The Occupational and Personal Consequences of the COVID-19 Pandemic on U.S. Oncologist Burnout and Well-Being: A Study from the ASCO Clinician Well-Being Task Force

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Abstract

INTRODUCTION: The COVID-19 pandemic is an unprecedented global crisis profoundly impacting oncology care delivery.

PURPOSE: This manuscript will (or aims to) describe the occupational and personal consequences of providing COVID-19 cancer care experienced by oncologists.

MATERIALS & METHODS: Four virtual focus groups were conducted with U.S. ASCO member oncologists (September-November 2020). Inquiry and subsequent discussions centered on self-reported accounts of professional and personal COVID-19 experiences impacting well-being, and oncologist recommendations for well-being interventions, the cancer organization, and professional societies (ASCO) might implement were explored. Qualitative interviews were analyzed using Framework Analysis.

RESULTS: Twenty-five of 63 oncologists were interviewed: median age 44y (range: 35-69); 52% female; 52% racial or ethnic minority, 76% medical oncologists; 64% married; 51.5 patients/weekly (range:20-120). Five thematic consequences emerged: 1. Impact of pre-COVID-19 burnout, 2. occupational/professional limitations and adaptations, 3. personal implications, 4. concern for the future of cancer care and the workforce, and 5. recommendations for physician well-being interventions.

Underlying oncologist burnout exacerbated stresses associated with disruptions in care, education, research, financial practice health, telemedicine. Many feared delays in cancer-screening, diagnosis, and treatment. Oncologists noted personal and familial stressors related to COVID-19-exposure fears and loss of social support. The workforce strongly considers working part time or taking early retirement. Yet, opportunities arose to facilitate personal growth and rise above pandemic adversity, fostering greater resilience. Peer based recommendations for organizational well-being interventions included psychological/peer support resources, flexible time-off, and ASCO and state oncology societies involvement to develop care guidelines, well-being resources, and mental health advocacy.

CONCLUSION: Our study suggests that COVID-19 pandemic has adversely impacted oncologist burnout, fulfillment, practice health, cancer care, and workforce and professional organizations should take note and play a significant role in oncologist well-being. It illuminates where professional organizations could play a significant role in oncologist well-being.
INTRODUCTION

The COVID-19 pandemic is an unprecedented, global multifaceted challenge that has significantly impacted cancer care delivery. In the U.S., the pandemic is widespread with repetitive phases of outbreaks, recovery, and response. Therefore, great attention is placed on the pandemic’s effect on the physical and mental health of healthcare workers. Yet, limited information exists on the occupational, and personal well-being of the oncologist caring for seriously-ill patients with cancer.

In fact, the burdens associated with COVID-19 are significant for oncologists because older, immunocompromised patients with cancer are at high risk for complications and death from infection. Oncologists reported practice changes due to the pandemic: modifications in workflow schedules and clinical/administrative roles, rapid implementation of telemedicine capabilities/practices, procedural delays, treatment alterations, delays in ambulatory visits, resource allocation decisions, challenges in end-of-life care (e.g., patient isolation from oncologists and families), clinical trial suspensions, and issues surrounding the use and availability of personal protective equipment (PPE) have all contributed to additional workplace stress. However, the impact of these professional and personal consequences on oncologist well-being have not been described.

Unique pandemic-related stressors are recognized to compromise clinician well-being. Yet, little is known about the personal, psychological impact on oncologists in the current COVID-19 pandemic. Evidence from China, Italy, and prior epidemics (SARS-2003, Ebola, MERS) suggest physicians are at an increased risk of burnout and poor mental health (e.g. anxiety, depression, post-traumatic stress) due to immediate and long-term, delayed epidemic-related stressors. COVID-19 affects all clinicians, regardless of whether or not they serve patients with COVID-19 directly. For oncologists and trainees, preliminary empirical research reveals they experienced increased stress, burnout, and ethical dilemmas in the provision of COVID-19
Oncologists are vulnerable to COVID-19-related emotional distress due to a significant duality: the threat of being infected themselves; and their patient’s vulnerability to infection and changes to cancer treatment.\textsuperscript{4-13} An understanding of the oncologist experience will aid the oncology community to provide support during this crisis.

In response, the ASCO Clinician Well-Being Task Force conducted a focus group study to describe the consequences of the COVID-19 pandemic on U.S. oncologist well-being and patient care. The study objectives were: 1.) describe the sources of occupational and personal stressors that are affecting oncologists treating patients with cancer during the COVID-19 pandemic; 2.) explore how these sources impact patient care from the oncologist perspective; and 3.) identify interventions (e.g., organizational, individual strategies) that support oncologist coping with the current COVID-19 pandemic and beyond.

