

## SUPPLEMENTARY MATERIAL

### Supplementary Methods: Survey One

1. Please provide the following contact information
  - a. Name of Respondent
  - b. Cancer Center Name
  - c. Title of Respondent
  - d. Email Address of Respondent
2. How many interventional treatment clinical trial accruals were reported in calendar year 2019?
3. How many interventional treatment clinical trial accruals were reported from January 1, 2020 - June 30, 2020?
4. In response to the COVID-19 pandemic, how was your cancer center's interventional treatment trial portfolio impacted? Please select one response that best reflects your institution.
  - a. The majority of treatment trials were suspended to accrual and remain suspended at this time.
  - b. The majority of treatment trials were suspended to accrual, and currently less than 25% of trials have been re-opened to accrual.
  - c. The majority of treatment trials were suspended to accrual, and currently 25%-75% of trials have been re-opened to accrual
  - d. The majority of treatment trials were suspended to accrual, and currently more than 75% of trials have been re-opened to accrual.
  - e. The majority of treatment trials were never suspended to accrual and remain open to accrual at this time.
5. In response to the COVID-19 pandemic, how were your cancer center's interventional treatment trial accruals impacted? Please select one response that best reflects your institution.
  - a. Accruals are down by 75% or more compared to pre-COVID numbers
  - b. Accruals are down by 50-75% compared to pre-COVID numbers
  - c. Accruals are down by 25-50% compared to pre-COVID numbers
  - d. Accruals are down up to 25% compared to pre-COVID numbers
  - e. Accruals were not impacted due to COVID-19
6. Are interventional treatment trial accruals recovering to pre-COVID-19 numbers?
  - a. Yes
  - b. No
  - c. Accruals were not impacted due to COVID-19
7. How many interventional non-treatment clinical trial accruals were reported in calendar year 2019?

8. How many interventional non-treatment clinical trial accruals were reported from January 1, 2020 – June 30, 2020?
9. How was your cancer center's interventional non-treatment trial portfolio impacted due to COVID-19? Please choose one response that best reflects your institution.
  - a. The majority of interventional non-treatment trials were suspended to accrual and remain suspended at this time.
  - b. The majority of interventional non-treatment trials were suspended to accrual, and currently less than 25% of trials have been re-opened to accrual.
  - c. The majority of interventional non-treatment trials were suspended to accrual, and currently 25%-75% of trials have been re-opened to accrual.
  - d. The majority of interventional non-treatment trials were suspended to accrual, and currently more than 75% of trials have been re-opened to accrual.
  - e. The majority of interventional non-treatment trials were never suspended to accrual and remain open to accrual at this time.
10. How were your cancer center interventional non-treatment trial accruals impacted due to COVID-19? Please select one response that best reflects your institution.
  - a. Accruals are down by 75% or more compared to pre-COVID-19 numbers
  - b. Accruals are down by 50%-75% compared to pre-COVID-19 numbers
  - c. Accruals are down by 25%-50% compared to pre-COVID-19 numbers
  - d. Accruals are down up to 25% compared to pre-COVID-19 numbers
  - e. Accruals were not impacted due to COVID-19
11. Are interventional non-treatment trial accruals recovering to pre-COVID-19 numbers?
  - a. Yes
  - b. No
  - c. Accruals were not impacted due to COVID-19
12. Please select one response that best reflects remote monitoring policy at your institution.
  - a. Our institution allows remote monitoring, and no further policy changes were made due to COVID-19
  - b. Our institution allows remote monitoring, but made policy changes due to COVID-19
  - c. Our institution never allowed remote monitoring before, but we made a policy change to allow remote monitoring due to COVID-19
  - d. Our institution doesn't allow remote monitoring, but we are working on a policy change
  - e. Our institution doesn't allow remote monitoring, and no policy changes are being considered
13. What new methods, if any, did your center adopt to facilitate remote monitoring as a result of COVID-19? Check all that apply.
  - a. Direct EMR access
  - b. Portal with scanned documents
  - c. Screen sharing

d. No new methods were adopted

14. Is your center considering remote work and/or flex schedules as permanent options for CTO staff post-COVID-19?

- a. Yes
- b. No

15. Is your institution currently replacing vacant positions? Please check all that apply.

- a. Actively recruiting
- b. Hiring has been frozen
- c. Vacant positions have been eliminated

