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14. ABSTRACT
Purpose: The purpose of the PCCTC is to accelerate the development of novel therapeutics for prostate cancer patients, both by bringing own areas of expertise and contributing substantially to the activity of the consortium in the areas of biomarker development, androgen receptor targeted therapies, aggressive variant/neuroendocrine prostate cancer, and theranostics/novel molecular imaging.
Results: During the reporting period, 28 patients were accrued across six PCCTC clinical trials, including two trials led by UCSF. Two UCSF-led LOIs have been submitted, including a trial of PSMA-directed SBRT trial in oligometastatic CRPC presented at the Scientific Oversight Committee in October 2019 and an additional immunotherapy trial with combination of pembrolizumab plus talabostat.

15. SUBJECT TERMS
Prostate cancer, Phase 1, Phase 2, clinical consortium, infrastructure, collaboration

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1. Introduction

As a Clinical Research Site of the Department of Defense Prostate Cancer Clinical Trials Consortium (PCCTC), UCSF's ultimate goal is to continue the accelerated development of novel therapeutics for prostate cancer patients, both by bringing our own areas of expertise to the consortium, while also contributing substantially to the activity of the PCCTC. UCSF is ideally situated to continue to serve as a productive and creative participant in the PCCTC, by virtue of 1) the integration and interaction of outstanding basic, translational, and clinical research programs led by national and international opinion leaders, 2) a robust and mature research infrastructure, 3) significant institutional commitment to this research, 4) extensive experience in conducting clinical trials, 4) a strong pipeline of novel agents, and 5) extensive collaborations in many multi-center clinical trial programs.

2. Keywords

Prostate cancer, Phase I, Phase II, clinical consortium, infrastructure, collaboration

3. Accomplishments

What were the major goals of the project?

The major goals of the project as stated in the approved SOW include the following:

1) Adhere to performance metrics defined by Coordinating Center

2) Full participation in the consortium as a member of the Clinical Consortium Committee/ Scientific Oversight Committee

3) Leverage the integration of PCCTC clinical trials into tumor and DNA acquisition strategies that can be developed and utilized as translational biomarkers.

4) To establish a clinical trials and correlative infrastructure for the evaluation of survivorship and cognitive effects of ADT and Androgen receptor targeting therapies.

5) To develop novel therapeutic strategies for men with aggressive variant and/or small cell neuroendocrine prostate cancer.

6) To develop novel diagnostic and theranostic strategies utilized for the detection and treatment of men with recurrent or metastatic prostate cancer.

7) To streamline regulatory processes at UCSF for consortium trials, whether initiated by UCSF or other consortium members.

What was accomplished under these goals?

1) Adhere to performance metrics defined by Coordinating Center

As shown in the Appendix of this Annual Progress Report (see Pages 19–20), UCSF has accrued a total of 61 patients onto nine DOD PCCTC clinical trials during the entire grant award period covering 09/30/2018 – 09/30/2020. In the past 12 month grant reporting period from 10/01/2019 – 09/30/2020, UCSF has accrued 28 patients. Of the 61 total patients accrued during the entire grant award period to date, 20 patients have been accrued onto clinical trials led by other consortium sites. Over the course of the 24 month grant award period to date, our average rate of accrual is 30.5 patients/year, adhering to the performance metrics set forth in the DOD PCCTC grant.

Of the 61 patients accrued thus far, 8 patients (13%) are from disproportionately underrepresented patient populations, including 5 African-American patients and 3 Hispanic patients.

During the cumulative grant award period covering 09/30/18 – 09/30/2020, UCSF serves or has served as the Lead Investigational Site for four multi-center trials within the PCCTC, as follows:
1) A Phase 1b/2 Study of ZEN-3694 in Combination with Enzalutamide in Patients with Metastatic Castration Resistant Prostate Cancer (National PI: Rahul Aggarwal). Participating DOD PCCTC sites: UCLA, Memorial Sloan Kettering, Oregon Health & Science University, Karmanos Cancer Institute. Study has been completed and results published in Clinical Cancer Research (see publications list).
2) A Phase 1, First-in-Human Study of FOR46 in Patients with Metastatic Castration Resistant Prostate Cancer (National PI: Rahul Aggarwal). Participating DOD PCCTC sites: UCLA, Oregon Health & Science University, Northwestern University, Karmanos Cancer Institute. Accrual in the Dose Escalation portion of the study is ongoing, with expected determination of MTD and recommended phase 2 dose for Dose Expansion by Q1 2021. Preliminary evidence of efficacy has been observed.
3) A Phase 1/2 Study of Ribociclib in Combination with Docetaxel in Patients with Metastatic Castration Resistant Prostate Cancer (National PI: Rahul Aggarwal). Participating DOD PCCTC sites: University of Chicago, University of Minnesota. Study follow up has been completed and the primary endpoint of 6-month radiographic progression-free survival rate has been met. A manuscript is currently being prepared for submission.
4) A Randomized, Phase II Study of Apalutamide +/- Stereotactic Body Radiotherapy (SBRT) in Castration-Resistant Prostate Cancer Patients with Oligometastatic Disease on PSMA-PET Imaging (National PI: Rahul Aggarwal). Participating DOD PCCTC sites: University of Wisconsin (site PI: Glenn Liu).

