et al. *Nat Med*. 2020;26:1218-1223.

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## COVID-19 and Cancer: Additional Considerations

- TERA-VOLT<sup>1</sup> study in lung cancer patients with COVID-19
  - High mortality but low admission rates to intensive care units in patients with thoracic cancer
    - 88% met criteria for ICU admission but only 9% were actually admitted
  - Type of systemic therapy, including TKIs, chemotherapy, and immunotherapy, did not affect survival in patients with COVID-19
- Multiple meta-analyses have also shown a worse clinical outcome among patients with cancer who have COVID-19<sup>2-4</sup>
- To decrease the risk of complications due to neutropenia, anemia and thrombocytopenia, NCCN<sup>®</sup> developed consensus guidelines on the use of granulocyte colony-stimulating factors, erythropoiesis-stimulating agents and thrombopoietic mimetics<sup>5</sup>

TKI, tyrosine kinase inhibitors.

1. Garassino et al. *Lancet Oncol.* 2020;21:914-922; 2. Giannakoulis et al. *JCO Glob Oncol.* 2020;6:799-808; 3. Desai et al. *JCO Glob Oncol.* 2020;6:557-559; 4. Venkatesulu et al. *medRxiv.* 2020;2020.05.27.20115303; 5. Griffiths et al. *JNCCN* 2020.

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▶ The TERA-VOLT study is a lung cancer-specific registry study that's international—it's a cohort study—and it showed that there was high mortality in this patient population. But interestingly, what they noted when they looked at their data was that there was a low admission rate to the intensive care unit in these patients. So while 88% of the patients met criteria for ICU admission, only 9% of them were actually admitted. At this point, there isn't a real clear explanation of why that may have happened.

And what they also noted was that the type of systemic therapy—whether tyrosine kinase inhibitors, chemotherapy, or immunotherapy—were administered to these patients and their survival was not affected by that. There were multiple meta-analyses that have also shown worse clinical outcomes in these patients with cancer who developed COVID-19.

For these reasons, to decrease the risk of complications, the NCCN has developed

consensus guidelines to address bone marrow suppression, specifically neutropenia with the use of granulocyte colony-stimulating factors. For anemia and thrombocytopenia, the use of erythropoiesis-stimulating agents and thrombopoietic mimetics with, perhaps, a lower threshold than we would have done prior to the pandemic. ASCO has also provided guidelines, for the practicing clinicians, to decrease this risk that we are now seeing.

- ▶ **Mocharnuk:** And what precautions have been put in place to reduce risk and preserve caregiver safety?

## Patient and Healthcare Worker Safety During Early Phases of the Pandemic

<p><b>Patient Safety</b></p> <ul style="list-style-type: none"> <li>○ Prescreen &amp; screen for COVID-19 symptoms &amp; exposure history via telephone calls or digital platforms</li> <li>○ Develop screening clinics to allow for patients with symptoms to be evaluated and tested in a dedicated unit with dedicated staff</li> <li>○ Convert in-person visits to telemedicine visits when possible</li> <li>○ Institute limited or no visitor policy</li> <li>○ Limit surgeries &amp; procedures to only essential, urgent, or emergent cases</li> <li>○ Consider alternative dosing schedule to allow for fewer in-person visits to the cancer center and/or the infusion center</li> <li>○ Switch therapy to oral oncology if equivalent formulation of infusional therapy is available</li> <li>○ Transition outpatient care to care at home whenever possible (pump disconnection, administration of growth factors, hormone tx)</li> <li>○ Increase interval between scans or use biochemical markers in lieu of scans</li> <li>○ Provide resources for wellness &amp; stress management for patients</li> </ul>	<p><b>Healthcare Worker Safety</b></p> <ul style="list-style-type: none"> <li>○ Assure appropriate personal protective equipment (PPE) per guidelines</li> <li>○ Create a centralized resource or website to communicate recommendations to healthcare workers as guidelines around PPE &amp; workflow changes</li> <li>○ Implement daily screening tools and/or temperature checks</li> <li>○ Telecommute when possible, with limited onsite staff participating in rotations on a daily basis</li> <li>○ Establish clear stay-at-home &amp; return-to-work guidelines</li> <li>○ Provide resources for wellness &amp; stress management for healthcare workers</li> </ul>
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Cinar et al. J Natl Compr Canc Netw. 2020;1-6. doi:10.6004/jncn.2020.7572

▶ **Cinar:** In an effort to provide safety for our patients and healthcare workers, early phases of the pandemic involve multiple different protocols to be able to provide a continued high quality of care but doing it in a safe manner. A lot of institutions implemented prescreening and screening for COVID-19 symptoms and exposure history. Some of this was done via telephone visits prior to the visit to the cancer center—some were paper formats—but most institutions also developed digital platforms to be able to do this.

Those patients who had symptoms that were concerning were evaluated and treated in designated areas with designated and dedicated units and staff members to be able to decrease the exposure risk to those patients with cancer and also other staff members. And as we all know telehealth and telemedicine became a big part of how we continue to care for our patients. There were a lot of no visitor versus limited visitor policies, once again, to reduce the risk of exposure in the healthcare setting.

Very early on, the elective surgeries were limited, in addition to some of the procedures, and we'll talk a little bit about why that became very important for the cancer center population. Ultimately, after about 1 or 2 months, where there wasn't high incidence of cases, surgeries started revving back up again. In medical oncology specifically, we started thinking about and being innovative about how we continue to provide systemic therapy for our patients. Some patients on infusional chemotherapy or systemic therapy were switched to oral agents whenever possible. There were potential considerations for increased interval between cycles, so that they had fewer in-person visits or fewer in-person infusion therapy or visits to the infusion center.

There were some treatments that were done at home. Clearly, we discouraged any infusional chemotherapy to be given at home, but pump disconnection and development of protocols to do that, as well as administering growth factors at home, became

an important part of the care that we delivered. The treatment response was previously monitored by scans as well as biomarkers. During the pandemic, we started increasing the interval between scans, perhaps using biomarkers in lieu of scans a bit more than we did prior to the pandemic.

Similarly for the healthcare workers, there was a big concern early on with personal protective equipment (PPE) and ensuring that there's appropriate PPE for the healthcare workers. There were centralized resources and websites to communicate the ever-changing landscape of recommendations and guidelines that were changing almost on a daily basis. We implemented telecommuting for many of our providers; and of course, for on-site staff, we also implemented rotations and cohorts on a daily basis to reduce the risk of exposure.

There were clear stay-at-home and return-to-work guidelines, which provided guidance to all of our staff. And an important part of the pandemic became addressing mental health with social distancing, physical distancing, social isolation became a real concern for many of our patients, and healthcare workers were faced with burnout. So providing wellness and stress management for not only our patients but also for our colleagues and healthcare workers were really an important part of how we managed the early phases of the pandemic and continue to do so.