16. Has your cancer center CTO experienced staff layoffs since March 1, 2020?

- a. Yes
- b. No

17. Has your cancer center CTO transferred staff to other departments since March 1, 2020?

- a. Yes
- b. No

## Supplementary Methods: Survey Two

1. Please provide the following contact information
  - a. Name of Respondent
  - b. Cancer Center Name
  - c. Title of Respondent
  - d. Email Address of Respondent
2. Did you complete Part 1 of the COVID-19 Impact Survey distributed in September 2020?
  - a. Yes
  - b. No
  - c. I don't know
3. How many interventional treatment clinical trial accruals were reported in the calendar year 2019?
4. How many interventional treatment clinical trial accruals were reported in the calendar year 2020?
5. How many interventional treatment clinical trial accruals were reported from July 1, 2020 – December 31, 2020?
6. In response to the COVID-19 pandemic, how was your cancer center's interventional treatment trial portfolio impacted from July 1, 2020- December 31, 2020? Please select one response that best reflects your institution's portfolio.
  - a. The majority of trials were suspended and remain suspended at this time
  - b. The majority of treatment trials were suspended to accrual, and currently less than 25% of trials have been re-opened to accrual.
  - c. The majority of treatment trials were suspended to accrual, and currently 25%-75% of trials have been re-opened to accrual
  - d. The majority of treatment trials were suspended to accrual, and currently more than 75% of trials have been re-opened to accrual.
  - e. The majority of treatment trials were never suspended to accrual and remain open to accrual at this time.
7. In response to the COVID-19 pandemic, how were your cancer center's interventional treatment trial accruals impacted from July 1, 2020-December 31, 2020? Please select one response that best reflects your institution's portfolio.
  - a. Accruals are down by 75% or more compared to pre-COVID numbers
  - b. Accruals are down by 50-75% compared to pre-COVID numbers
  - c. Accruals are down by 25-50% compared to pre-COVID numbers
  - d. Accruals are down up to 25% compared to pre-COVID numbers
  - e. Accruals were not impacted due to COVID-19
8. Have interventional treatment trial accruals recovered to pre-COVID-19 numbers? Please select one response that best reflects your institution.

- a. Yes
  - b. No
  - c. Accruals were not impacted due to COVID-19
9. If interventional treatment trial accruals were affected, how many treatment trials have still not reopened since the beginning of the calendar year 2020? Round to the nearest whole number.
10. How are you prioritizing the backlog of interventional treatment trials in the calendar year 2020? Please check all that apply.
  - a. Closing trials which are no longer of interest to the PI
  - b. Working through the oldest to the newest trial to reopen
  - c. Seeking input from the disease center leader who is establishing activation priority with other disease center trials
  - d. We are back to opening all trials using policies similar to those used prior to the pandemic
  - e. We do not have a backlog of trials waiting to open as activation was not affected during the pandemic
11. How many interventional non-treatment clinical trial accruals were reported in the calendar year 2019?
12. How many interventional non-treatment clinical trial accruals were reported in the calendar year 2020?
13. How many interventional non-treatment clinical trial accruals were reported from July 1, 2020-December 31, 2020?
14. How was your cancer center's interventional non-treatment trial portfolio impacted due to COVID-19 from July 1, 2020-December 31, 2020? Please choose one response that best reflects your institution.
  - a. The majority of interventional non-treatment trials were suspended to accrual and remain suspended at this time.
  - b. The majority of interventional non-treatment trials were suspended to accrual, and currently less than 25% of trials have been re-opened to accrual
  - c. The majority of interventional non-treatment trials were suspended to accrual, and currently 25%-75% of trials have been re-opened to accrual
  - d. The majority of interventional non-treatment trials were suspended to accrual, and currently more than 75% of trials have been re-opened to accrual
  - e. The majority of interventional non-treatment trials were never suspended to accrual and remain open to accrual at this time.
15. How was your cancer center's interventional non-treatment trial accruals impacted due to COVID-19 from July 1, 2020-December 31, 2020? Please choose one response that best reflects your institution.
  - a. Accruals are down by 75% or more compared to pre-COVID numbers
  - b. Accruals are down by 50-75% compared to pre-COVID numbers
  - c. Accruals are down by 25-50% compared to pre-COVID numbers
  - d. Accruals are down up to 25% compared to pre-COVID numbers

