

# Cancer Management During the COVID-19 Pandemic in the United States

## Results From a National Physician Cross-sectional Survey

Jane Yuet Ching Hui, MD, MS,\* Jianling Yuan, MD, PhD,†  
Deanna Teoh, MD, MS,‡ Lauren Thomaier, MD,‡ Patricia Jewett, PhD,§  
Heather Beckwith, MD,§ Helen Parsons, PhD,|| Emil Lou, MD, PhD,§  
Anne H. Blaes, MD, MS,§ and Rachel I. Vogel, PhD‡

**Objectives:** The coronavirus disease 2019 (COVID-19) has significantly impacted health care delivery across the United States, including treatment of cancer. We aim to describe the determinants of treatment plan changes from the perspective of oncology physicians across the United States during the COVID-19 pandemic.

**Methods:** Participants were recruited to an anonymous cross-sectional online survey of oncology physicians (surgeons, medical oncologists, and radiation oncologists) using social media from March 27 to April 10, 2020. Physician demographics, practice characteristics, and cancer treatment decisions were collected.

**Results:** The analytic cohort included 411 physicians: 241 (58.6%) surgeons, 106 (25.8%) medical oncologists, and 64 (15.6%) radiation oncologists. In all, 38.0% were practicing in states with 1001 to 5000 confirmed COVID-19 cases as of April 3, 2020, and 37.2% were in states with > 5000 cases. Most physicians (N=285; 70.0% of surgeons, 64.4% of medical oncologists, and 73.4% of radiation oncologists) had altered cancer treatment plans. Most respondents were concerned about their patients' COVID-19 exposure risks, but this was the primary driver for treatment alterations only for medical oncologists. For surgeons, the primary driver for treatment alterations was conservation of personal protective equipment, institutional mandates, and external society recommendations. Radiation oncologists were primarily driven by operational changes such as visitor restrictions.

**Conclusions:** The COVID-19 pandemic has caused a majority of oncologists to alter their treatment plans, but the primary motivators for changes differed by oncologic specialty. This has implications for reinstitution of standard cancer treatment, which may occur at differing time points by treatment modality.

**Key Words:** cancer, treatment, pandemics, surveys, oncologists

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From the Departments of \*Surgery; †Radiation Oncology; ‡Obstetrics, Gynecology and Women's Health; §Division of Hematology, Oncology, and Transplantation; and ||School of Public Health, University of Minnesota, Minneapolis, MN.

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Reprints: Jane Yuet Ching Hui, MD, MS, 420 Delaware St SE, MMC 195, Minneapolis, MN 55455. E-mail: jhui@umn.edu.

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The novel coronavirus (SARS-CoV-2) and subsequent disease (coronavirus disease 2019 [COVID-19]) was identified in Wuhan, China, in December 2019,<sup>1</sup> and first reported in the United States on January 22, 2020.<sup>2</sup> Since then, the number of COVID-19 cases has continued to rapidly rise across the country, with a cumulative 525,704 confirmed cases<sup>2</sup> and a total of 6,930 COVID-19 deaths<sup>3</sup> as of April 11, 2020. Early reports have also indicated that older adults or adults with underlying comorbid illness and/or suppressed immune response are more likely to be severely affected by COVID-19.<sup>4</sup> Concurrent with this new health threat, patients in the United States continue to be diagnosed with cancer. It is estimated that 1.7 million new cancer cases were diagnosed in 2019 in the United States,<sup>5</sup> many of whom are currently receiving or will require treatment amid the crisis.