**MATERIALS & METHODS**

This study was granted Institutional Review Board exempt status (MSKCC-8/2020) and followed the proposed criteria for systemic evaluation of qualitative oncology research published by the Journal of Oncology Practice in 2019.\textsuperscript{29} A total of 63 oncologists contacted via emailed invitations, 27 consented, and a final sample of 25 oncologists was recruited among a pool of previously identified ASCO volunteers willing serve as participants in the organization’s research endeavors. Physicians self-identified as practicing oncologists (hematologists, medical, surgical, radiation) providing cancer care and/or conducting research at U.S. community and academic cancer centers were eligible for participation. Oncologists were invited via email to participate in a focus group study conducted by the ASCO Clinician Well-Being Task Force to describe their experiences providing cancer care during the COVID-19 pandemic. Participants then completed electronic written consent, and demographics: age, gender, marital status, racial/ethnic status, practice environment (i.e.,
hospital, physician-owned, etc.), years in practice; patients seen weekly, and practice location via zip code.

Four virtual focus groups (4-8 physicians each) were conducted by two facilitators (FH, AB) using the WebEx videoconference program. Discussions lasting one hour were initiated, digitally recorded, and transcribed verbatim including Chat interactions. Participants were asked the primary questions with additional prompts as required for exploration of responses. As thematic saturation is known to occur at 15 participants for homogeneous groups, we recruited beyond the saturation point to interview 25 participants to ensure no new thematic concepts emerged. Transcriptions were confirmed for accuracy by ASCO staff (RS & MG) who reviewed recordings and corrected any errors. Findings were shared with participants as part of a respondent confirmation process. Qualitative methodology was used for analysis.

The interview guide was created after rigorous literature review involving research from prior epidemics (SARS-2003), current pandemic, and burnout in oncology. It was designed to identify themes associated with the oncologist's COVID-19 occupational and personal experiences impacting their well-being centering on three domains: 1) oncologist perceptions surrounding if/how their work was affected by the COVID-19 outbreaks; 2) views on how COVID-19 impact on personal life; and 3) oncologist recommendations for physician well-being improvement that cancer centers and external professional organizations (e.g., ASCO) might implement or promote (Appendix). The guide was reviewed and revised for accuracy by co-investigators (AK, JP, RP, TS, PS).

QUALITATIVE ANALYSIS

Transcripts were analyzed using Framework Analysis which enables thematic identification and categorization embedded in qualitative text based on the predetermined objectives shaped by data obtained. A code dictionary was developed after repeated analysis and discussion.
Certain themes were determined based on the research question with others synthesized from interview data. Intercoder agreement was assessed through a reliability coefficient using digital recording. Co-investigators (FH, AB) with significant experience in qualitative analyses consistently coded themes from the transcriptions. Redundant codes were removed, and vague codes re-classified by mutual agreement. A second set of coders (CG, AK, JB, DM) independently examined randomly coded transcriptions to determine thematic selection and resolve disagreement by mutual consensus. Interrater reliability assessment produced an average Pearson Correlation Coefficient of 0.90 (range: 0.82 to 1.00).

RESULTS

Twenty-five U.S. ASCO member oncologists (medical, hematologists, radiation, surgical, palliative care) from 25 academic and community cancer participated in the four focus groups.

Table 1 depicts oncologist demographics. The median age of participating oncologists included: median age 44 years and ranged from 35-69 years; 52% female; 76% medical oncologists; 52% racial minority (Black; Latino; Asian; Pacific Islander); 84% married. Participants represented a range of religions, including Hindu, Muslim; and those self-identified as Agnostic/Atheist.

Table 2 presents oncologist practice information. Oncologists reported seeing 45 patients/week (range: 20-120/week). Sixty percent served as clinicians primarily with 60% practicing oncology for 6-15 years. Sixty four percent are employed at academic center/tertiary care hospital and 80% work in hospital/health system-owned practice/group/outpatient department. For 56% of oncologists, their primary clinical responsibility involved outpatient care 90% of time; with 36% practicing in the MidAtlantic U.S.

THEMATIC IDENTIFICATION

Thematic analyses are listed in Table 3. Five primary themes emerged with corresponding subthemes and representative statements: 1. pre-COVID-19 burnout, 2.
occupational/professional consequences, 3. personal implications, 4. COVID-19 impact on future cancer care and workforce; 5. recommendations for A.) the cancer organization (private practice, academic, cancer center); and B.) professional organization (ASCO, oncology state societies).

**Pre-COVID-19 Burnout Experience**

Oncologists described how the evolving oncology landscape has contributed to burnout even before the COVID-19 pandemic. Salient factors compromising well-being included: care of seriously ill patients with cancer and complex treatment/psychosocial issues; increased productivity expectations, patient volumes, reimbursement issues, and administrative burdens. They reported experiencing core burnout signs including fatigue, cynicism, and reduced professional efficacy. Workload expectations coupled with a need to attain a balanced, healthy personal life, including family commitments, were a professional and private challenge. Experiences with patient deaths, unresolved grief, and inability of the institution to provide help were articulated. The relationship of pre-pandemic burnout with the COVID-19 pandemic was varied with some reporting unprecedented burnout, others finding their burnout to be status quo, and some feeling that burnout helped prepare them for the pandemic because they had previously adopted active coping strategies.