- e. Accruals were not impacted due to COVID-19
16. Have interventional non-treatment trial accruals recovered to pre-COVID-19 numbers? Please select one response that best reflects your institution.
- a. Yes
  - b. No
  - c. Accruals were not impacted due to COVID-19
17. If interventional non-treatment trial accruals were affected, how many treatment trials have still not reopened since the beginning of the calendar year 2020? Round to the nearest whole number.
18. How are you prioritizing the backlog of interventional treatment trials in the calendar year 2020? Please check all that apply.
- a. Closing trials which are no longer of interest to the PI
  - b. Working through the oldest to the newest trial to reopen
  - c. Seeking input from the disease center leader who is establishing activation priority with other disease center trials
  - d. We are back to opening all trials using policies similar to those used prior to the pandemic
  - e. We do not have a backlog of trials waiting to open as activation was not affected during the pandemic
19. Please select one response that best reflects remote monitoring policy at your institution for the calendar year 2020.
- a. Our institution previously allowed remote monitoring, and no further policy changes were made due to COVID-19
  - b. Our institution previously allowed remote monitoring, but made policy changes due to COVID-19
  - c. Our institution never allowed remote monitoring prior to COVID-19, but we have made a policy change to allow it now
  - d. Our institution doesn't allow remote monitoring, but we are considering a policy change
  - e. Our institution doesn't allow remote monitoring, and no policy changes are being considered
20. What new methods, if any, did your center adopt to facilitate remote monitoring as a result of COVID-19? Please check all that apply.
- a. Allow direct EMR access
  - b. Share resource documents
  - c. Permit screen sharing
  - d. Conduct virtual site visits with remote walk through
  - e. Implement electronic signature system
  - f. No new methods were adopted
  - g. Other

21. If changes were made in regards to remote monitoring, what will your center do in the future?
- Provide remote monitoring only
  - Allow a hybrid of in-person and remote monitoring
  - Allow only in-person monitoring
22. Beginning in 2021, is your center considering remote work and/or flex schedules as permanent options for CTO staff?
- Yes
  - No
  - Policy already in place
23. Beginning in 2021, has your cancer center CTO experienced staff layoffs?
- Yes
  - No
24. Beginning in 2021, has your cancer center CTO transferred staff to other departments?
- Yes
  - No
25. Within your cancer center CTO, which research departments lost staff in the year 2020? Please check all that apply.
- Regulatory staff
  - RN study coordinator
  - Clinical research staff
  - Management/leadership
  - Data management staff
  - Finance staff (e.g., pre and post award, billing compliance staff)
  - QA staff (e.g., trainer, auditor, and monitor)
26. Of the staff who have left your CTO, what was the reason for their departure? Please check all that apply.
- Want to work remote only
  - Industry recruitment
  - Other cancer center recruitment
  - Early retirement
  - Career change
  - Return to school
  - Family reasons
27. Beginning in 2021, what is the status of filling vacancies at your institution?
- Actively recruiting
  - Hiring has been frozen
  - Vacant positions have been eliminated

d. Other

28. Since 2021, has your institution allowed additional positions not related to vacancies to be added to your department or budget?

- a. Yes
- b. No

29. Given all the previously reported enrollment, trial, monitoring, and staffing challenges, what do you estimate will be the overall productivity of your CTO in 2021 (barring any pandemic surge)?

- a. Enrollments will likely be significantly less than in 2019
- b. Enrollments will likely only slightly less than in 2019
- c. Enrollments will likely be the same as in 2019
- d. Enrollments will likely be only slightly more than in 2019
- e. Enrollments will likely be significantly more than in 2019

**Survey Two Follow-Up Questions (Email Survey)**

1. How many interventional treatment clinical trial accruals were reported in the calendar year 2021?
2. Have interventional treatment trial accruals recovered to pre-COVID-19 numbers?
3. How many interventional non-treatment clinical trial accruals were reported in the calendar year 2021?
4. Have interventional non-treatment trial accruals recovered to pre-COVID-19 numbers?



### Supplementary Methods: Survey Three (CRI Polling Questions)

1. For 2022 and compared to pre-COVID (e.g., 2019) levels, have accruals at your institution rebounded for interventional treatment trials?
  - a. Surpassed
  - b. No Change/On Par
  - c. Decreased
2. For 2022 and compared to pre-COVID (e.g., 2019) levels, have accruals at your institution rebounded for interventional non-treatment trials?
  - a. Surpassed
  - b. No Change/On Par
  - c. Decreased
3. If Q1 or Q2 were “no change” or “decreased”, to what degree is this related to persistent impact of COVID infections, staffing or other challenges?
  - a. Continued COVID infections
  - b. Staffing
  - c. Other
4. Compared to pre-COVID (e.g., 2019), what aspects of clinical research operations at the present time are most problematic (select all that apply)?
  - a. Decreased accruals
  - b. Limitations on selecting new trials
  - c. Delays in study start-up timelines
  - d. Compliance & quality control
  - e. Support of satellite sites
  - f. Other
5. Moving forward, which of the following presents the greatest challenge to clinical research operations at your center (select the best response)
  - a. Continued COVID infections
  - b. Staffing
  - c. Institutional finances
  - d. Patient willingness to participate
  - e. Other
  - f. No challenges at our center
6. At the present time, is your center providing remote work options for:
  - a. All CTO staff
  - b. Select CTO staff based upon job duties
  - c. No CTO staff
7. Moving forward, what is your site’s plan regarding on-site monitoring compared to pre-COVID (e.g., 2019)?

- a. All on-site
- b. Hybrid of on-site and remote
- c. All remote