# Patient and Healthcare Worker Safety During the Pandemic

Screening / Safety	In-Clinic Practice	In-Clinic Safety	Clinical Trials	Wellness
<ul style="list-style-type: none"> <li>Automated messages and digital tools to pre-screen and screen patients for symptoms and exposure.</li> <li>Screening with temperature checks can be considered at check-in.</li> <li>Workflows should be developed for those who screen positive at the entrance.</li> <li>Adequate and appropriate personal protective equipment (PPE) is essential.</li> <li>PPE guidelines for each procedure can be developed.</li> <li>Universal masking should be required in all clinical areas by employees, patients and visitors.</li> </ul>	<ul style="list-style-type: none"> <li>Continued telemedicine visits via video or telephone calls if appropriate.</li> <li>Optimization of provider templates to allow for blocked times for video visits versus in-clinic visits. This will allow for better resource utilization (room and support staff availability) and decreasing risk of overcrowding in clinic and work-rooms. It will also allow for decreased risk of exposure for the patients.</li> <li>Dashboards to follow patient volumes in clinic and in infusion centers.</li> </ul>	<ul style="list-style-type: none"> <li>"No visitor" or "limited visitor" policy.</li> <li>Interventions for safe physical distancing: floor and chair signs that mark a distance of 6-feet; Plexiglass screens between patients and staff.</li> <li>Remote registration, check-in and check-out via telehealth.</li> <li>Well-defined return-to-work guidelines.</li> <li>Testing strategies for asymptomatic patients and employees should be determined by the local prevalence of COVID-19 and available testing capacity.</li> </ul>	<ul style="list-style-type: none"> <li>Increased volume of open trials and rates of accrual in alignment with clinical recovery efforts.</li> <li>Continued remote visits whenever possible.</li> <li>Continued remote documentation, consenting and e-signatures as indicated.</li> <li>Training of clinical research coordinators in safety practices.</li> <li>Remote monitoring by study monitors.</li> </ul>	<p><b>Patients</b></p> <ul style="list-style-type: none"> <li>Cancer support groups</li> <li>Social work, psycho-oncology and spiritual resources.</li> </ul> <p><b>Healthcare Workers</b></p> <ul style="list-style-type: none"> <li>Counseling sessions and exercise classes</li> <li>Seminars on "compassion fatigue" to mitigate emotional impact of the pandemic in oncology care.</li> <li>Arrangements for childcare for faculty and staff with school-aged children.</li> </ul>

Cinar et al. CA: A Cancer Journal for Clinicians, First published: 30 September 2020, DOI: (10.3322/caac.21644)



► So a lot of the interventions that we implemented early during the pandemic continue to be a part of our clinical practice at this point. But as we started opening back up the cancer centers and welcoming more of our patients, there were additional measures that we had to take. Initially, we were asking for masking for patients with symptoms. But ultimately, universal masking became a part of institutions. Additionally from what we learned in clinic with the use of telehealth, a lot of patients were quite satisfied and very happy with the fact that they didn't have to drive into busy cities, finding parking. And so we are continuing to provide telehealth visits for our patients; once again, to reduce their in-clinic visits, whenever possible, of course, only if this is appropriate for the particular patient population.

There were dashboards that were developed during the pandemic to be able to follow COVID-19-positive patients and the volumes of those patients. And now those dashboards have also evolved to include patient volumes in clinic and in the infusion center in an effort to help us with the recovery efforts. In-clinic safety included floor and chair signs that encouraged physical distancing, and plexiglass screens have been implemented between patients and staff in an effort to protect our healthcare workers and our patients. Remote registration became a really integral part of how we check in and check out our patients, and some of that is done via telehealth and digital platforms.

And clinical trials we all have to recognize really changed during the pandemic. We started implementing

electronic signature, remote documentation, remote visits whenever possible, as well as remote laboratory studies, which hadn't really been allowed in the past. I think that this is really telling us how we can potentially redesign the way that we deliver oncology care and able to allow us to, perhaps, accrue more patients into our clinical trials.

And under wellness, one additional thing we have to recognize is the fact that schools have not opened fully at majority of the states. Children continue to have remote learning at home, and this presents a challenge for a lot of young families who have children at home. And providing childcare became an integral part of how we supported our healthcare workers during this difficult time.

## CDC Recommendations for Discontinuation of Isolation

- Isolation and precautions can generally be discontinued 10 days *after symptom onset* and resolution of fever for at least 24 hours, without the use of fever-reducing medications, and with improvement of other symptoms
- For persons who never develop symptoms, isolation and other precautions can be discontinued 10 days *after the date of their first positive RT-PCR test for SARS-CoV-2 RNA*
- For persons who are severely immunocompromised, a test-based strategy could be considered
- For all others, a test-based strategy is no longer recommended except to discontinue isolation or precautions earlier than would occur under the strategy outlined above

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Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html>

▶ How and when we can safely bring our patients, with COVID, back to our cancer centers is really an important topic that comes up on a daily basis multiple times a day. The CDC changed their guidelines from a test-based strategy to really a time-based strategy. The discontinuation of isolation, at this point, is such that for patients the general population 10 days after symptom onset or PCR-positive if they didn't have symptoms can be done. For cancer patients or immunocompromised patients, that timeline is usually around 20 days. And for severely immunocompromised patient, a test-based strategy can still be considered. For all others, a test-based strategy is really no longer recommended.

## CDC Recommendations for PCR testing Beyond Discontinuation of Isolation

Patients previously <u>diagnosed</u> with symptomatic COVID-19 who remain asymptomatic after recovery	<ul style="list-style-type: none"> <li>• Retesting not recommended <b>within 3 months</b> after date of symptom onset for initial COVID-19 infection</li> </ul>
Patients who develop <u>new symptoms</u> consistent with COVID-19 during the 3 months after date of initial symptom onset	<ul style="list-style-type: none"> <li>• If alternative etiology cannot be identified by provider, may warrant retesting</li> <li>• Isolation may be considered during this evaluation, especially in the event symptoms develop within 14 days after close contact with an infected person</li> </ul>
Patients who <u>never developed symptoms</u>	<ul style="list-style-type: none"> <li>• The date of first positive RT-PCR test for COVID-19 should be used in place of date of symptom onset</li> </ul>

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Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html>

▶ When we think about for patients who already had or were diagnosed with symptomatic COVID-19, those patients actually don't need to be retested if they have any symptoms within 3 months. If patients develop new symptoms and there is an alternative etiology—so for cancer patients, it could be due to treatment-related symptoms, it could be disease progression—that may actually warrant some retesting in this patient population but really can be identified by the provider who knows the patient the best. For persons or for patients who never developed symptoms, the date of first positive PCR is always used when taken into consideration with the discontinuation recommendations.

▶ **Mocharnuk:** Thank you, Dr. Cinar. Dr. Fair, from an emergency medical provider's perspective, can you summarize what patients are at higher risk for contracting COVID and why?

