Integrative Oncology Consultations Delivered via Telehealth in 2020 and In-Person in 2019: Paradigm Shift During the COVID-19 World Pandemic

Santhosshi Narayanan, MD1*1, Gabriel Lopez, MD1*, Catherine Powers-James, PhD1, Bryan M Fellman, MS1, Aditi Chunduru1, Yisheng Li, PhD1, Eduardo Bruera, MD1, and Lorenzo, Cohen, PhD1

Abstract

Background: The COVID-19 pandemic has catalyzed the use of mobile technologies to deliver health care. This new medical model has benefited integrative oncology (IO) consultations, where cancer patients are counseled about healthy lifestyle, non-pharmacological approaches for symptom management, and addressing questions around natural products and other integrative modalities. Here we report the feasibility of conducting IO physician consultations via telehealth in 2020 and compare patient characteristics to prior in-person consultations conducted in 2019. Methods: An integrated EHR-telemedicine platform was used for IO physician consultations. As in the prior in-person visits, patients completed pre-visit patient-reported outcome (PRO) assessments about common cancer symptoms [modified Edmonton Symptom Assessment Scale, (ESAS)], Measure Yourself Concerns and Wellbeing (MYCaW), and the PROMIS-10 to assess quality of life (QOL). Patient demographics, clinical characteristics, and PROs for new telehealth consultation in 2020 were compared to new in-person consultations in 2019 using t-tests, chi-squared tests, and Wilcoxon rank-sum test. Results: We provided telehealth IO consultations to 509 new patients from April 21, 2020, to October 21, 2020, versus 842 new patients in-person during the same period in 2019. Most were female (77% vs 73%); median age (56 vs 58), and the most frequent cancer type was breast (48% vs 39%). More patients were seeking counseling on herbs and supplements (12.9 vs 6.8%) and lifestyle (diet 22.7 vs 16.9% and exercise 5.2 vs 1.8%) in the 2020 cohort than 2019, respectively. The 2020 telehealth cohort had lower symptom management concerns compared to the 2019 in-person cohort (19.5 vs 33.1%). Conclusions: Delivering IO consultations using telehealth is feasible and meets patients’ needs. Compared to patients seen in-person during 2019, patients having telehealth IO consultations in 2020 reported lower symptom burden and more concerns about lifestyle and herbs and supplements. Additional research is warranted to explore the satisfaction and challenges among patients receiving telehealth IO care.

Keywords
COVID-19, telehealth, integrative oncology, patient-reported outcomes, integrative medicine, telemedicine, complementary and alternative treatments, cancer

Submitted January 29, 2021; revised January 29, 2021; accepted February 10, 2021

Introduction

The practice of telehealth has been rapidly adopted across several health systems in the United States and around the world, catalyzed by the COVID-19 pandemic. Adopting telemedicine in oncology is associated with unique opportunities and challenges.1,2 Overall, telehealth continues to be widely utilized in the setting of the ongoing COVID-19 pandemic and continues to be developed with a growing

1The University of Texas MD Anderson Cancer Center, Houston, TX, USA
*Denotes equal contribution (co-first authors).

Corresponding Author:
Santhosshi Narayanan, Department of Palliative, Rehabilitation, and Integrative Medicine, Unit 1414, The University of Texas MD Anderson Cancer, 1515 Holcombe Boulevard Houston, TX 77030, USA.
Email: snarayanan2@mdanderson.org
literature in this area. The use of telehealth has increased patient access to oncology services, which, in the past, may have been challenging to attend in person due to geography, time, and other barriers. It is likely that the adoption of telemedicine in oncology will continue beyond the current pandemic.