The COVID-19 pandemic poses a challenge for cancer patient management, due to the implementation of social distancing to reduce transmission of SARS-CoV-2<sup>6–8</sup> and the depletion of health care resources<sup>9</sup> and personal protective equipment (PPE) supplies. In March 2020, the Centers for Medicare and Medicaid Services (CMS) temporarily expanded coverage for beneficiaries to receive health care services through virtual visits<sup>10</sup> to facilitate social distancing. In the same month, surgeons were advised by the US Surgeon General and by the American College of Surgeons (ACS)<sup>11</sup> to triage and postpone elective surgeries in order to conserve PPE and to prepare for a surge in COVID-19 patients requiring all levels of care. Professional societies such as the Society of Surgical Oncology,<sup>12</sup> the American Society of Clinical Oncology (ASCO),<sup>13</sup> the American Society for Radiation Oncology,<sup>14</sup> the American Society of Breast Surgeons,<sup>15</sup> and the Society of Gynecologic Oncology (SGO),<sup>16</sup> are also issuing recommendations regarding cancer care delivery during the pandemic. We sought to describe the determinants of oncology treatment plan changes from the physician perspective during the COVID-19 pandemic.

## METHODS

### Study Design and Participants

We conducted a cross-sectional anonymous online survey study of physicians who treat cancer patients in the United States. The study was reviewed and deemed exempt by the University of Minnesota Institutional Review Board. All participants were provided with an information sheet about the study and confirmed eligibility before completing the online survey. Eligibility criteria included being a physician (MD or

DO) who treats cancer patients in the United States, physician age: 18 years or older, and ability to read/write in English.

## Recruitment

Individuals were recruited over a 2-week period (March 27 to April 10, 2020) using snowball convenience sampling methods with social media platforms Facebook (posting in national and Minnesotan physician groups and various women physician groups), LinkedIn, and Twitter (from University of Minnesota Masonic Cancer Center, American Cancer Society, and personal twitter accounts of the authors). Invitations to participate in the survey were also posted on ACS, ASCO, and SGO (physician-only) online discussion forums. In addition, emails with a survey link were sent by the American Cancer Society to cancer programs in the North Region, covering 13 states. Survey data were collected and stored using REDCap, a web-based data collection tool.<sup>17</sup>

## Measures

Survey items included demographics and measures of clinical practice size and location, personal concerns about COVID-19, effects of COVID-19 pandemic on cancer patient treatment, sources of information about COVID-19, and emotional health. Validated measures were used or modified as appropriate when possible. General demographic data on participants were obtained by self-report but no identifying data were collected. The number of COVID-19 cases in each state was determined using data from the Centers of Disease Control and Prevention (CDC) as of April 3, 2020,<sup>2</sup> the half-way point during the study recruitment period. The categorization provided by the CDC resulted in 4 groups to which respondents were assigned, based on the number of confirmed COVID-19 cases in their state: 101 to 500, 501 to 1000, 1001 to 5000, and 5001 or more.

Physicians were asked whether they had to cancel/postpone/alter cancer treatments (surgery, chemotherapy, radiation therapy) and response options were “yes,” “no,” “no, but will have to reassess this,” and “not applicable.” Physicians who answered “yes” were then asked to select reason(s) for altering cancer treatment plans from a list of prespecified options. Physicians were asked to select all reasons that applied, rather than being limited to ascribing their decisions to a single motivation.

## Statistical Methods

The analyses for this study were limited to participants who provided their oncology specialty (surgical, medical, radiation). Participant characteristics and responses were summarized using descriptive statistics. We assessed factors associated with treatment decision-making (“yes altered” vs. “no but plan to reassess”) using  $\chi^2$  tests and Fisher Exact tests as appropriate for categorical variables, and *t* tests assuming unequal variances for continuous variables. We also compared reasons for altered treatment plans by medical specialty using  $\chi^2$  tests. Data were analyzed using SAS 9.4 (Cary, NC), and *P*-values <0.05 were considered statistically significant.