**Occupational, Professional Consequences of COVID-19**

The pandemic increased occupational burdens in the delivery and business of cancer care. Additionally, in the description of these negative implications, positive occupational outcomes were also noted.

**Burnout, Stress, Resilience**

Oncologists reported the undesirable, harmful personal effects of COVID-19 exacerbated underlying pre-pandemic oncologist burnout and increased new stress. Burnout and moral
strain in self and colleagues was a significant reality impacting cancer care, education, and research. Oncologists reported direct experiences with disruptions in chemotherapy and surgical care; altered trainee relationships; clinical trial suspensions; and clinical or laboratory research interruptions. End-of-life care was described as distressing, evoking sadness at the inability to say good-bye to patients in the intensive care units due to hospital visitation restrictions. Remote patient-family communication regarding end-of-life wishes was noted as more difficult compared to face-to-face communication. Some oncologists had worked in other physician roles (e.g. as intensivists) due to clinician shortages, which was distressing and challenged their professional identity.

Participants noted cancer organizations addressed COVID-19 cancer care with the establishment of proposals, protocols, and committees, and institutional support although limitations were also noted (e.g., lack of available Personal Protective Equipment [PPE]). Oncologists expressed concern over the welfare of colleagues diagnosed with COVID-19, and distressed team members and wanted to encourage colleagues to take time to decompress. Oncologists missed the opportunity to attend in-person meetings for education and peer, social connection despite the inception of virtual medical/oncology conferences. But oncologists expressed hope that this experience and practice changes (e.g., telemedicine, preparation for cancer care resumption) would serve to stimulate practice flexibility and growth.

Financial Concerns, Compensations, Practice Health, EMR, Telemedicine

Several financial concerns were reported that involved job security, revenue, hospital financial solvency, compensation, and practice health as clinics were forced to close early in pandemic. Practice leaders and primary investigators with teams or research personnel reported concerns over maintaining staff salaries. Some reported novel institutional financial planning to address physician revenue losses was a benefit. Although telemedicine was a beneficial approach for patient visits, other oncologists viewed it as compromising the oncologist-patient relationship
with an increased EHR burden. For oncologists caring for rural/underserved populations, telemedicine was not possible due to weak Wi-Fi service or patient lack of access to internet, and in-person visits despite COVID-19 risks, were the only viable option.

**Societal Impact on Patient Care**

Oncologists reacted to the societal impact of COVID-19 on patient care. They describe challenging patient communication regarding the importance of COVID-19 restrictions, social distancing with family and mask-wearing due to immunocompromised patient status that dominated many clinical encounters. Oncologists found themselves addressing unfamiliar topics that are affecting patients with cancer living in the era of COVID-19. Food insecurity, housing needs, and loss of jobs/insurance due to COVID-19 were unexpected topics that oncologists delved into daily. Furthermore, many accounts relived how current societal events (e.g., riots, racism, politics) overshadowed the pandemic with some oncologists reporting direct experiences of discrimination from patients due to physician cultural/ethnic/racial status.

**Personal Implications of COVID-19**

Oncologists reported a significant personal impact, both negative and positive, due to the pandemic.

**Personal and Family Stress**

Fear of personal, familial, friend, and colleague viral exposure/transmission impacted quality of life. Prolonged quarantines resulted in isolation, loneliness, and the absence of desired, familial support as spousal and child relationships changed. Dual/multiple roles as parent-physician or spouse-physician (e.g., oncologist as mother; home caregiver; role reversal if spouse is also a physician) have been further challenged during COVID-19. Social supports inside and outside of work evaporated and were longed for. Oncologists noted that their physical well-being and lifestyle (exercise, diet, sleep) was disrupted due to COVID-19 stress, restrictions, or modified
work schedules. Emotional well-being suffered with many expressing negative emotions associated with COVID-19 stressors including fear, anxiety, depression, anger, and irritability.

**Opportunity for Renewal, Restoration, Growth**

Despite these adverse experiences, COVID-19 related work changes provided certain possibilities for self-care. Oncologists availed themselves of institutional wellness programs and took advantage of extra time at home with spouses and loved ones. For some, relationships improved. For others, new hobbies brought about a sense of satisfaction outside of work. Oncologists highlighted the benefits of solidarity with other cancer clinicians and team cohesiveness aligning with the mutual goal to improve cancer care during the pandemic.

**Impact of COVID-19 on Future Oncology Care and Workforce**

Many reported concurrent concerns over public delay in screening and acute cancer care due to infection fears and future of the workforce. The pandemic and associated workplace modifications and stressors necessitated a reevaluation of their future in oncology.

**Part-Time Status & Early Retirement**

Increased family time during COVID-19 led to the awareness that personal life has been sacrificed during normal times. This realization led oncologists to consider a part-time work schedule or early retirement. Participants provided accounts of early retirement due to institutional violation of physician contracts or an inability to negotiate with administration. Some reported providing clinical coverage for colleagues who retired early due to COVID-19 occupational burdens. Others conveyed frustrations over not receiving promotions yet felt “numb” over COVID-19 cancer care, desiring a modified oncology role.