Cancer patients more frequently use complementary alternative medicine (CAM) therapies than the general population. An estimated 48% to 69% of US patients with cancer use CAM therapies, and the percentage increases if spiritual practices are included. Cancer patients and survivors report using CAM because they seek to reduce the side effects of conventional treatments such as organ toxicity or improve quality of life (QOL), protect and stimulate immunity, or prevent further cancers or recurrences. With adequate precautions, most complementary approaches such as massage, and music therapy can be safely used during treatment and throughout survivorship. Herbs and supplements, however, may need more caution. Patients need guidance as to how to navigate the available information to make informed decisions. Integrative oncology (IO) consultations also focus on lifestyle factors in the area of maintaining a healthy weight, diet/nutrition, exercise, and stress management as these factors are known cancer risk-factors. To meet the patient’s needs, IO programs are becoming more widely available in several cancer centers. Information regarding IO interventions may be of greater relevance to cancer patients especially during the COVID-19 pandemic as they explore strategies to successfully and safely manage symptoms, incorporate healthy lifestyle, and improve their health while isolated from family and community.

Despite the growing number of IO programs, access to such programs is typically still limited to major medical centers. Even where IO programs exist, access may be further limited due to time constraints with multiple appointments and coordination of care among cancer patients and geographic barriers. Adoption of telehealth in IO may help in reducing some of these barriers. The advantages and disadvantages of telehealth have been previously reviewed in cancer and other medical specialties. However, there are limited data on the practice of IO through the telehealth platform. This manuscript reports on data from new patient IO telehealth consults between April 21 to October 21, 2020 compared to new patient IO in-person consults during the same time period in 2019.

Methods

Data from 2 separate patient cohorts were extracted from consecutive patients seen for new consults from April 21, 2020 and compared to a similar time period during 2019. All patients were unique to each cohort and no patients in the in-person cohort were part of the telehealth cohort. Our IO consult service at The University of Texas at MD Anderson transitioned to being all telehealth in early April 2020 using Zoom as the communication platform. All appointments were scheduled and accessed through the EPIC electronic health record and patients had the choice of encounters with audio only or audio and video.

All patients presenting for a new patient consultation, in-person and telehealth, were asked to complete a series of questionnaires; only patients ≥18 years of age and presenting for their initial IO consultation were included in this analysis. These collected data were stored in a secured, HIPAA compliant, FileMaker Pro database as part of an institutional review board–approved protocol; a waiver of informed consent was granted for this retrospective analysis. Before their initial consultation, patients completed the Measure Yourself Concerns and Wellbeing (MYCaW), the Patient-Reported Outcomes Measurement Information System (PROMIS-10), and Edmonton Symptom Assessment Scale (ESAS).

Intervention

All IO initial consultations included a comprehensive assessment corresponding to patient self-reported data made available to the physician immediately before the encounter and patient concerns elicited during the nurse’s review prior to the consultation. During the physician’s initial encounter, each patient is evaluated comprehensively, and referrals are made to other integrative medicine services according to the individual’s physical, mind-body, or social needs. An integrative care plan may include acupuncture or massage for symptom control; health psychology, meditation, or music therapy for psychological distress; counseling on healthy lifestyle behaviors such as diet and exercise and referral to nutrition and physical therapy; or discussion of risk and evidence-base for herb/supplements or alternative treatments being pursued or considered by patients.

Measures

All instruments were completed by the nurse and then entered into the electronic medical record and secured electronic database for analysis. Patient demographics and clinical data were extracted from the medical record.

Measure Yourself Concerns and Wellbeing (MYCaW)

Patients completed a modified version of the MYCaW questionnaire. Patients reported their top 2 concerns for their integrative medicine encounter from a list of available topic areas. These include: integrative/holistic approach,
herb/supplements, diet/nutrition, pain, overall health, and stress/anxiety, as well as an “other” category.

**Modified Edmonton Symptom Assessment Scale (mESAS)**

Patient symptom burden was assessed using the modified ESAS.\(^{22}\) Patients were asked to report on 16 items: 10 core symptoms such as pain, fatigue, nausea, depression, anxiety, drowsiness, loss of appetite, decreased sense of wellbeing, shortness of breath, and sleep and an additional 6 items such as spiritual distress, financial distress, numbness/tingling, hot flashes, dry mouth, and memory—as experienced in the last 24 hours on a numeric scale of 0 to 10, with 10 being the worst. A change of difference of 1 on an individual item is viewed as a clinically significant difference in that symptom.\(^{23}\) Subscale scoring was as follows: global distress score (GDS, range: 0-90) sum of pain, fatigue, nausea, drowsiness, appetite, shortness of breath, anxiety, depression, and wellbeing scores; physical distress score (PHS, range: 0-60) sum of pain, fatigue, nausea, drowsiness, appetite, and shortness of breath; psychological distress score (PSS, range: 0-20) sum of anxiety and depression.