## RESULTS

### Physician Demographics and Practice Characteristics

A total of 548 individuals clicked on the survey link and 486 (88.7%) were eligible physicians who proceeded on to the survey itself (Fig. 1). Among eligible physicians, 435 provided information about their medical specialty (surgical, medical oncology,

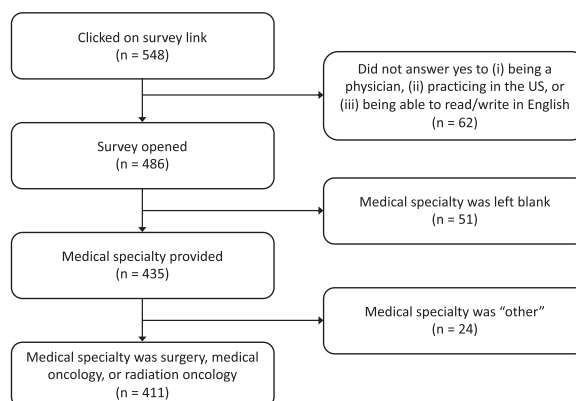


FIGURE 1. Flow diagram of survey respondents.

radiation oncology, other), of which 24 physicians reported “other” and were excluded from this analysis. In our study of 411 oncology physicians, 241 (58.6%) were surgeons, 106 (25.8%) medical oncologists, and 64 (15.6%) radiation oncologists (Table 1). The majority (92.8%) of respondents practiced full time. Approximately half of the respondents practiced at an academic institution (54.6%), in a large city (47.3%), and in hospitals with 500 or more beds (45.3%). Physicians reported treating a range of different cancer types, including breast (61.6%), colorectal (45.1%), hepatopancreaticobiliary (32.2%), head and neck (23.8%), hematologic (23.3%), genitourinary (18.8%), and gynecologic (15.4%) malignancies.

Physicians from 43 of the 50 states, as well as the District of Columbia, responded to the survey. There were no respondents from Alaska, Delaware, Nebraska, New Hampshire, New Mexico, South Dakota, and Wyoming. States with at least 10 respondents included Minnesota (61, 16.6%), California (34 physicians, 9.2%), Texas (19, 5.2%), Florida (18, 4.9%), Wisconsin (17, 4.6%), Maryland (16, 4.4%), Pennsylvania (16, 4.4%), Ohio (15, 4.1%), New York (14, 3.8%), Massachusetts (12, 3.3%), North Carolina (12, 3.3%), Washington (12, 3.3%), and New Jersey (11, 3.0%).

A majority of respondents were from states with >1000 confirmed COVID-19 cases (as of April 3, 2020), with 38.0% practicing in states with 1001 to 5000 cases, and 37.2% practicing in states with >5000 cases. Over half of the respondents (57.0%) thought they had adequate PPE for clinical practice. There were no differences in the reported adequacy of PPE by the statewide number of confirmed COVID-19 cases (*P* = 0.99).

### Cancer Treatment Plan Alterations and COVID-19

Participants reported that the COVID-19 pandemic has significantly interfered with their ability to provide treatment to active cancer patients (mean, 66.6 ± 24.4 on severity scale, from 0 = no problem to 100 = severe problem). Of the respondents, 282 (68.6%) reported they have already altered treatment plans; 126 respondents had not yet altered plans, and of these, 118 (94%) planned to reassess. Most (71.5%) surgeons reported cancelling or postponing their patients’ cancer surgery, with 70.2% of those who delayed cases referring patients for alternative treatment in the meantime. Similarly, a majority of medical oncologists (64.4%) and radiation oncologists (73.4%) reported altering their patients’ chemotherapy and radiation therapy plans, respectively.

Most physicians in all 3 specialties were concerned about their patients’ risk of COVID-19 exposure (Table 2). However, medical oncologists were more likely than surgeons or radiation