# Patient Populations at High Risk of COVID-19 in the Emergency Department

## Emergency departments are the safety nets for our healthcare system

- Every patient population passes through the emergency department doors
- However, there are populations of special concern during the COVID-19 pandemic
  - Older patients
  - Patients with chronic medical conditions
  - Patients in community congregate settings
- Emergency departments tend to see more marginalized and minority community members, who are at high risk of contracting and dying from COVID-19



► **Malika Fair, MD, MPH, FACEP:**

We have the pleasure of working in an emergency department where we can see any patient that walks through our doors. But there are definitely populations that we are really concerned about, and Dr. Cinar touched on those as well—those who are older and those with chronic medical conditions.

And we'll also have to consider social factors—so those who are experiencing homelessness, who are working in areas that they have extreme contact with individuals or a lot of contact with individuals, as well as those who live in congregated settings, such as those who are in prisons, those who are in detaining facilities, and who live in multigenerational

homes. One thing that we have noticed in this pandemic—and this is what we see across a variety of diseases, illnesses, and injuries—is health inequities and, in particular, in the marginalized racial and ethnic groups we have seen an increase in COVID-19, and that has brought national attention as well as attention in our medical community.

## Racial Disparities and Inequities in Healthcare Delivery During the COVID-19 Pandemic

► **Mocharnuk:** Now, let's discuss racial disparities and inequities in healthcare delivery during the COVID-19 pandemic and how we can address them.

### Racial Disparities and Inequities During the COVID-19 Pandemic

#### COVID-related infection and mortality rates are higher in Black, Hispanic, and Native American populations

- Blacks and Hispanics are 3 times more likely to get infected and 2 times more likely to die
- Black and Hispanic populations have higher rates of underlying comorbid medical conditions
- Why?
  - Increased exposure
  - Increased susceptibility
  - Decreased access to care

► **Fair:** According to recent CDC data, we noticed that black, Hispanic, and Native American populations have extreme increased risk of susceptibility and of exposure to the virus—they are up to 3 times more likely to contract the virus, and up to 5 times more likely to be hospitalized. And black and Native American populations are up to 2 times more likely to die of COVID-19—this is extremely concerning. At the beginning of the pandemic, there was a lot of conversation around why these disparities exist. And even though we see this across a variety of illnesses, it begged the question why now, and what can we do about it?

### Increased Exposure

- Black and Hispanic populations are overrepresented in service-related jobs which have increased their exposure to the virus<sup>1</sup>
- Black and Latinx populations tend to live in multigenerational homes or are overrepresented in congregate settings: homeless, detained, and incarcerated<sup>2,3</sup>

There are 3 main areas that cause these disparities, and that would be increased exposure to the virus, increased susceptibility, and decreased access to care.

So if we start with increased exposure, we know that according to the US Bureau of Labor and Statistics, that black and Hispanic populations are overrepresented in service-

1. U.S. Bureau of Labor Statistics, 2019.  
 2. Pew Research Center, 2018. <https://www.pewresearch.org/fact-tank/2018/04/05/a-record-64-million-americans-live-in-multigenerational-households/>  
 3. Chicago Urban League, 2020. [https://chiul.org/wp-content/uploads/2020/05/ChicagoUrbanLeague\\_An-Epidemic-of-Inequities\\_5-12-20.pdf](https://chiul.org/wp-content/uploads/2020/05/ChicagoUrbanLeague_An-Epidemic-of-Inequities_5-12-20.pdf)

related jobs in grocery stores and transportation—those that have increased exposure to face-to-face contact. At the beginning of the pandemic, there was a huge emphasis on PPE for the medical community but not for individuals who were in

service-related industries.

We also see, in terms of social determinants of health, that housing plays a major factor. Those who are experiencing homelessness or living in homes that increase their risk for the disease. Also, black and Hispanic populations

and Native Americans are overrepresented in populations that have congregate settings—to those experiencing homelessness and congregate facilities such as in prisons or jails, and also in detaining facilities.

## Increased Susceptibility

The presence of underlying and comorbid conditions is influenced by:

- Social determinants of health (SDOH): housing, environment, income, etc<sup>1</sup>
- Lack of positive health behaviors (nutritious diet, exercise, smoking etc)
  - Impact of SDOH makes it difficult to practice healthy behaviors (eg, living in a food desert, avoiding exercise out of fear that you will become a victim of violence, being exposed to 10x more tobacco ads in Black neighborhoods, living in areas with high concentrations of liquor stores)
- Perceived racism can lead to conditions such as diabetes, heart disease, and hypertension
- Even if we control for chronic conditions, income, obesity etc. there will still be inequities in COVID-19 rates and outcomes<sup>2</sup>

1. Wu et al. medRxiv. 2020;2020.04.05.20054502.  
2. Knittel and Ozaltun. medRxiv. 2020;2020.06.09.20126805.



▶ Now we have to also think about the next risk, which is increased susceptibility. Again, the conversation stopped at chronic medical conditions, and oftentimes that included a conversation on healthy behaviors. But if you think a little bit more about why people are experiencing these chronic diseases—such as diabetes, hypertension, obesity—then it allows us to explore some of the social reasons for this. Those social reasons include, as I mentioned, the social determinants of health. If you ask your patients to eat healthy—which is, of course, a recommendation that

would reduce your risk for hypertension, reduce your risk for diabetes—we know that blacks are more than twice as likely to live in an area that is a food desert. If you ask your patients to exercise, which also would reduce your risk of diabetes, hypertension, and obesity, we know that for black men, they're unlikely to exercise in neighborhoods that have a higher number of white people or that is less diverse because of fear that they are going to be seen as a criminal. For black women who are exercising, they're more likely to exercise in white neighborhoods because of fear of safety in predominantly

black neighborhoods. We ask our patients to stop smoking, and Dr. Cinar mentioned that that's also a risk factor for the disease. But what we see is that there are 2 times more tobacco ads in black communities than there are in white communities. For housing, we can also think about the neighborhood and the environment. And we know that there is a 15% increase in mortality for those experiencing COVID-19 because of the air quality, because of air pollution. So another explanation for these health disparities.

**Food desert:** geographic areas where residents' access to affordable, healthy food options (especially fresh fruits and vegetables) is restricted or nonexistent due to the absence of grocery stores within convenient traveling distance.

## Decreased Access to Care

- The states that have the highest rates of Black residents are the states that did not expand Medicaid
  - This is devastating for Black patients who contract COVID-19
- Black patients are less likely to be tested for COVID-19 if they present with a fever and cough than their white counterparts<sup>1</sup>

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1. Rubix Life Sciences. March 2020. <https://rubixis.com/wp-content/uploads/2020/04/COVID-19-Minority-Health-Access-6.pdf>

▶ And then finally, let's think about what our role is in the healthcare system, and the third area is decreased access to care. Unfortunately, in this pandemic, we noticed that those who were experiencing some of the worse outcomes in this disease had the least access to care. And states across the nation that had higher number of black residents are some of the same states that did expand access to Medicaid. Also, there are

several individuals that lost their jobs during the pandemic, which removed their access to employer-based health insurance, and Cobra is typically extremely expensive.