**Patient-Reported Outcome Measurement Information System (PROMIS10 scores)**

PROMIS scores intend to reflect the patient’s own assessment of their QoL. The PROMIS-10,\(^{24}\) an assessment of global health, includes 10 self-report items that can be divided into mental health and physical health subscales. Responses are converted into T-score values, with T-score distributions standardized to the mean for the US population. Higher scores represent better global, mental, or physical health.

**Statistical Analyses**

Descriptive statistics were used to describe the demographic and clinical characteristics of the 2 cohorts in this study. Cohorts were defined as in-person during 2019 and telehealth during 2020. The MYCaW instrument was summarized using frequencies and percentages and compared by cohort using the chi-squared test or Fisher’s exact test. ESAS and PROMIS scores were summarized with means, standard deviations, ranges, and compared by cohort using t-tests or Wilcoxon rank-sum test. All statistical analyses were performed using Stata/MP v16.0 (College Station, TX).

**Results**

With regard to the transition to telehealth, initial challenges included moving patients from scheduled in-person appointments to telehealth visits. Prior to adoption of the Zoom platform, initial telehealth encounters were taking place via telephone or using FaceTime. During the initial transition to telehealth, MD Anderson was actively trying to limit the numbers of patients, caregivers, and staff on-campus, prioritizing local patients with more urgent health conditions. This transition was taking place during a time when staff were re-assigned to roles including temperature checks at entryway checkpoints. A significant number of staff from the integrative medicine center were re-assigned, including our acupuncturists, massage therapists, music therapist, advanced practice providers, and nurses. Initially, only physician and psychology consultations were available to patients as part of IO telehealth offerings. Nutrition consultations remained available as telephone encounters. During June and July, additional clinical services transitioned to a telehealth format including yoga/meditation consultations and physical therapy exercise counseling. During September and October 2020 (toward the end of the study period examined for this analysis), additional re-assigned staff returned to our center with a transition to providing music therapy via telehealth and the return of in-person treatments (including oncology massage and oncology acupuncture) with new measures implemented to increase safety. We were also able to transition our outpatient group classes such as tai chi, qi gong, yoga, and music therapy to a telehealth platform using Zoom. The results that follow are from an analysis of the IO consultations during the first 6 months of our transition from in-person to telehealth.

A total of 1351 subjects were included in the analysis, with 842 in-person from April 21, 2019 to October 21, 2019 and 509 telehealth from April 21, 2020, to October 21, 2020. Table 1 presents the demographic and clinical characteristics by cohort. More than 70% of the patients in both cohorts were women, with the majority of cancer diagnosis being breast (in-person = 39%; telehealth = 48%) or GI cancers (in-person = 12%; telehealth = 11%) and just over a third of the patients in each cohort had metastatic disease. There was a greater representation of African Americans seen in the telehealth cohort (telehealth n = 68 (14%); in-person n = 75 (9%), \(P = .004\)), but the overall numbers are small and should be interpreted with caution. There was a slightly greater percentage of breast cancer patients seen in the telehealth cohort (telehealth = 48%; in-person n = 39%), but the differences did not reach statistical significance (\(P = .14\)). The in-person cohort tended to live farther from MDA than the telehealth patients (mean miles: in-person = 325; telehealth = 212, \(P < .001\)). There were no other differences between the 2 cohorts.