**Recommendations for Physician Well-Being Interventions**

Oncologists provided recommendations for improving physician well-being. These recommendations were directed as ideal approaches for the cancer organization and the
professional societies including ASCO. Oncology state societies were also named in this effort outside of structured query.

*Cancer Care Clinics and Organizations*

Oncologists felt that cancer organizations have an obligation to provide physician support in the form of peer/resilience/grief groups, mental health hotlines, and access to mental health experts. An example was provided of a wellness task force which spearheaded well-being lectures, seminars, and virtual evening social activities. Flexible time-off schedules were viewed as essential for oncology staff experiencing increased stressors and anxiety related to COVID-19 fears of infection at work. A perceived barrier to wellbeing resources involved lack of anonymity and fear of stigma associated with a mental health illness which may impact the physician’s profession and job security in the long-term.

*Professional Oncology Societies*

In-person peer support provided by professional societies (ASCO, state oncology societies) was viewed as beneficial yet absent in the age of virtual medical conferences. Participants believed an important duty and role of professional societies involves provision of peer support in the age of virtual medical conferences or available throughout the year. Mental health support in the form of an educational campaign (e.g., websites, resources, educational sessions), physician support hotlines, and anonymous psychological counseling was desired. Specific recommendations for ASCO included establishment of best practice guidelines and uniformity of U.S. oncology practice in the era of COVID-19 including telemedicine guidance, topics for early career oncologists, and the delivery of patient centered cancer care. Oncologists also proposed collaboration between ASCO and state societies to address burnout, mental health, and advocate for well-being. Finally, state oncology societies were viewed as primary advocates for state legislation to diminish stigma associated with mental health disclosure and reporting.

**DISCUSSION**
Changes to the delivery of cancer care due to the COVID-19 pandemic have been documented as the crisis broke.\textsuperscript{13,14} This manuscript is the first attempt to understand how the pandemic has affected the wellbeing of oncologists using a qualitative framework analysis to understand relevant themes. These data confirm, and expand upon, early reports surrounding the impact of COVID-19 on cancer care.\textsuperscript{4-19} This information may help inform the allocation of efforts to maintain and enhance the wellbeing of oncologists during the pandemic and beyond.

Oncologists were readily aware of pandemic effects on personal and professional relationships, strains on work life balance, and how these newly formed practice changes (e.g., tele-visits, covering for colleagues, challenges dealing with end of life under pandemic circumstances) are affecting patients, their practices (e.g., financial strains), and their long-term career plans in oncology (e.g., early retirement, less work). The pandemic has reflected the way in which increased patient morbidity and suffering impacts oncologists who feel the moral weight of inequity in care (e.g., end of life isolation, increased late-stage cancer patients). Pre-pandemic burnout provided an inflection point for a before and after comparison. A tendency towards comparison was seen and oncologists were starting gain insight into pre-existing burnout and its implications (e.g., the amount of time away from family as a sacrifice). The pandemic may overwhelm personal efforts at maintaining work life balance that were tenuous before the pandemic.

At the same time, a sense of pride was evident in being able to adapt to new ways of providing care. Ever responsive to the needs of patients, oncologists expressed a cautious sense of optimism that some changes may lead to innovation that improves cancer care. At the very least, it has highlighted various areas that need improvement. While the pandemic is overwhelming, the attention to distress and burnout to clinicians may be encouraging at the same time. The resilience of oncologists and their ability to access readily available coping mechanisms should be highlighted. Consistent with prior epidemic and resilience research, this was especially true for oncologists engaged in institutional wellness activities or self-care,
supporting evidence that resilience is a bidirectional process between system and individual.\textsuperscript{15,16,32} That is, resilience and distress are not mutually exclusive as becoming distressed may be an appropriate response and does not preclude or necessarily undermine coping or resiliency.

Oncologists called upon their institutions and professional societies to work to enhance professional ties and relationships—acknowledging their importance in preserving wellbeing-issues with coverage and work life balance, to name a few ideas. They felt that institutions and professional societies should focus on burnout and wellness. Oncologists expressed willingness to participate in wellness programs as they were seen as beneficial and their presence and efforts were noted, especially during the pandemic. Other recurrent themes were the positive associations with collegial interaction reducing isolation and burnout, the need to reduce stigma around physician wellbeing and mental health, and appreciation of work flexibility.

Several study limitations should be considered. Virtual focus groups enabled facilitators to witness face-to-face discussion and participant feedback. However, there were time limitations based upon how long the participant could remain engaged; in-depth exploration was not possible with this methodology.\textsuperscript{33-35} Participant responses may also be influenced by member input. An analysis of gender differences was not conducted given the small intergroup sample size. Such limitations are common in this research and we addressed these limitations to ensure data reliability.\textsuperscript{32,36,37} Facilitators enabled opportunity for each participant to individually describe experiences. Perspectives through WebEx Chat-feature discussions was also offered and transcripts along with recording was available to confirm study results. The benefits of virtual over face-to-face groups include low cost, easy to use/scheduling; recording capabilities; broader audience; better online metrics (e.g., webchat) for data management and analysis. We also recruited beyond thematic saturation point to strengthen results. All were members of an oncology professional society practicing in the U.S. This limits generalizability to other countries, and cancer healthcare systems. Yet, our study included a diverse, representative oncologist
sample from various specialties, practices, and U.S. regions. However, themes from community oncologists may have been lacking given that focus group participant representation was not proportional to the large percentage of community oncology practices. Overall, the resulting data provide a rich descriptive understanding of the COVID-19 consequences for oncologists.