And finally, when our patients came to our door, they also experienced healthcare inequities. A study in the northeast looked at 7 states and looked at claims data for black patients that presented with fever and cough and noted that they were less

likely to receive a referral for COVID-19 tests. So what I've described here is a complex answer to why we see these health inequities—there is no easy solution. But it's extremely important that we not stop at the answer of chronic medical conditions but ask ourselves what are the underlying causes, how can we, as physicians, explore how are we contributing to some of these differences, as well as what we need to do to address this in society.

## Impact on Individuals, Institutions, and Society

- Moment of crisis for marginalized and minority communities and the institutions that serve them
- The Church of God in Christ (largest Black Pentecostal denomination in United States): up to 30 bishops and prominent clergy died of COVID-19 in a matter of months<sup>1</sup>

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1. Boorstein M. Washington Post. April 19, 2020

- ▶ **Mocharnuk:** What examples of disparities and inequities in healthcare delivery during the COVID-19 pandemic have come to light based on your experience?
- ▶ **Fair:** Personally, this has impacted my own community. I was raised in a church, in Michigan, in a predominantly black denomination. In the spring, we lost 30 of our bishops in a matter of a few months, including those in my family. This is not an unusual story—we saw stories like this all across the country. And we have a responsibility to do something about it.

## Healthcare System: What Needs to Change?

- Apply an **equity lens** to work we do in the healthcare system
  - Acknowledge healthcare disparities exist, even in the care that we provide
  - Detect them and develop strategies to mitigate bias and reduce inequities
- Expand access to care
  - Continue to expand Medicaid
  - Support continuation of health coverage (COBRA)
- Better community engagement
  - Need to address long-standing mistrust of the medical community by Black people due to unconscionable racist actions by physicians and researchers (eg, Tuskegee, J. Marion Simms, Henrietta Lacks)
  - We need to partner with communities, rebuild trust, and work towards a shared model of achieving optimal health for all

▶ **Mocharnuk:** How has this crisis highlighted the need to repair a broken healthcare system to improve service to the vulnerable patient populations?

▶ **Fair:** We, in the healthcare system, have to apply an equity lens to our work. As I mentioned, we saw these healthcare disparities not only just in our patients, but also in the care that we were providing. It is important that we ask for and produce data to stratify by race and ethnicity, so that we can identify these inequities and make changes related to the care that we are providing, as well as impact the health outcomes of the communities that we are serving.

We also noted extreme disparities in access to care. In addition to the examples that I mentioned, we saw that there was inadequate testing across the nation. In some cities—in Memphis, in particular—we saw that there were testing sites across the city, but in black neighborhoods, they did not have the supplies necessary to continue testing, and they had delayed diagnosis. In Philadelphia, we saw more testing sites in affluent neighborhoods than poor neighborhoods. So we, as a medical system, have to think about making sure that we have equity in access to care both in testing as well as in the care that we are providing.

We also have to advocate for expanded health insurance for patient populations to make sure that although you can come to any emergency department in America at any time of day and we will treat you, it is important that you receive comprehensive care not just in the emergency department but in primary care and cancer care, as my colleague was speaking about, as well as in the office and in our hospitals.

One thing that this pandemic has pointed out is a lack of trust of our communities in the care that we're providing and in extreme emergencies like the one we are experiencing.

## How to Better Engage Communities

- Ongoing and real-time communication or visits with community organizations, leaders, and residents
- Invite community members to serve on our committees and boards in leadership positions
- Hire from the local community
  - Not “us versus them”
  - Instead, the organization and the healthcare system becomes the community

- ▶ **Mocharnuk:** And how can we better engage communities and healthcare resources to reduce disparities in care delivery, coordination, and communication?
- ▶ **Fair:** Well we, as clinicians, need to make sure that we are not talking at our communities, we're talking with our communities. That includes reaching out to local community leaders, and making sure that our institutions have a warm and

welcoming culture and climate. So that when individuals come inside our building, they know that they are receiving the best care possible, and they're being seen as individuals and being valued by their shared decision making. And also, that we don't wait for communities to come to us, but we go to them, and we go in partnership to making sure that we reach their stated health outcomes.

With the history of mistrust and a history of outrageous

acts on behalf of the medical community, it is no surprise that there is tension, to this day, and how that has shown up in the COVID-19 pandemic. And that gives us an opportunity, as a medical community, to build partnerships, to rebuild trust, and to ensure that these inequities do not exist going forward.

## Disparities and Healthcare Inequities

- Minorities are more likely to hold essential jobs that don't allow for the flexibility of working from home<sup>1</sup>
- Minorities are also more likely to work lower-income jobs that provide minimal or no health insurance coverage<sup>1</sup>
  - Uninsured rate as of 2018: 11% for blacks, 18% for Hispanics<sup>2</sup>
- Of 965 patients with COVID-19 reported in ASCO CancerLinQ<sup>3</sup>
  - Black and LatinX patients with cancer had a higher risk of developing COVID-19 (RR: **1.69** and **5.25**, respectively)
  - Although all-cause mortality was not elevated in these patients

1. Balogun et al. *JAMA Oncol.* 2020;10.1001/jamaoncol.2020.3327.  
2. Kaiser Family Foundation estimates, based on the Census Bureau's American Community Survey, 2008-2018.  
3. Potter et al. ASCO Quality Care Symposium 2020.



► **Cinar:** Dr. Fair gave a fantastic overview of the healthcare inequities and the disparities in our population. And, I'm just going to briefly discuss that from the lens of oncology or cancer patients. As Dr. Fair mentioned, minorities are more likely to hold essential jobs that don't allow for flexibility of working from home. They are also more likely to work lower-income jobs that provide minimal or no health insurance coverage.

In 2018, a study showed that 11% of blacks and 18% of Hispanics were uninsured. And then more recently, data from ASCO's CancerLinQ has reported that out of the 965 patients in their registry who have a diagnosis of COVID-19, the black and Hispanic population had a higher risk of developing COVID-19. Although their all-cause mortality wasn't elevated in the population, it's really important to note that there is a problem there that we all need to address.

## Disparities and Healthcare Inequities

- Barriers to using Telehealth include:
  - Inability to access or navigate technology
  - Inadequate internet connection
  - Lower healthcare literacy
- Minorities, individuals with less education, and those in lower socioeconomic classes are less likely to engage in telemedicine activities

Balogun et al. *JAMA Oncol.* 2020;10.1001/jamaoncol.2020.3327.