Patients’ first MYCaW response, or reason for seeking the integrative medicine consultation, are summarized in Table 2. In both cohorts, the most frequent reason for a consult were seeking an integrative approach, diet/nutrition, and symptom management. Significant differences between cohorts were noted for diet/nutrition,
integrative cancer therapies

exercise, and herbs and supplements, with a greater percentage of the telehealth cohort selecting those reasons to discuss during their consultation. The in-person cohort indicated greater interest in addressing questions about symptom management. There were no significant differences between cohorts regarding interest in discussing depression, fatigue, integrative approach, relaxation, sleep, or stress/anxiety.

Examination of the ESAS symptom burden data (see Table 3) indicated that the patients from the in-person cohort reported significantly higher (worse) self-reported symptom scores for all outcomes except for hot flashes, which were not different between cohorts. There were greater than 1-point differences in symptom scores, suggesting clinically significant differences between cohorts, for: appetite, depression, memory, shortness of breath, sleep, and overall well-being.

For the PROMIS-10, there were no significant differences in mental health or global health, however, consistent with the ESAS scores, the in-person cohort reported statistically significantly worse (lower) physical health than the telehealth cohort ($P=.038$).

### Table 1. Comparison of Demographic and Clinical Characteristics of New Patients Seen In-Person in 2019 and Via Telehealth in 2020.

| Characteristic                     | In-person-2019 | Telehealth-2020 | P-value* |
|-----------------------------------|---------------|-----------------|---------|
| Age at consult                    |               |                 | .704    |
| Mean (SD)                         | 56 (13)       | 56 (13)         |         |
| Median (min–max)                  | 58 (19-90)    | 56 (19-88)      |         |
| Distance from MD Anderson (miles) |               |                 | <.001   |
| Mean (SD)                         | 325 (544)     | 212 (387)       |         |
| Median (min–max)                  | 115 (0-6541)  | 38 (0-3899)     |         |
| Sex                               |               |                 | .113    |
| Female                            | 615           | 390             |         |
| Primary race                      |               |                 | .004    |
| Asian                             | 60            | 27              |         |
| Black or African American         | 75            | 68              |         |
| Other                             | 75            | 37              |         |
| White or Caucasian                | 625           | 367             |         |
| Ethnicity                         |               |                 | .449    |
| Hispanic or Latino                | 112           | 75              |         |
| Not Hispanic or Latino            | 712           | 422             |         |
| Age                               |               |                 | .625    |
| 19-39                             | 113           | 61              |         |
| 40-59                             | 360           | 234             |         |
| 60-79                             | 348           | 201             |         |
| >=80                              | 20            | 10              |         |
| Cancer diagnosis                  |               |                 | .138    |
| Breast                            | 322           | 239             |         |
| CNS                               | 25            | 9               |         |
| Endocrine                         | 21            | 11              |         |
| GI                                | 100           | 55              |         |
| GU                                | 66            | 41              |         |
| GYN                               | 65            | 38              |         |
| Head and neck                     | 70            | 27              |         |
| Hematological                     | 55            | 36              |         |
| Lung                              | 44            | 20              |         |
| Sarcoma                           | 33            | 13              |         |
| Others                            | 29            | 11              |         |
| Cancer stage                      |               |                 | .755    |
| Metastatic disease                | 322           | 199             |         |

*Not all patients had data for all variables.

*Indicates $P$ value for differences between in-person and telehealth cohorts.
Table 2. Comparison of Patient Reasons for Seeking Integrative Oncology Consultation for New Patients Seen In-Person in 2019 and Via Telehealth in 2020.

| Characteristic            | In-person-2019 | Telehealth-2020 | P-value<sup>a</sup> |
|---------------------------|----------------|-----------------|----------------------|
|                          | N   | %   | N   | %   |                   |
| Integrative approach     | 164 | 21.1 | 113 | 22.7 | .488              |
| Diet/nutrition           | 132 | 16.9 | 113 | 22.7 | .011              |
| Exercise                  | 14  | 1.8  | 26  | 5.2  | .001              |
| Herbs & supplements       | 53  | 6.8  | 64  | 12.9 | .000              |
| Symptom management       | 258 | 33.1 | 97  | 19.5 | .000              |
| Fatigue                  | 56  | 7.2  | 31  | 6.2  | .505              |
| Sleep                    | 27  | 3.5  | 16  | 3.2  | .807              |
| Stress/anxiety           | 58  | 7.4  | 26  | 5.2  | .118              |
| Depression               | 13  | 1.7  | 11  | 2.2  | <.488             |
| Other                    | 4   | 0.5  | 1   | 0.20 | .161              |

<sup>a</sup>Indicates P value for differences between in-person and telehealth cohorts.