**TABLE 1.** Physician Demographics and Clinical Practice Characteristics (N = 411)

Characteristic	N	Mean ± SD
Age (y)	324	45.9 ± 9.5
Years in practice	343	12.9 ± 10.0
	N (%)	
<b>Sex</b>		
Male	139 (36.0)	
Female	244 (63.2)	
Nonbinary sex identification	3 (0.8)	
Missing	25	
<b>Race/ethnicity</b>		
White, non-Hispanic	258 (74.1)	
Asian Indian	37 (10.6)	
Chinese	17 (4.9)	
Hispanic	12 (3.5)	
Other	24 (6.9)	
Missing	63	
<b>Medical specialty</b>		
Surgery	241 (58.6)	
Medical oncology	106 (25.8)	
Radiation oncology	64 (15.6)	
<b>Clinical work</b>		
Yes—full time	358 (92.8)	
Yes—part time	27 (7.0)	
No	1 (0.3)	
Missing	25	
<b>Academic practice</b>		
No	175 (45.5)	
Yes	210 (54.6)	
Missing	26	
<b>Hospital size</b>		
Small hospital (fewer than 100 beds)	31 (8.0)	
Medium hospital (100-499 beds)	167 (43.3)	
Large hospital (500 or more beds)	175 (45.3)	
Ambulatory clinic only (no inpatients)	13 (3.4)	
Missing	25	
<b>Community size</b>		
Rural area	18 (5.0)	
Small city or town	80 (22.4)	
Suburb near a large city	90 (25.2)	
Large city	169 (47.3)	
Missing	54	
<b>Cancers treated (select all that apply)</b>		
Bone	37 (10.4)	
Breast	220 (61.6)	
Colorectal	161 (45.1)	
Genitourinary	67 (18.8)	
Gynecologic	55 (15.4)	
Head and neck	85 (23.8)	
Hematologic	115 (32.2)	
Hepatopancreaticobiliary	83 (23.3)	
Lung	158 (44.3)	
Skin and soft tissue	74 (20.7)	
Other	64 (17.9)	
Missing	54	
<b>Number of confirmed COVID-19 cases in state of clinical practice*</b>		
101-500	13 (3.5)	
501-1000	78 (21.2)	
1001-5000	140 (38.0)	
5001 or more	137 (37.2)	
Missing (did not provide state of clinical practice)	43	
<b>Adequate PPE for clinical practice</b>		
No	176 (43.0)	
Yes	233 (57.0)	
Missing	2	

\*As of April 3, 2020.

COVID-19 indicates coronavirus disease 2019; PPE, personal protective equipment.

oncologists to alter treatment plans due to this reason (91.0% vs. 69.1% vs. 78.7%, respectively,  $P=0.002$ ). Surgeons, more so than medical oncologists or radiation oncologists, were driven to alter cancer treatment plans by the desire to conserve PPE (67.9% vs. 10.5% vs. 25.5%, respectively,  $P<0.0001$ ), institutional mandates (71.4% vs. 34.3% vs. 25.5%,  $P<0.0001$ ), and professional medical organization recommendations (73.8% vs. 34.3% vs. 51.1%,  $P<0.001$ ). Radiation oncologists were more likely than surgeons or medical oncologists to alter treatment plans due to logistic concerns such as the new strict visitor policy (34.0% vs. 13.7% vs. 26.9%, respectively,  $P=0.003$ ). Though not statistically significant, radiation oncologists were also more likely than surgeons or medical oncologists to alter treatment plans due to concerns about exposure risk to health care workers (61.7% vs. 51.2% vs. 40.3%,  $P=0.08$ ).

We assessed physician demographic and practice factors associated with self-reported cancer treatment plan alteration by April 10, 2020 (Table 3). The 8 respondents who replied that they had not altered treatment plans and did not plan to reassess were excluded from this analysis. We found that female physicians (75.8% vs. 63.2%,  $P=0.01$ ) and physicians who practice in states with higher numbers of confirmed COVID-19 cases (78.2% > 5000 cases vs. 61.5% 101 to 500 cases,  $P=0.04$ ) were more likely to have already altered their patients' cancer treatment plans compared with those who plan to reassess. Those who treat hematologic malignancies were less likely to have altered their treatment plans compared with those who do not treat these malignancies (63.4% vs. 74.8%,  $P=0.04$ ). None of the other factors, including race/ethnicity, medical specialty, practice settings, hospital size, and perceived adequacy of PPE, were associated with the decision to alter treatment plans.