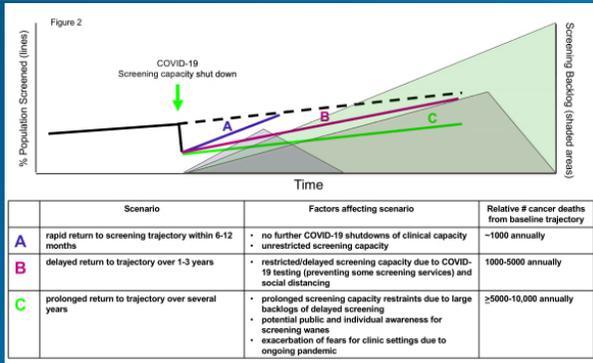


► In addition, when we think about telehealth, earlier we mentioned how wonderful it was to be able to continue to care for our patients remotely, via telehealth, whenever it was possible, but we also have to recognize that there is a certain patient population that we may not have been able to provide that kind of care. Perhaps it's due to inability to access or navigate the technology—they may not have a computer or a cell phone. They may have an inadequate Internet connection, there may be lower healthcare literacy that won't allow for appropriate communication to be done via telephone or a video visit.

And studies have previously shown that minorities or individuals with less education or those who are in lower socioeconomic classes or status are less likely to engage in telemedicine activities. So we certainly have an opportunity for improvement there to be able to provide equitable care.

## Disparities and Healthcare Inequities

“Prolonged delays in cancer screening will increase cancer in the overall population from pre-COVID-19 trajectories, and elevate the cancer disparity in minority populations.”



Adapted from Carethers et al. *Cancer Prev Res (Phila)*. 2020;canprevres.0447.2020.

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▶ Another component of disparities arises from the problem of not being able to do elective surgeries and procedures and specifically for screening for cancer. We know that during the early phases of the pandemic, we actually stopped doing any screening procedures like colonoscopies and Pap smears, etc.

The concern is that this may, at the end, increase cancer in the patient population and, perhaps, more advanced stages of cancer will be recognized. This continues to be a problem because while we are now offering those procedures to our patients, the majority of the patients are afraid to come back into the healthcare system to get these screening studies. This was a really good demonstration that shows 3 different scenarios of how rapidly we can come back to screening and how potential cancer deaths may increase up to 10,000 annually due to the issues with delayed screening.

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## Case Example 1

▶ **Mocharnuk:** Let's discuss some case examples talking about how patients should be treated in light of rapidly emerging evidence and best practice recommendations for COVID-19 while ensuring health equity during treatment planning.

Why don't we start with you, Dr. Cinar, as you discuss an oncology case example?

# Case:

## Patient With Metastatic Breast Adenocarcinoma

### History of Present Illness

- 49-year-old Black female with *BRCA+*, metastatic triple negative breast cancer and history of PE
- Metastatic disease to the internal mammary node, lungs and pleura
- Lost to follow-up between February and July 2020 due to loss of insurance
- Presented in July 2020 with fever (102.7°F) with productive cough, dyspnea, and myalgias
- Similar presentation 1 month prior when CT chest was negative for a PE and COVID-19 PCR was negative. She was discharged with antibiotics for pneumonia.
- No sick contacts, exposures to COVID-19 or recent travel

### Breast Cancer History

- Metastatic Breast Cancer
  - Initially diagnosed in 2013
  - Received paclitaxel, doxorubicin, and cyclophosphamide followed by surgery and adjuvant carboplatin
  - Metastatic disease diagnosed in 2016 when she was found to have an enlarged right internal mammary node, an anterior mediastinal mass, and a left para-aortic node (biopsied and confirmed positive for metastatic disease)
  - 2016- EMBRACA trial: randomized to talazoparib
  - 2017- dinaciclib/pembrolizumab trial
  - 2018- capecitabine
  - 2019- ASCEND trial: randomized to sacituzumab
- Diastolic heart failure diagnosed in 2013
- HTN
- Segmental PE diagnosed in 2017

HTN, hypertension; PE, pulmonary embolism.

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► **Cinar:** Thank you. I'd like to now discuss a patient with a metastatic breast adenocarcinoma. This is a 49-year-old black woman with *BRCA*-positive, metastatic triple-negative breast cancer who also had a history of pulmonary embolism (PE) that was diagnosed in 2017. The patient has advanced disease with metastatic disease to the internal mammary node, lungs, and pleura. And due to loss of insurance during the pandemic, between February and July 2020, the oncology team was not able to follow up on her progress.

She subsequently presented in July 2020 with fever, productive cough, dyspnea, and myalgias. She had presented 1 month prior, at a different institution, when a chest computed tomography (CT) scan was obtained, which was negative for worsening PE, and she was tested for COVID-19, which at that time was negative. She was subsequently discharged with antibiotics for pneumonia. During the current presentation, she didn't have sick contacts or exposure to COVID-19 or any recent travel.

Her breast cancer history was such that she was initially diagnosed in 2013. She received neoadjuvant chemotherapy followed by surgery and then some adjuvant carboplatin. Unfortunately, she was diagnosed with metastatic disease in 2016 and subsequently received multiple lines of therapy, including some clinical trials. She also had hypertension and diastolic heart failure, as well as the segmental PE that I mentioned earlier.

## Case: In the Emergency Department

### Vitals:

- T 100°F, BP 82/51 - 98/71 mmHg, Pulse: 106 -> 81 beats per min (s/p IVF), Respiratory rate: 26 -> 18 breaths per min, SpO2 89% on room air improved to 94-95% on 2-3 L nasal cannula

### Physical Exam:

- Cardiac: Regular rate and rhythm. Normal S1 and S2. No murmurs, rubs, or gallops. +L port without swelling, fluctuance, erythema
- Pulmonary: Unlabored breathing, +crackles in left lower and mid lung fields. No rhonchi or wheezing.
- Extremities: Warm and well-perfused. No cyanosis, clubbing, or edema

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▶ When she presented in the emergency department, she was hypotensive/tachycardic, which both responded to IV fluids. Her respiratory rate was at 26 breaths per minute with an oxygen saturation on room air of 89%, which improved on 2 to 3 liters nasal cannula oxygen. She was subsequently started on antibiotics. Her physical exam also was notable for crackles in the left lower and mid-lung fields but no rhonchi or wheezing. She otherwise had warm and well-perfused extremities, no cyanosis, clubbing, or edema.

## Case: Differential Diagnosis?

- With this history and presentation, what is the differential diagnosis?
  - a) Disease progression
  - b) Pneumonia / COVID-19
  - c) Pulmonary embolism
  - d) Exacerbation of diastolic heart failure
  - e) More than one of the above
  - f) Unsure

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▶ What is our differential diagnosis for this patient with her history and her presentation? Could it be due to disease progression? She has extensive disease involving the lung. Could this be worsening of her PE; pneumonia, which was diagnosed a month prior; COVID-19; exacerbation of her diastolic heart failure; potentially more than one of the above?