Table 3. Comparison of Symptom Burden for New Patients Seen In-Person in 2019 and Via Telehealth in 2020.

| Symptom                  | In-person-2019 | Telehealth-2020 | P-value<sup>a</sup> |
|--------------------------|----------------|-----------------|----------------------|
|                          | Mean (SD)      | Mean (SD)       |                     |
| Anxiety                  | 3.0 (2.8)      | 2.4 (2.7)       | <.001                |
| Appetite                 | 3.1 (2.7)      | 1.4 (2.4)       | <.001                |
| Depression               | 1.9 (2.4)      | 1.4 (2.3)       | <.001                |
| Drowsiness               | 2.5 (2.6)      | 1.7 (2.4)       | <.001                |
| Dry mouth                | 2.2 (2.8)      | 1.9 (2.7)       | .009                 |
| Fatigue                  | 4.4 (2.7)      | 3.5 (2.8)       | <.001                |
| Financial distress       | 2.5 (2.9)      | 1.7 (2.7)       | <.001                |
| Hot flashes              | 2.0 (2.9)      | 1.93 (2.9)      | .922                 |
| Memory                   | 3.6 (2.5)      | 2.0 (2.3)       | <.001                |
| Nausea                   | 1.2 (2.1)      | 0.9 (1.9)       | .001                 |
| Numbness and tingling    | 2.8 (3.1)      | 2.5 (3.0)       | .037                 |
| Pain                     | 3.4 (2.9)      | 2.8 (2.8)       | <.001                |
| Shortness of breath      | 1.4 (2.1)      | 0.7 (1.7)       | <.001                |
| Sleep                    | 4.6 (2.7)      | 3.5 (3.1)       | <.001                |
| Spiritual pain           | 1.0 (1.8)      | 0.5 (1.6)       | <.001                |
| Well-being               | 3.8 (2.4)      | 2.1 (2.6)       | <.001                |
| PHS<sup>b</sup>          | 15.9 (10.5)    | 11.0 (9.4)      | <.001                |
| PSS<sup>c</sup>          | 6.1 (34.9)     | 3.8 (4.7)       | <.001                |
| GDS<sup>d</sup>          | 25.8 (37.8)    | 17 (13.9)       | <.001                |

<sup>a</sup>Indicates P-value for differences between in-person and telehealth cohorts.

<sup>b</sup>PHS equals the sum of pain, fatigue, nausea, drowsiness, appetite, and shortness of breath scores (total 0-60).

<sup>c</sup>PSS equals the sum of depression and anxiety scores (total 0-20).

<sup>d</sup>GDS equals the sum of pain, fatigue, nausea, depression, anxiety, drowsiness, appetite, sense of well-being, and shortness of breath scores (total 0-90).

<sup>e</sup>PROMIS10<sup>a</sup> includes a mental health subscale (4-20), physical health scale (4-20), and global health total score (11-50). Higher scores represent better mental, physical or global health. Responses converted into T-score values; T-score distributions standardized to US population mean.