In summary, COVID—19 has compounded oncology-related burnout bringing its implications into full relief and threatening practice alterations (e.g., early retirement, reduced hours). Oncologists are affected by not only changes to practice but the pandemic’s effect on patients who are suffering in unique ways and to a greater extent than before the pandemic. Oncologists are receptive to burnout interventions and take pride in adapting and finding ways to continue to deliver good cancer care. Oncologists recommended that institutions and professionals societies involve themselves in the welfare and wellbeing of the oncologists who face myriad issues with significant resiliency. A breaking point is feared but optimism is also evident. A sense that adversity will encourage ingenuity is present for attaining new ways of supporting oncology practice.
Table 1. Focus Group Socio-Demographics of U.S. ASCO Oncologists (N=25)

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<th>Frequency, N (%)</th>
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<td>Physician Practice Information</td>
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Table 3. Themes Associated With Occupational and Personal Consequences of the COVID-19 Pandemic on U.S. Cancer Physician Burnout and Well-Being

**See Horizontal Table**

APPENDIX
Oncologist Well-being During the COVID-19 Pandemic: Focus Group Study Interview Guide

Introduction
Hello and welcome to our focus group session. Thank you for taking the time to join us to describe the oncologist’s experience of COVID-19 on overall well-being. My name is []. We are both members of the ASCO Clinician Well-Being Task Force [mention individual institutional affiliations]. ASCO’s Clinician Well-Being Task Force is seeking information from oncologists regarding the impact of COVID-19 on their well-being.

You were invited to participate in this study because you are an ASCO member and a practicing oncologist in the United States. There are no correct or incorrect responses to our questions. We welcome all perspectives and experiences. This focus group session will be recorded so that we adequately capture of your comments. We will be on a first name basis during this discussion, however we will not use any names or identifying information in the report. All data will be de-identified and anonymized. We ask that you agree to keep this discussion confidential. This discussion will be transcribed and analyzed for data and themes by our team. To assist with the creation of a transcript, please state your first name prior to speaking. I may call on you as I want to ensure that all group members have an opportunity to express your opinions. This focus group discussion will take approximately 60 minutes.

The report will be shared with the ASCO Task Force, staff, and leadership to help plan future research on oncologist well-being and to develop resources, education, and initiatives to support oncologists.

1) Opening/Icebreaker or Introductory Question
Name, location, subspecialty within oncology if applicable

**DOMAIN1. Occupational impact:** Oncologists’ concerns/perceptions if their work had been seriously affected by the COVID-19 outbreaks
The initial series of questions address the impact of the COVID-19 pandemic on your work as an oncologist.

1. How has your work been affected by the COVID-19 pandemic? (OPEN QUESTION)

   Probe: (impact on ability to provide care)
   - How has COVID-19 changed your ability to provide care that is
     - Timely?
     - Adherent to quality guidelines?
     - Responsive to individual patient needs?
     - Inclusive of caregivers, family members, and healthcare proxies?

   Probe (impact on your ability to offer clinical trials)
   -- How has COVID-19 changed the possibility for your patients to:
     - Consider clinical trials?
     - Be screened for clinical trials?
     - Enroll in clinical trials?

   Probe (impact on teaching, education, and teamwork)
   -- How has COVID-19 changed your ability to:
     - Involve trainees (residents or fellows) in your patient care
     - Involve interdisciplinary team members in care
     - Provide concurrent palliative care
     - Have a dialogue with colleagues about care decisions for your patients

   Probe (Other aspects of oncology work)
   - How has the COVID-19 pandemic impacted?
     - Teaching and education?
     - Willingness of patients to attend outpatient clinics.
     - Clinical revenues related to in-person and telehealth visits
     - Selection of anti-cancer therapies
     - Infection control precautions?
     - Ability to see outpatients.
     - Ability to perform regular activities.
     - Research? Clinical trial accrual?
     - Any new involvement in COVID-19-related work?

   - If the oncologist had COVID-19:
     - Ability to enter work due to symptoms.
     - Impact with Peer Colleagues?
     - Impact with patients or other medical staff?
• Impact on your emotional state?

2. How has your practice/organization supported you/your work during COVID-19?
   Probes: (organizational responses)
   --Tell us about actions your organization did that had a positive impact on you and the care you provide?
   --Tell us about actions your organization did that had a negative impact?
   --How did the leadership in your organization support or detract for your ability to adapt to demands placed by COVID-19?
   -- How have they prepared you on COVID-19 Education?
   - How have they respected your values/role as an oncologist?
   - PPE?
   - Working Conditions?
   - Flexibility in working hours or locations
   - Other ways?