So in this case, I think we have to choose more than one of the above. She certainly can have disease progression, worsening PE. She could have a pneumonia. And we're also concerned about COVID-19 in this case. Even though a month ago it was negative by PCR, it doesn't mean that she could not have been exposed during that time.

## Case: Next Steps?

- What should the work-up include at this point?
  - a) Chest radiograph
  - b) COVID-19 PCR testing
  - c) Computed tomography angiogram/pulmonary embolism protocol
  - d) a + b
  - e) b + c
  - f) All of the above
  - g) Unsure

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- ▶ What should be the next steps in the workup? Chest radiograph, COVID-19 PCR testing, CT angiogram and PE protocol, a combination of these responses, or all of the above.

I would say in her case with her history, we probably need to do all the above. However, if we're going to get a CT angiogram with a PE protocol, we probably don't need to get a chest radiograph. So ideally, the answer would be e) b + c; COVID-19 PCR test as well as a CT angiogram and PE protocol.

## Case: Key Findings

Chest X-ray



COVID-19 PCR: Positive

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- ▶ In her case, first she underwent chest radiography. As you can see, there was an increase in bilateral opacities, worsening pulmonary nodules, and mediastinal lymphadenopathy. They actually compared it to the prior radiographs and CT scans. A COVID-19 PCR test was performed, and results were positive.

## Case: Next Steps?

- 10 days after presentation, patient was found to be more tachycardic (P: 120-150 beats per min) with decreasing oxygen saturation on room air (90%) while ambulating
- COVID-19 PCR negative
- Chest radiograph and chest computed tomography scan were obtained

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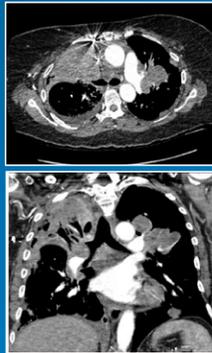
▶ So she was subsequently hospitalized. Ten days after her presentation, she was getting ready to be discharged home, but she was found to be tachycardic with decreasing oxygen saturation and room air while she was ambulating with physical therapy. Their concern was potentially COVID-19 again, even though the prior test result was negative prior to her discharge planning. And that continued to be negative. But they subsequently performed chest radiography and CT.

## Case: Key Imaging Findings

Chest Radiograph



Chest CT



▶ Here are findings from chest radiography and CT. You can see that the chest radiograph shows right upper lobe collapse. This was followed up by a CT scan, which showed worsening of her tumor burden. It was so bad that it was now compressing the right upper lobe proximal pulmonary artery, the bronchus, and subsequently resulted in her becoming symptomatic. Luckily, she wasn't yet discharged home.

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CT, computed tomography.

## Case: Additional Care

- **Interventional Pulmonology:**
  - performed flexible and rigid bronchoscopy with stent placement
- **Radiation Oncology:**
  - administered 5 fractions of radiation to the right hilar/mediastinal mass
- She was discharged home 21 days after presentation (with medical coverage)

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▶ Subsequently, interventional pulmonology and radiation oncology were consulted. Interventional pulmonology performed a flexible and rigid bronchoscopy and placed a stent. Radiation oncology performed 5 fractions of radiation to the right hilar and mediastinal mass. She was subsequently discharged home 21 days after her presentation. At that time, the institution made sure that she had medical coverage.

## Case: Discontinuation of Isolation?

- Can she be seen safely in the Cancer Center for follow-up?
  - a) Yes, 20 days have passed since symptom onset and she has had no recurrent fevers
  - b) Yes, but full PPE with N95 mask and eye protection needs to be worn by any healthcare worker coming into contact with her
  - c) No, she needs COVID-19 PCR testing to confirm that she no longer has the virus
  - d) No, she needs to be in isolation for 90 days
  - e) Unsure

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▶ So now the big question is can she be seen safely in the cancer center for follow-up? The answer is yes, we can see her—20 days have passed since symptom onset, she no longer has any symptoms, including recurrent fevers. She can come back but full PPE, N95 mask, and eye protection need to be worn by healthcare providers. She cannot come back to the cancer center unless a COVID-19 test is performed or she needs to be in isolation for 90 days.

Per the CDC guidelines, we now know that the testing criteria don't need to be fulfilled in these cases—20 days have passed since her symptoms, she is symptom free. At this point, she can safely come back to the cancer center. We, of course, have universal surgical masking and eye protection already. There's no need for N95 mask and eye protection in this case, as we are not concerned about increased risk of COVID-19 exposure in her case.

## Case: Plans for Systemic Therapy?

- One month after presentation and 1 week following discharge, she was started on chemotherapy

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- ▶ One month after her presentation and 1 week following her discharge, she was started on chemotherapy and is symptomatically doing better currently.

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## Case Example 2

- ▶ **Mocharnuk:** Thank you, Dr. Cinar. Dr. Fair, would you discuss an emergency department case for us?

## 70 y/o Man With Dizziness

- Chief complaint: dizziness and palpitations
- Past medical history: atrial fibrillation, obstructive sleep apnea
- Surgical history: appendectomy
- Social history: non-smoker, retired teacher, lives with wife
- Medications: metoprolol, warfarin

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► **Fair:** So for the case in the emergency department, this is a 70-year-old man that presents with a chief complaint of dizziness and palpitations. His medical history is significant for atrial fibrillation and obstructive sleep apnea. His surgical history includes an appendectomy. He is a non-smoker, a retired teacher, and lives with his wife. He is taking metoprolol and warfarin. And this is all the information that you receive, when you see the chart, before even going into the room.

## History of Present Illness

- Today he reported a brief episode of dizziness
- Pulse was 120 beats per min and remained elevated for an hour, just before arrival in emergency department
- Cancelled last few appointments with primary care provider because of the pandemic
- Out of metoprolol but continues to take warfarin
- Has not had his INR checked in 3 weeks
- Denies any chest pain, shortness of breath, or syncope
- To his knowledge, he has not been exposed to COVID-19

INR, international normalized ratio.

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► When you walk into the room, your patient tells you that he had a brief episode of dizziness before coming into the emergency department. He took his heart rate at home and noticed that it was 120 beats per minute and that it remained elevated for about an hour—but he feels much better—just before arrival. You ask him about his previous visits, and he mentioned that he has not seen his primary care physician in quite a few months because of the pandemic. He is supposed to be taking his metoprolol and his warfarin; however, he ran out of the metoprolol but continues to take his warfarin every day. He has not had his INR checked in about 3 weeks now. He denies any chest pain, any shortness of breath, or syncope. And to his knowledge, he has not been exposed to COVID-19. But he was pretty concerned about the episode that happened today.