Abbreviations: ESAS, Edmonton Symptom Assessment System; GDS, global distress Score; PHS, physical distress score; PSS, psychological distress score.
Discussion

Delivering IO physician consultations via telehealth using online mobile platforms was feasible and allowed patients to receive this important consultation during a time when coming to Houston and MD Anderson posed multiple challenges due to the COVID-19 pandemic. Due to prior difficulties with providing the approved technology to deliver telehealth and due to limitations with insurance, 2020 was the first year we delivered IO telehealth consultations. We also successfully transitioned to a telehealth model for our weekly interdisciplinary team meeting, attended by our physicians and clinicians in the areas of health psychology, oncology acupuncture, nutrition, oncology massage, music therapy and yoga therapy to help with integrative care plan development and care coordination for our patients. Although there was an initial learning curve for both clinicians and patients, it is apparent that IO telehealth is feasible in an oncology setting. Fewer patients were seen during the same time period in 2020 as compared to 2019 due a number of factors including: (1) institutional reassignment of IO physicians and other staff during the first few months of the pandemic; (2) decrease in new patients seen at our institution and subsequent decrease in referrals; and (3) decrease in capacity (template availability) during the transition from in-person to telehealth. Otherwise, we believe the number of patients seen in the same time period would have been similar or even higher with telehealth due to the limited barriers to be seen. Not only was telehealth feasible, but patients expressed high levels of satisfaction with telehealth.25 Although not directly measured, our patients often noted that they preferred the convenience of telemedicine, not needing to pay for parking or deal with transportation, and not being around other patients or providers, thus limiting their exposure to COVID-19. This observation is similar to reports from other specialties who found telehealth acceptable and even preferred in certain contexts.26-29

In 2020, patients requested consultation for exercise, diet/nutrition, and herbs and supplements more than in 2019, with about 20% in both years seeking information about an “integrative approach” to their care. The increased interest in physical activity and diet/nutrition could be related to the pandemic. Although maintaining healthy behaviors is more imperative than ever,30 the pandemic has presented challenges in doing so.31 It is possible that patients who were confined to their houses were more interested in ways to either begin a healthy lifestyle routine or adjust their current routine now that they no longer have access to gyms or in-person lifestyle classes. An earlier report from our center found that the top 2 reasons for IO consultations reported by patients between 2009 to 2013 were an Integrative/Holistic Approach (34.2%) and Herbs and Supplements (33.8%).11 The current findings may suggest a change in the trend of patient interests in 2019 and 2020 versus those seen back in 2009 to 2013, with clearly less interest in exploring the use of herbs and supplements (2019=6.8%; 2020=12.9%). Future research should examine national trends for IO consultations.

During the pandemic, we also observed a greater percentage of referrals of patients with breast cancer, 48% versus 39%. Breast cancer patients seen by our center are commonly referred to us for reasons of lifestyle modification with a focus on areas of exercise and diet/nutrition. Alongside IO consultations, our IO center also earlier on transitioned clinical services of nutrition, physical therapy, and health psychology from in-person to telehealth. In-person services such as oncology massage and oncology acupuncture more focused on symptom management became available closer to the end of the time period analyzed. The increase in consultation requests in 2020 for lifestyle counseling and herbs and supplements is likely due to the changes in services offered, as referring providers were focusing more on lifestyle modification as an online intervention, as compared to referring patients for high-touch in-person interventions such as acupuncture and massage for symptom management.

There was also a lower percentage of patients in 2020 seeking IO consultations for symptom management than in 2019. This is consistent with the ESAS symptom data, where the 2019 patient cohort in general reported greater symptom burden, with scores on appetite, depression, memory, shortness of breath, sleep, and overall well-being being clinically significantly higher in 2019 than 2020. The PROMIS-10 mental health scores were clinically significantly below the population mean in both cohorts, with physical function scores only marginally lower than population means. As patients are unique to each cohort, the symptom differences likely reflect the patient referral patterns and should not be interpreted as a reflection of the pandemic on symptom burden.