3. What are your concerns regarding oncology care at your practice/cancer center? (now and in the future?)
   Probes: (sustainability)
   --How sustainable are the changes that you have made to continue practicing during COVID-19?

**DOMAIN 2: Personal health**

The next series of questions address your own personal health and overall well-being.

1. How has the COVID-19 experience impacted your physical health?
   Probe: (physical symptoms)
   -What are you experiencing physically?
   -How much of these physical issues affect your work as a clinician

2. How has the COVID-19 experience impacted your mood and well-being?
   Probe: (emotional symptoms)
   -How do you find your mood, sense of well-being, and emotional state now?
   -How much do these issues of well-being and mood affect your work as a clinician?

3. How has COVID-19 impacted your relationships with family, friends and colleagues?
   Probe (social/familial relations)
--What concerns do you have regarding the risk of transmission of COVID-19 in your family, (e.g., young children, elderly parents or partners, family members)?

--What other stressors have you experienced associated with COVID-19?

4. What actions have you taken to cope with the impact of COVID-19?

Probe (Coping;)

- How do you find yourself coping with this experience?
- What keeps you going under such challenging circumstances?
- How do you manage to deal with such challenging situations each day professionally?
- What helps you to keep going even though things are difficult personally?
- How do you act in the following areas? (ask about areas not mentioned already)
  - Follow the news about COVID-19 closely, or avoid?
  - Talk to others about your concerns or keep them to yourself?
  - Participate in spiritual, religious, or faith practices more or less than last year?
  - Use alcohol or other substances to deal with stress more or less than last year?

5. Are there resources, education, or support that ASCO could provide that would have a positive impact on your well-being?

Probe (ASCO possible role)

- What impact does ASCO have on your well-being?
- What well-being resources do you believe that ASCO should provide?
- Are there any actions ASCO could take to influence any of these issues in a positive way?

6. What solutions could ASCO provide that would have a positive impact on your practice/organization’s health?

Probe (ASCO possible role)

- How does ASCO contribute to your practice/organization’s ability to provide care?
- What practice health resources do you believe ASCO should provide?
- Are there any actions ASCO could take to influence any of these issues in a positive way?
REFERENCES


33. P. H. Using internet technologies (such as Skype) as a research medium; A research note. *Qual Res*. 2012;12 (2):239-12.
34. Forrestal SG DaA, Vogel LK. . Considerations for and lessons learned from on-line, synchronous focus groups. . *Survey Practice*. 2015;8 (3):.
Table 3. Themes Associated With Occupational and Personal Consequences of the COVID-19 Pandemic on U.S. Cancer Physician Burnout and Well-Being