## Physical Exam and Emergency Department Course

### ○ Physical Exam

- VS: BP 112/60 mmHg; HR 79 beats per min; RR 14 breaths per min; body temperature 97.9°F
- No acute distress
- Cardiovascular: irregularly regular
- Neuro: normal

### ○ Course:

- Labs: normal complete blood cell count, normal CHEM-7, INR: 2.1
- ECG: Afib, no evidence of acute ischemia

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▶ On physical examination, you note that his vital signs are within normal limits of a blood pressure of 112/60 mmHg, heart rate of 79 beats per minute, respiratory rate of 14 breaths per minute, and a temperature of 97.9°F. He appears to be in no acute distress. His cardiovascular

examination is significant for an irregularly regular heart rate. His neurologic examination is normal. During the course of the emergency department visit, you order a set of labs, including a complete blood cell (CBC) count, a CHEM-7, and an INR. His CBC count comes

back within normal limits, as well as the CHEM-7. His INR is 2.1. You've taken an ECG and noticed that he does, of course, have atrial fibrillation. There's no evidence of acute ischemia, and the heart rate is now a regular rate of 79 beats per minute.

## Things to Consider

- Patient desire to limit in-person healthcare contact
- Vulnerable family member
- Transportation access
- Internet access
- Comfort with telehealth technology
- Affordability of medications

▶ So what are some things to consider, as a clinician in this case, in seeing your patient in the emergency department? Well you realize that they're in your emergency department, but they have a desire to limit their in-person healthcare contact both with their primary care physician and coming back to the emergency department. They've mentioned that they have a vulnerable family member at

home. His wife has had cancer and is now in remission, but he's very concerned about her exposure given her age and her diagnosis.

They live in an urban area and have always taken public transportation. Given the pandemic, they are very concerned about taking public transportation right now and have limited their access to most places. We asked about their Internet access, and it

has been inconsistent. They are comfortable using the Internet, but it's not always been reliable for them. They are not comfortable with most of the telehealth technologies that they've read about and that their doctor has talked to them about. And they're also concerned about what medications might be written for them today in the emergency department.

## Shared Decision Making With Patient and Primary Care Physician

- Transition from warfarin to DOAC, edoxaban
  - Consider financial burden
- In-home INR testing
- Mobile technology assistance
- Home health visits

DOAC, direct oral anticoagulants; INR, international normalized ratio.

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▶ So one thing that is extremely important is to think about shared decision making. In this case, that shared decision making is not only with the patient in front of you but also with their primary care physician, as they are presenting with a chronic illness. And we have one snapshot in time to address the current issue as well as to make sure that subsequent follow-up is the best that it can be, and that we do not disrupt care, but contribute to their comprehensive and continuing medical care.

In our discussion based on what the patient is asking for, we have a discussion with

them about transitioning them from warfarin to a direct-acting oral anticoagulant. They were aware of this, had been taking warfarin for so long that he was not sure that he was ready to switch. But given the pandemic, he's thinking that maybe this is something to think about. We also mentioned in-home INR testing. As coming to the emergency department, of course, is not ideal, but also getting his INR checked at his local clinic has been a bit of burden given the increase in the COVID-19 cases.

We also talked about mobile technology assistance. His clinic has a variety of options

to assist patients in accessing mobile technology. In the emergency department, we also have follow-up with mobile technology as well. We discussed what that would look like and how we could support providing better broadband access and assistance with using the technology. Finally, we discussed home health and would it be beneficial to bring in a nurse or a nurse tech into check INR and also to give regular follow-up on this patient?

## Case Conclusion

- Provided feasible and affordable medication
- Limited in-person follow-up
- Met social need: transportation
- Race & ethnicity
  - Shared decision making can mitigate bias at the bedside
  - Collecting data on race & ethnicity helps in quality improvement

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### ► So, what happened in this particular case?

Well after checking the formularies and seeing what was covered by his insurance, he is on Medicare, it was determined that he was comfortable switching to a direct-acting oral anticoagulant after conversations with his primary care physician. A discussion was also made that he would limit his in-person follow-up. But instead, he would have a follow-up with the emergency department, in a few days, to make sure that this heart rate was normal. He would also follow-up with his primary care physician using telehealth. Fortunately, their clinic has a service where their nurse can walk him through the technology and give them tutorials and get them comfortable with the technology. As well as support for broadband access that the clinic provides for patients who need it.

In the conversation, the clinician directly or astutely assessed for social needs, including the lack of transportation access.

Although financially the patient does not have financial concerns, with regards to transportation, the issue really is that they live in an urban area, and they've never had their own car, there was no need for that. But given the pandemic, transportation has been a challenge. So the clinic has an opportunity to provide Uber and Lyft and other ride-share programs in case they need to get to the clinic for an in-person visit, as well as in the evening we can provide that as well.

Now you may recognize that I did not mention the race and ethnicity of this patient. This patient is Hispanic or, specifically, Dominican. And I didn't mention it because in this case, it didn't need to come up. The patient was English speaking. We were able to address his social needs. But what is extremely important—and what we notice in medicine—is that implicit bias does come into play in our patient encounters. And in one way, out of several, to mitigate bias at the bedside is to ask the patient what their desires are and have shared

decision making. There is a power differential between physicians and patients. And if we actively engage in shared decision making, that can help to mitigate bias at the bedside, and this is one of the recommendations from the Institute for Healthcare Improvement, or the IHI.

In addition, when we complete our patient encounters and as we go on, we have to collect data on race and ethnicity and incorporate these data into our quality improvement. We oftentimes take a step back and make sure our entire patient population is achieving a certain health outcome, but we neglect to stratify by race and ethnicity. In this case, you notice that your black patients and your Hispanic patients are not always getting offered the direct-acting oral anticoagulant as often as your white patients. And in this case, you notice that you're not doing this as often, and you make sure that you are offering this to all of your patients. If we don't have these data, we won't notice that we are making a difference in our patients. And this concludes the case.

## Lessons Learned From the COVID-19 Pandemic

- ▶ **Mocharnuk:** To wrap things up, let me ask you what are the most important lessons we have learned, so far, from the COVID-19 pandemic? And, Dr. Cinar, how will this change the future practice of clinical oncology?

## Changes in the Practice of Oncology

- Communication and transparency are key
- Technology can be adapted quickly
  - Telehealth
  - Digital tools to screen for symptoms
- We can deliver care more efficiently
  - Remote visits with providers, supportive care
  - Clinical trial: remote consenting, mailing of study drugs, fewer in-person visits

► **Cinar:** There's certainly a lot of lessons learned during the pandemic. I think communication and transparency and the importance of it was one of the most integral parts of what we learned during the pandemic. I don't think that as an institution, as a healthcare field even, we hadn't communicated as intensely as we had prior to the pandemic. We also learned that we can do things a lot more efficiently. Technology was adapted a lot more quickly than it would have been ever before prior to the pandemic. A lot of institutions converted to telehealth if they hadn't

implemented it yet. And those who already had it implemented in their system actually increased their volumes quite rapidly. There was development of digital tools to screen for symptoms, and these probably will continue to evolve into patient-reported outcomes and other tools to be able to evaluate our patients more. But it also brought up the topics that we wanted to discuss today, and that's the healthcare inequities and the importance of that and to be able to determine how we can deliver care, at high quality, to all of our patients.