Of the 8 physicians (5 surgeons and 3 medical oncologists) who reported they have not altered treatment plans and did not plan on reassessing, only 2 practiced at an academic institution, and six practiced in a rural community or small city/town. Interestingly, 6 of the 8 physicians practice in states with > 1000 confirmed COVID-19 cases, although data specific to their communities is unknown.

## DISCUSSION

At ~10 to 11 weeks after the first confirmed case of COVID-19 in the United States, we found that the majority of physicians had already altered the oncology treatment plans, including surgery, chemotherapy, and radiation therapy, for their patients.

The sweep of the pandemic across the world has prompted rapid and drastic changes to many aspects of daily and professional life. Physicians who are not considered frontline in diagnosing and managing COVID-19 patients have nonetheless had to rapidly adapt to changes in medical practice and policies in order to continue to provide care for conditions other than COVID-19.<sup>18</sup> These changes affect patients with cancer, who by the nature of treatment of this heterogenous disease require frequent clinical evaluation and yet are also at high risk for severe manifestations of COVID-19 due to immunosuppression. It is too early to tell how cancer patients will be affected directly by the virus and also indirectly by the consequences of the pandemic. Early data from China<sup>19,20</sup> suggest that cancer patients may be at increased risk of severe illness from COVID-19, though susceptibility may be attributable to age,<sup>21</sup> underlying lifestyle differences such as smoking history,<sup>22</sup> or presence of cancer. Without definitive data, it is challenging for physicians to

**TABLE 2.** Self-reported Reasons for Having Already Made Cancer Treatment Plan Changes During the COVID-19 Pandemic by Medical Specialty (N = 282)\*

Reasons for Altering Treatment Plans (Select All That Apply)	N (%)			P
	Surgeons (N = 168)	Medical Oncologists (N = 67)	Radiation Oncologists (N = 47)	
Personal concern about my patients' exposure risk	116 (69.1)	61 (91.0)	37 (78.7)	<b>0.002</b>
Personal concern about exposure risks to other hospitalized patients	63 (37.5)	20 (29.9)	22 (46.8)	0.18
Personal concern about hospital staff and health care worker exposure risk	86 (51.2)	27 (40.3)	29 (61.7)	0.08
Personal concern about blood bank shortages	23 (13.7)	—	—	—
Desire to conserve PPE at my institution	114 (67.9)	7 (10.5)	12 (25.5)	<b>&lt; 0.0001</b>
Divisional or departmental mandate due to COVID-19	95 (56.6)	32 (47.8)	18 (38.3)	0.07
Institutional mandate due to COVID-19	120 (71.4)	23 (34.3)	12 (25.5)	<b>&lt; 0.0001</b>
Surgeon General or professional medical organization recommendation	124 (73.8)	23 (34.3)	24 (51.1)	<b>&lt; 0.0001</b>
Closure of patient and family accommodations due to COVID-19	4 (2.4)	10 (14.9)	6 (12.8)	<b>0.0008</b>
New strict visitor policy due to COVID-19	23 (13.7)	18 (26.9)	16 (34.0)	<b>0.003</b>
Patient transportation concerns due to COVID-19	—	15 (22.4)	11 (23.4)	—

Bold values indicate statistical significance ( $P < 0.05$ ).

\*Respondents were asked to select all that apply.

COVID-19 indicates coronavirus disease 2019; PPE, personal protective equipment.

determine how to balance the risks of COVID-19 exposure and the consequence of postponing or altering cancer treatment in their patients.

Many professional medical societies as well as recognized experts in the field have published recommendations<sup>12–16,23</sup> and editorials<sup>24</sup> on triaging and managing patients with cancer during this new health crisis. However, as with any patient management, there is no “one size fits all” algorithm. We did observe that physicians who practice in states with higher numbers of confirmed COVID-19 cases were more likely to have altered their treatment plans but do not have longitudinal data to assess how case numbers affect cancer care.