<table>
<thead>
<tr>
<th>Primary Themes</th>
<th>Secondary Themes</th>
<th>Representative Quotations and Statements</th>
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<tbody>
<tr>
<td>Pre-COVID-19 Burnout Experience</td>
<td>Evolved Oncology</td>
<td>FG4: “Pre-COVID-19, It was ‘a complex calculus to make our lives work’. My share of work-life struggles had already fought those battles. So (I) went into COVID ( pandemic) with an established practice involving; exercise, prayer, rest, self-care routine.”</td>
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<td></td>
<td>Landscape--- Increased Clinical Care/Admin Burden</td>
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<td>Unaddressed Oncologist Burnout</td>
<td>FG2: “past Christmas, a patient died, 35 y/o, 2 kids same age as mine, --‘I felt like I failed her, even though I know I didn't fail’. (I) was really affected, reached out for help but it wasn’t available at my institution”.</td>
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<p>| Professional Consequences of COVID-19       | Burnout, Stress, &amp; Resilience         | FG4: I think that all of our colleagues are feeling a lot of burnout right now. Everybody’s seeing a lot of death and heartache and social isolation and anger that they’re not used to encountering and in very new and different ways.” |
|                                             |                                       | FG3: Patients are feeling challenged and scared--‘you have to spend a lot more time with them' to deal with their fear |
|                                             |                                       | FG4: Burnout has been real, moral injury has been real. You know, unfortunately, the racism that we’re seeing is a big issue. Childcare is a big issue. Financial problems are a big issue. And I don't know if we're addressing that correctly with our staff, we're on some of our services meeting once a week with all of our different employees, to figure out what we can do, how we can help, or just let them vent.” |
|                                             |                                       | FG3:We had a couple of staff members who had to take time off because of their anxiety around |
|                                             |                                       | FG2: And the hospital initially determined that oncology was low risk not recognizing that projectile vomiting could be a significant risk factor, so our nurses were exposed for quite a while before they got us N95 masks, and we were using the chemical shields for chemotherapy, |
|                                             |                                       | FG1: that's been very stressful to deal with sort of communicating with the families and trying to provide the degree of comfort and support to the patients in addition to just the sort of scientific angle of the medical care. |</p>
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<tr>
<th><strong>Financial Concerns, Compensations, Practice Health, Telemedicine</strong></th>
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<td><strong>FG2:</strong> Our outpatient clinic space in the hospital was also turned into a COVID unit. We were in a situation where all spaces were rapidly redesigned, refurbished, um, to accommodate COVID patients, and we ended up moving our outpatient clinics more into the peripheral site, which, you know, was okay, not ideal, but I think 1 of the things that this taught me is that we, as a species have the ability to adapt and things that we hereto forethought, we couldn't do, magically we can do, you know, you would think that and it's everything from working from home to (FG2)</td>
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<td><strong>FG2:</strong> You basically get stuck at your salary or making kind of a peak and then you can wind down and bring someone junior on and they did that for stability for the system. So that it's not like someone who the Super busy practice all of a sudden is gone. You have to hire 2 people to replace them.</td>
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<td><strong>FG4:</strong> You're worried about funding unfortunately, the funding agencies were good with no cost extensions, but you're still paying someone salary. So there's a shortcoming shortcut there because they're paying salary. You get a no cost extension for your supplies, but you still have to cover the salary during the COVID lockdown for 6 months and then afterwards, and trying to juggle that and provide salaries for people in the laboratory is very difficult</td>
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<td><strong>FG3:</strong> All of us make it through the pandemic with a pay model that was going to prevent anyone from running into any unexpected, acute hardship. And so, I know it's gauche to talk about money, but I think that made a huge difference in morale, especially pandemic, when there's a lot of financial hardship going around, that our practice addressed that so proactively.</td>
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<td><strong>FG2:</strong> Through a pandemic, you can just see how the food banks are starting to run out of food and have this incredible influx of people that are needy.</td>
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<td><strong>FG2:</strong> All of my patients via telemedicine now, with the exception of patients who require a physical exam for some reason. So, in a given day out of 20 patients, I may see between 1 and 5 of them in person and the rest will all be telemedicine.</td>
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<td>Societal Impact On Patient Care</td>
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<td>FG1: So we were doing telehealth, which kind of helped us, but we did have trouble coordinating with the local oncologist at that time, or getting labs, or because they were, their volume was less. They did not have much of availability.</td>
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<td>FG2: And that balance is very fragile. Now, come a situation where maybe a lot of people were losing insurance or economic downturn happens in a very meaningful way. All of a sudden you're faced with people who don't have insurance anymore, who can't pay bills and that has a very powerful, the ripple effect into the way we deliver care, and we need to understand that and probably account for that in some way.</td>
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<td>FG4: As a woman with a diff background now feels that political conversations are coming 'into my workplace' which never happened before--'patients have said mean and hurtful things'...'I miss 9/12 [referring to day after 9/11] when everyone came together'</td>
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children are always there. We can't bring in babysitters because I don't really trust high school and college kids not to come, to my home and not spread COVID. My kids are too little to be by themselves. My nanny already works doctor's hours and is not interested in working anymore and I can't blame her. Our parents are old and senile, and not capable of managing our children and honestly, too high risk to be exposed to my husband and I's occupational hazards.

FG2: And I think I think that and trying to home school, when kids are trying to figure out homeschools. I mean, we actually ended up buying a house just to get out of city X, because we needed a lawn. And as I said, my son was so afraid to go outside that took them a month before, even ventured out because even so fearful of the disease. And so there is that stress.

FG1:I had a pretty established routine pre-COVID, which basically was wake up, go to work, go to the gym, go to church, come home, go to sleep. Repeat and yeah, a lot of that changed, right? …the gyms closed, which was devastating to me, and I remember thinking the day that all the operating rooms closed I was like, bonus, I'm going to be able to get to the gym more often and then I got the email saying the gyms are closed and I, I went ballistic and all my friends were like, oh, my God. Um, and then church closed and I was like okay, this sucks.

FG4: I haven't had a day off since last Christmas, I have a 'shorter fuse' than typical; also that 'I do get more emotional when patients aren't doing well' e.g. hospice talk or bad news--these talks 'hit me harder'. Normally I talk with my wife, a mainstay of support.

An Opportunity for Renewal, Restoration, and Growth

FG3: And people are realizing, maybe I just don't miss the travel as an academic oncologist. Maybe it's not worth that to write another paper. Because being at home and cooking is such a lovely experience.

FG 2: I really like my husband, he's really fun to hang out with and so it's been so nice to have that extra time to just sort of discover, that if I have to be stuck in a house with someone for 6 months, it was a good choice and yeah, I liked him before, but I like him even more now, which I didn't know
was possible. And so that has a silver lining and it's really helped support me because

FG1: It was just the family, was just the core family and my wife and kids and so it was a great vacation, a lot of time together and hiking and doing outdoor stuff. And that would never have happened without COVID.