Early in the pandemic, several patients’ cancer treatment plans were delayed or altered.32 Therefore, some of our patients were seeking “alternative” treatments for their cancer due to this delay. An increased interest of patients in herbs and supplement counseling could be due to this “pandemic effect.” Interestingly, patients who sought integrative medicine telehealth consultations had lower symptom burden compared to in-person visits in 2019. We also observed that the in-person 2019 cohort tended to live farther from MD Anderson than the 2020 telehealth cohort, an observation that can be explained by the fact that during the first 6 months of the pandemic, local patients were prioritized over those living greater than 150 miles from our hospital. We think the majority of our cohort differences findings in terms of reasons for consult and symptom burden are likely due to changes in referral patterns because of the pandemic and not related to telemedicine delivery per se.27-29
There are several limitations to this study. The majority of our patients had internet access. Access to internet services may be a barrier for patients seeking IO consultation if there is no in-person IO practice component. The patient population was also a convenience sample of patients coming for an IO consultation within a major medical center and, therefore, may not represent the larger population of patients seeking and using IO. The limitations of telehealth IO practice in our experience includes barriers such as poor Internet connection, lack of experience in using the technology, advanced age, and being hard of hearing.33 Also, health disparities research is needed in this area, as there are socioeconomically disadvantaged populations who may not be able to successfully utilize or benefit from telehealth consultations.

Despite these limitations, our data is informative to clinicians and hospitals planning to redesign or set up integrative medicine or IO services in the post-pandemic era. Many patients travel great distances to access cancer centers such as MD Anderson. Certain services such as IO are not easily accessible to a majority of patients due to geographical barriers. Telehealth IO practice may close such barriers. Video consultations can save resources such as time and energy associated with commuting. This is important as cancer patients have fatigue and other comorbidities related to cancer and treatment. Therefore, we suggest telehealth be permanently integrated into the field of IO to reduce the impact of geographic distance from specialty care and improve access to counseling on various integrative modalities such as lifestyle modifications and the use of herbs and supplements. A hybrid model must consider the need for in-person visits for unique patient populations such as underprivileged with no internet access, elderly or hard of hearing, and people with technological difficulties.34,35 There is also a need for policies on reimbursement of telemedicine services and licensing policies among different states across the United States of America.

Conclusions and Future Directions

We found that it is feasible to provide IO via telehealth. The type of patients referred or seeking IO consultations via telehealth was different than the prior in-person cohort, with the telehealth cohort having a greater interest in lifestyle counseling and herbs/supplements with less of a focus on symptom management and reporting overall lower symptom burden. This is likely due to limited availability of services to support symptom management such as acupuncture and oncology massage. Future research needs to focus on patient experience and satisfaction and create guidelines and pathways for a hybrid model for seeing patients via telehealth and in-person versus in-person only models.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported in part by the National Institutes of Health through MD Anderson’s Cancer Center Support Grant CA016672, a grant from the Duncan Family Institute for Cancer Prevention and Risk Assessment, and the Richard E. Haynes Distinguished Professorship for Clinical Cancer Prevention at The University of Texas MD Anderson Cancer Center (L Cohen).

ORCID iD
Santhosshi Narayanan https://orcid.org/0000-0003-0591-1500

References
1. Shirke MM, Shaikh SA, Harky A. Tele-oncology in the COVID-19 Era: the way forward? Trends Cancer. 2020;6:547-549.
2. Schrag D, Hershman DL, Basch E. Oncology practice during the COVID-19 pandemic. JAMA. 2020;323:2005-2006.
3. Cox A, Lucas G, Marcu A, et al. Cancer survivors’ experience with telehealth: a systematic review and thematic synthesis. J Med Internet Res. 2017;19:e11.
4. McCall B. Could telemedicine solve the cancer backlog? Lancet Digital Health. 2020;2:e456-e457.
5. Royce TJ, Sanoff HK, Rewari A. Telemedicine for cancer care in the time of COVID-19. JAMA Oncol. 2020;6:1698-1699.
6. Shirke MM, Shaikh SA, Harky A. Implications of telemedicine in oncology during the COVID-19 pandemic. Acta Biomed. 2020;91:e2020022.
7. Navo MA, Phan J, Vaughan C, et al. An assessment of the utilization of complementary and alternative medication in women with gynecologic or breast malignancies. J Clin Oncol Off J Am Soc Clin Oncol. 2004;22:671-677.
8. Richardson MA, Sanders T, Palmer JL, Greisinger A, Singletary SE. Complementary/alternative medicine use in a comprehensive cancer center and the implications for oncology. J Clin Oncol Off J Am Soc Clin Oncol. 2000;18:2505-2514.
9. Mao JJ, Palmer SC, Stratton JB, et al. Cancer survivors with unmet needs were more likely to use complementary and alternative medicine. J Cancer Surviv. 2008;2:116-124.
10. Garland SN, Valentine D, Desai K, et al. Complementary and alternative medicine use and benefit finding among cancer patients. J Altern Complement Med. 2013;19:876-881.
11. Baum JM, Chokshi S, Schapira MM, et al. Do attitudes and beliefs regarding complementary and alternative medicine impact its use among patients with cancer? A cross-sectional survey. Cancer. 2015;121:2431-2438.
12. Lopez G, McQuade J, Cohen L, et al. Integrative oncology physician consultations at a comprehensive cancer center:
analysis of demographic, clinical and patient reported outcomes. J Cancer. 2017;8:395-402.