The remote visits with providers and supportive

care were an interesting and important part of the care. But clinical trials, especially in the cancer center world where it's so integral and we have so much room to grow in regards to improving our accruals to studies, I mean it still continues to be around 5% of oncology patients are enrolled into trials. So, perhaps, providing more remote opportunities so they don't have to drive to an academic center on a more regular basis than they have to, perhaps, will encourage more patients to be enrolled in clinical trials.

## Changes in the Practice of Emergency Medicine

- The emergency department will remain the safety net for anyone who comes through its doors
- Driven by national attention on health inequities and COVID-19, discussions about healthcare inequities will remain a part of the conversation
- Telehealth is here to stay, especially for follow-up after receiving emergency care

▶ **Mocharnuk:** Dr. Fair, how will this change the practice of emergency medicine?

▶ **Fair:** Our practice is forever changed. We will continue to be the safety net for the healthcare system, continue to see anyone who comes into our doors. And I think that there is a renewed sense of respect for my colleagues who are on the frontline during this pandemic and continue to do so even as cases continue to rise. But as my colleague, Dr. Cinar, said, you know, this attention on health inequities has now been elevated to the consciousness of the medical community in a way that it hadn't been before. And it's my hope and desire that it's not just elevated to our consciousness, it's not just something that we talk about but that we initiate policies, procedures, and change in behavior to address these inequities because they haven't

really been addressed before.

We noted that back in 2002, the Institute of Medicine developed a report called "Unequal Treatment" that showed that there were gross inequities in the healthcare that we were providing. But fast forward to today looking at data from the Agency for Healthcare Research and Quality, we don't see much change in those inequities. So hopefully we have an opportunity to do that now.

Also, in emergency medicine, the idea telehealth is actually here to stay in our community as well. Although we typically see patients in person, we often bring patients back for follow-up. And now a lot of that can be done remotely. We can do physical exams, these things that are visual, and we can make sure that we are communicating with our patients remotely. And also, people who may have

come to the emergency department before, because of convenience, may not come back during the pandemic or even afterwards for fear of being exposed to any sort of disease. So we have to think differently, and we will continue to think differently about, even as emergency providers, how do we engage with our patients remotely?

Finally, there's a growing recognition that we, even as emergency providers, cannot just treat the patient in front of us, but we have to think about how do we better engage with communities to address social needs as well, including providing meals and providing housing right there at the bedside. But working more systemically and in partnership with our communities to address the larger social determinants of health.

## Most Commonly Asked Question by Patients:

*“When Will This Be Over?”*

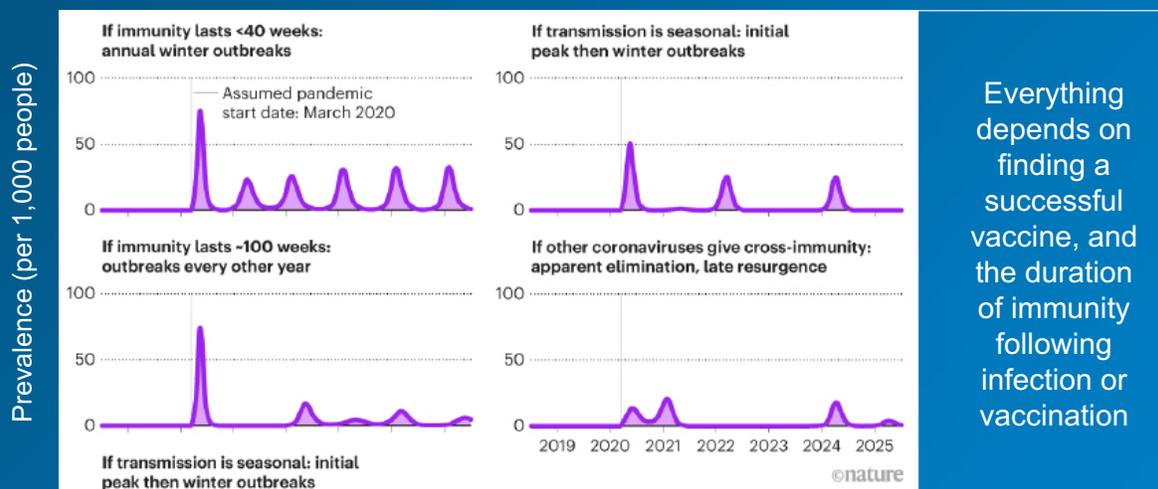
▶ **Mocharnuk:** Thanks for those responses. Dr. Cinar, what is the most common question, if I may ask, that you’ve been asked by your patients during the COVID-19 pandemic, and how did you respond?

▶ **Cinar:** The most commonly asked question by my patients are when will this be over?

I treat a lot of patients who have pancreatic cancer. And, as we all know, the prognosis is grim. And these patients, the important thing for us, as we provide them with treatment options, is to also provide them with good quality of life and to make sure that they can continue to do things they

enjoy doing in their limited time. And it’s increased so much anxiety and worry in these patients who are no longer able to do all the things that they would want to do because of the limitations of COVID, their fear of COVID.

## What Happens Next ...



Everything depends on finding a successful vaccine, and the duration of immunity following infection or vaccination

Adapted from Kissler SM, et al. *Science*. 2020;368:860-868; Scudellari M. *Nature*. 2020;584(7819):22-25.

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► So this certainly is a big question—when will this be over, am I even going to see a day when I’m not going to wear a mask and see my loved ones? My answer is usually that it’s not going to be anytime soon. Over the next year or so, we’ll know more. And you can see in this next slide, that what happens next really depends on a lot of things—whether we continue to be vigilant in our

physical distancing, masking, and social distancing when we have any symptoms.

This includes the development of a vaccine and how successful that vaccine will be; the duration of the immunity following an infection or the vaccination. This is a really good diagram of if, for example, the immunity lasts less than 40 weeks, this is probably going to be

something that will be an annual winter outbreak similar to the flu, the influenza. If immunity lasts, you know, around 100 weeks or so, then outbreaks may be every other year.

So it’s important for us to continue to be vigilant and to be responsible for all of our patients, especially the vulnerable patients who have cancer.



Thank You!

► **Mocharnuk:** Thank you, Dr. Cinar and Dr. Fair, for this excellent review. And thank you to our audience for your participation in this activity.



**The COVID-19 Chronicles:**  
Real-World Perspectives on Cancer Care,  
Emergency Medicine and Healthcare Disparities

A photograph of a building's exterior with a red sign that says "EMERGENCY" in white capital letters. The background of the slide features a microscopic view of cells and a molecular structure.

EMERGENCY

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