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<tr>
<th>Impact of COVID-19 on Future Oncology Care &amp; Workforce</th>
<th>Part-Time Physicians &amp; Early Retirement</th>
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<tr>
<td>FG4: “When COVID hit, there was unexpectedly 'a chance to breathe'-- worked at 3 days a week, came into the clinic 2 days, 'I really loved it' --had 'this extra time' with kids and husband--'it opened up my brain' to something I had been thinking about... pulling back on my practice’</td>
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FG4: ‘I know what my calling is --it's not worth this cost now” (FG4)

FG3: We've had ongoing stress for the last probably 3 or 4 years with new administration in the hospital...that's impacted people’s behavior and thoughts. So, there's a significant disconnect between our new administration and physicians and ...the stressors for COVID, which are real, are beginning to exacerbate those stressors, and I have just putting in my resignation for the end of this year largely because the stressors of work, and just the point that I had reached a point, I just felt when I had wish to achieve here, to move things forward, was just really not possible in the current environment.

FG2: I'm on an academic faculty. I was unable, not even given a choice, I was told because in January I turned the magical age of 65, yeah, I was not to go anywhere near the hospital for 6 weeks. So, I didn't. In terms of work RVUS, somehow they haven't accounted for that, but that's not even the issue, now that I'm back, I, I cannot use a scribe. I do have a busy clinical practice, and I am now not caught up. And, to be honest I have already told my supervisor that if this doesn't change soon…I'm going to stop seeing patients probably sometime next year.

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<tr>
<th>Recommendations for Physician Well-Being Interventions: Cancer Organization</th>
<th>Mental Health Support/Physician Support/Wellness Task Force</th>
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<tr>
<td>FG1: I know at first, at the beginning of pandemic, the mental health support lines and faculty and staff available, teams were pretty busy. But last I heard it wasn't as crazy busy for them as it had been. But I know that those have been some good resources that have been available.</td>
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<tr>
<td>Flexible Schedules/Time off</td>
<td>Peer Support Programs</td>
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<td>FG1: It is basically part of the teamwork and, uh, and, yes, as you were saying we do POWOWS meetings every week with the whole team.</td>
<td>FG1: “…” a conference coming up, (we) have multiple zoom rooms where people are in and you can just talk and I think that would be good for ASCO members have done, you know, to promote well-being and to promote teamwork in this new era to do good for, for both the staff as well as patients. So, I think just sharing ideas, experiences, and innovating is probably something that's helpful.</td>
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<td>FG4: there was a mental health hotline for individuals and a group resilience intervention--but she sees a barrier with clinicians NOT feeling they could access these resources anonymously and would be identified and feeling watched</td>
<td>FG1: People having more awareness and we had a couple of employees who needed to take time off because they had just anxiety related to COVID, where they were very worried about getting COVID at work and interacting with all these patients, all cancer centers should do that.</td>
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<td>FG2: …Center created a sort of wellness task force, um, where it had lectures and seminars and, like, um, social hours over Zoom at night. And I think it, it brought our colleagues a lot closer together.</td>
<td>FG3: Sometimes they would be very, very we've tried to be very flexible, if someone needs to take a morning off because of days, you know, no big deal.</td>
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<td>FG1: …&quot; a conference coming up, (we) have multiple zoom rooms where people are in and you can just talk and I think that would be good for ASCO members have done, you know, to promote well-being and to promote teamwork in this new era to do good for, for both the staff as well as patients. So, I think just sharing ideas, experiences, and innovating is probably something that's helpful.</td>
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<td>FG1: But the interactions that you have informally with colleagues at those meetings, and people that you haven't seen in 5 years or 10 years, and then you just meet for the first time and it's just sort of all that stuff that just Support happens organically when you're actually physically present together versus being on a zoom call, you don't randomly run into somebody on a zoom call, they have to have been invited and they have to you know, be called on and kind of it's just a different dynamic so yeah.</td>
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| ASCO Guidance/ Statements on Oncology Practice In COVID-19 | FG2: Educational campaign/website about, well-being. I think education will go a long way for that.  
FG4: ASCO should create anonymous sources of psychological support for grief. I have never yet gotten psychological support. I still don't know who I would turn to if I had another case like this... I actually support that would be great'  
FG4: resources for clinicians--esp. mental health  
FG3: ASCO might, that might be a sweet spot for workforce planning, and I know CancerLinQ, uh, that we're going to probably see some of that more granular data from the sites that they're integrated with about how practices have changed.  
FG2: ASCO should create a pathway or model policies for early career oncologists  
FG: ASCO policy on how to navigating telemedicine, how to bill in the era of COVID19.  
FG1: ASCO guidelines as establishing a uniformity of practice across the country. we always look to ASCO for is like, clinical guidelines and here's the practice guidelines or something, and in the journal of oncology practice about how you should be doing X, Y, or Z, so something around handling COVID or innovations that can be done in the COVID era to overcome some of the issues might be of interest  
FG4: Enact legislation and guide medical system and medical state societies to address burnout and mental health  
FG: State legislature to work with medical boards or Federation of state Medical Board to provide recommendation and advocacy about removing stigmas associated with mental health and gaining help |
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<td>State Oncology Societies</td>
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