13. Brauer JA, El Sehamy A, Metz JM, Mao JJ. Complementary and alternative medicine and supportive care at leading cancer centers: a systematic analysis of websites. J Altern Complement Med. 2010;16:183-186.

14. Dhuva A, Atreya CE, Chao MT. Applying new models of care to meet patient needs in integrative oncology. J Altern Complement Med. 2018;24:1010-1011.

15. Almathami HKY, Win KT, Vlahu-Gjorgievska E. Barriers and facilitators that influence telemedicine-based, real-time, online consultation at patients’ homes: systematic literature review. J Med Internet Res. 2020;22:e16407.

16. Hjelm NM. Benefits and drawbacks of telemedicine. J Telemed Telecare. 2005;11:60-70.

17. Elkaddoum R, Haddad FG, Eid R, Kourie HR. Telemedicine for cancer patients during COVID-19 pandemic: between threats and opportunities. Future Oncol. 2020;16:1225-1227.

18. Block KI. Integrative cancer therapies: learning from COVID-19. Integr Cancer Ther. 2020;19:1534735420932652.

19. Yang G, Zhang H, Yang Y. Challenges and countermeasures of integrative cancer therapy in the epidemic of COVID-19. Integr Cancer Ther. 2020;19:1534735420912811.

20. Ben-Arye E, Gressel O, Ben-Arye E, Samuels N. Feasibility of an online integrative oncology treatment program during COVID-19. J Pain Symptom Manage. 2020;61:E1-E3.

21. Paterson C, Thomas K, Manasse A, Cooke H, Peace G. Measure yourself concerns and wellbeing (MYCaW): an individualised questionnaire for evaluating outcome in cancer support care that includes complementary therapies. Complement Ther Med. 2007;15:38-45.

22. Bruera E, Kuehn N, Miller MJ, Selness P, Macmillan K. The Edmonton Symptom Assessment System (ESAS): a simple method for the assessment of palliative care patients. J Palliat Care. 1991;7:6-9.

23. Hui D, Shamieh O, Paiva CE, et al. Minimal clinically important differences in the Edmonton Symptom Assessment Scale in cancer patients: a prospective, multicenter study. Cancer. 2015;121:3027-3035.

24. Hays RD, Bjorner JB, Revicki DA, Spritzer KL, Cell D. Development of physical and mental health summary scores from the patient-reported outcomes measurement information system (PROMIS) global items. Qual Life Res. 2009;18:873-880.

25. Ramaswamy A, Yu M, Drangsholt S, et al. Patient satisfaction with telemedicine during the COVID-19 pandemic: retrospective cohort study. J Med Internet Res. 2020;22:e20786.

26. Trinidad J, Kroshinsky D, Kaffengerger BH, Rojek NW. Telemedicine for inpatient dermatology consultations in response to the COVID-19 pandemic. J Am Acad Dermatol. 2020;83:e69-e71.

27. Harky A, Chiu CM, Yau THL, Lai SHD. Cancer patient care during COVID-19. Cancer Cell. 2020;37:749-750.

28. Leung MST, Lin SG, Chow J, Harky A. COVID-19 and oncology: service transformation during pandemic. Cancer Med. 2020;9:7161-7171.