We found that the drivers for altering treatment plans differed by specialty of the oncology physician. For surgeons in particular, recommendations from professional medical societies played a significant role. Various professional medical societies did differ in the timing and level of detail in their recommendations for managing cancer patients during COVID-19, and thus it is difficult to draw specific conclusions regarding the differences on reliance on these recommendations across medical specialties (surgery vs. medical oncology vs. radiation oncology), given that this is a single cross-sectional survey. However, our findings highlight the important roles that professional medical societies can play when we are confronted with a health crisis that reaches all disciplines. It is important that societies make recommendations in a timely manner, and also to update them frequently as needed. Even logistical and operational changes such as visitor restrictions and cancellation of patient accommodation/travel can have significant impact on the delivery of oncology care, particularly when multiple visits in succession are necessary. Medical and radiation oncologists are having to take these factors into consideration when making treatment recommendations to cancer patients, especially for those who have transportation, mobility and/or financial challenges.

Finally, there is the concern about COVID-19 exposure itself. Most physician respondents of all specialties were concerned about their patients' risk of contracting SARS-CoV-2. Medical oncologists especially have had to weigh the risks of potentially immunosuppressive treatment against the cancer treatment benefits in this unprecedented context.<sup>25</sup> Furthermore,

approximately half of our survey respondents also cited concerns regarding exposure risks to health care workers. Cancer treatments involve interactions with multiple other health care workers, such as medical assistants, nurses, surgical technicians, nurse anesthetists, phlebotomy laboratory staff, radiation therapists, etc., in addition to physicians involved, which challenge the social distancing paradigm.

We found that physicians who practice in states with a higher COVID-19 case count were more likely to have already altered cancer treatment plans. This finding is in keeping with what we would have expected, as resources are more likely to be diminished in these states and physician concern heightened. We also observed that women were more likely to have already altered cancer-treatment plans. Additional analysis of the self-reported reasons for altering treatment plans revealed no sex differences in the endorsements of the reasons listed in Table 2. It is not readily apparent why women were more likely to have already altered treatment plans.

When data for this analysis were collected, public health concerns many parts of the United States were primarily centered around an impending surge in COVID-19 cases of uncertain magnitude; but in some states, COVID-19 cases were already spiking. Alterations to cancer care during this time have to be interpreted in the context of this sudden unprecedented health crisis and the surrounding uncertainty. In the long run, altered cancer treatment regimens will also have public health consequences.<sup>18,26</sup> Cancer treatments and screenings that have been delayed but cannot be canceled will create a care backlog, and may negatively affect cancer outcomes in the future. By reducing the population's vulnerability to one threat, we inevitably risk increasing its vulnerability to other threats. Cancer care recommendations going forward will likely change again as the balance of COVID-19 versus cancer risks keeps shifting with time.

### Limitations

There are several limitations to this study. Because it is a survey-based study, there is an inherent response bias. It may be that physicians who have found that they have had to adjust their practice as a result of the pandemic were more likely to participate in this survey study. We chose a social media

**TABLE 3.** Physician Demographic and Practice Characteristics Associated With Altering Cancer Treatment Plans During the COVID-19 Pandemic (N = 400)

Characteristic	“Have You Had to Cancel/Postpone/Alter Surgery/Chemotherapy/Radiation Therapy?”*		“No But Plan to Reassess”		P
	N	Mean ± SD	N	Mean ± SD	
Age (y)	226	45.3 ± 9.3	90	46.7 ± 9.7	0.24
Years in practice	244	12.5 ± 11.5	90	13.7 ± 10.4	0.35
		N (%)		N (%)	P
Sex					<b>0.009</b>
Male	84	(63.2)	49	(36.8)	
Female	182	(75.8)	58	(24.2)	
Race/ethnicity					0.87
White, non-Hispanic	184	(73.3)	67	(26.7)	
Asian Indian	26	(70.3)	11	(29.7)	
Other	36	(70.6)	15	(29.4)	
Medical specialty					0.54
Surgery	168	(71.5)	67	(28.5)	
Medical oncology	67	(66.3)	34	(33.7)	
Radiation oncology	47	(73.4)	17	(26.6)	
Academic practice					0.76
No	119	(70.4)	50	(29.6)	
Yes	148	(71.8)	58	(28.2)	
Hospital size					0.26
Small hospital (fewer than 100 beds)	16	(55.2)	13	(44.8)	
Medium hospital (100-499 beds)	115	(71.4)	46	(28.6)	
Large hospital (500 or more beds)	126	(72.8)	47	(27.2)	
Ambulatory clinic only (no inpatients)	10	(76.9)	3	(23.1)	
Community size					0.15
Rural area	8	(50.0)	8	(50.0)	
Small city or town	52	(68.4)	24	(31.6)	
Suburb near a large city	68	(75.6)	22	(24.4)	
Large city	123	(74.1)	43	(25.9)	
Number of confirmed COVID-19 cases in state of clinical practice†					<b>0.04</b>
101-500	8	(61.5)	5	(38.5)	
501-1000	46	(61.3)	29	(38.7)	
1001-5000	93	(67.9)	44	(32.1)	
5001 or more	104	(78.2)	29	(21.8)	
Adequate PPE for clinical practice					0.25
No	128	(73.6)	46	(26.4)	
Yes	153	(68.3)	71	(31.7)	

Bold values indicate statistical significance (P < 0.05).

\*Eight (2%) respondents said they have not altered treatment plans and did not plan on reassessing; they were excluded from this analysis. Three respondents did not answer this question.

†As of April 3, 2020.

COVID-19 indicates coronavirus disease 2019; PPE, personal protective equipment.

recruitment method in order to disseminate this survey to reach a broad audience quickly. However, because of this, we are unable to directly compare respondents with nonrespondents. To enhance response rate, certain known oncologic social

media groups were targeted, further contributing to selection bias. This resulted in a disproportionately high number of respondents from Minnesota. In contrast, New York, one of the states with the highest impact from COVID-19, had a low response rate. Finally, there were more female than male respondents, which may have biased our findings; our finding that female physicians were more likely to have already altered treatment plans may have been driven by unmeasured confounding in our univariate analysis. Because of the number of survey respondents, we were unable to perform multivariable analysis of these physician or practice factors to explore potential interactions.

We were unable to assess specific aspects of treatment plan alterations with this current survey, beyond postponing surgeries, altering chemotherapy plans, and altering radiation therapy plans. We surveyed oncology physicians broadly across the United States, thus assuming that a broad range of cancer (and thus treatment) types would be included. While responses regarding specific procedures or chemotherapy regimens would be informative, our primary goal was to obtain a broad assessment while minimizing attrition during the survey. Similarly, we did not assess whether and how telemedicine was adopted by oncology physicians given the recent CMS expansion of virtual visit coverage. This would be an important topic for future work in the examination of how the COVID-19 pandemic has affected cancer care in the United States.

Despite these limitations, we include a large population of oncology physicians currently treating cancer patients around the United States, identifying important treatment changes occurring during the COVID-19 pandemic to allow for opportunities to ensure high quality cancer care for the 1.7 million individuals diagnosed with cancer in the United States last year. Our findings suggest that as the number of cases of COVID-19 fluctuates throughout different states and as professional or regulatory guidance changes, cancer treatment decision-making will likely similarly fluctuate and change. Timely updates from professional organizations is extremely important in guiding our oncology physicians. Future studies will no doubt look back on the COVID-19 pandemic to examine the “fallout” of this pandemic as it relates to cancer patient screening, diagnosis, treatment, and outcome. This study provides a glimpse of the physician perspective early on in the COVID-19 pandemic.

### CONCLUSION

Cancer care treatment plan changes have occurred during the COVID-19 pandemic. In addition to concerns regarding COVID-19 exposure risks, physicians are having to weigh additional factors, such as conservation of PPE, external recommendations, and operational changes when deciding how to care for oncology patients during this health crisis. This has implications for how standard cancer care is reinstated after the pandemic has resolved.

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