In addition, we have recently submitted a LOI as lead investigational site for the ongoing Phase 1b/2 trial of pembrolizumab in combination with talabostat in patients with metastatic castration resistant prostate cancer and evidence of small cell/neuroendocrine differentiation. We are also planning to submit a new LOI with combination of pembrolizumab, ZEN-3694, and enzalutamide in patients with de-differentiated metastatic castration resistant prostate cancer, building upon the initial data in the Phase 1b/2 study of ZEN-3694 plus pembrolizumab.

Within the reporting period, we have achieved several milestones for additional PCCTC trials:

1) ARN-509-002 (Lead site: UCSF; participating sites: U of Chicago, U of Washington, Mayo Scottsdale, Oregon Health & Science University). The primary, secondary, and correlative endpoints were presented at the ASCO GU Symposium in February 2020 (see list of publications), and the manuscript has been submitted for publication (under review; European Urology).

2) ZEN-002 study of the BET bromodomain inhibitor ZEN-3694 in combination with enzalutamide has completed study follow up and the database has been locked. The manuscript was published in Clinical Cancer Research (see list of of publications).

2) Full participation in the consortium as a member of the Clinical Consortium Committee/ Scientific Oversight Committee

UCSF has participated in every scheduled DOD PCCTC PI monthly teleconference held during the reporting period. At the SOC meeting in late October 2019, Rahul Aggarwal (PI) presented the PCCTC LOI of apalutamide +/- stereotactic body radiation in oligometastatic castration-resistant prostate cancer. This was approved for circulation and will be activated at the University of Wisconsin.

3) Leverage the integration of PCCTC clinical trials into tumor and DNA acquisition strategies that can be developed and utilized as translational biomarkers.

UCSF has integrated metastatic and liquid tumor biopsies into multiple PCCTC clinical trials, including:

1) A Phase 1b/2 Study of ZEN-3694 in Combination with Enzalutamide in Patients with Metastatic Castration Resistant Prostate Cancer (PI: Rahul Aggarwal)

2) A Phase 1, First-in-Human Study of FOR46 in Patients with Metastatic Castration Resistant Prostate Cancer (PI: Rahul Aggarwal)

3) A Phase 1/2 Study of Ribociclib in Combination with Docetaxel in Patients with Metastatic Castration Resistant Prostate Cancer (PI: Rahul Aggarwal)

4) 4) A Randomized, Phase II Study of Apalutamide +/- Stereotactic Body Radiotherapy (SBRT) in Castration-Resistant Prostate Cancer Patients with Oligometastatic Disease on PSMA-PET Imaging (PI: Rahul Aggarwal).

For all four of the PCCTC trials above, biopsied obtained at UCSF and other participating institutions are shipped to the Felix Feng laboratory at UCSF for tissue processing, including laser capture microdissection of tumor tissue and RNA-seq profiling of fresh frozen biopsies. A separate biopsy core undergoes formalin fixation, and is embedded in paraffin. The FFPE blocks are analyzed using the Strata platform for targeted next-gen sequencing of tumor DNA, to evaluate for potentially targetable alterations (e.g. *BRCA2*). Tissue processing and sequencing is carried out using central, standardized methodology to ensure consistency of data across study cohorts. Within the reporting period, of the 61 patients enrolled on PCCTC trials at UCSF, 40 (66%) have undergone metastatic tumor biopsies prior to enrollment on PCCTC trial. Data analyses from the tissue biopsies is ongoing including potential biomarkers of response to BET inhibition, CDK 4/6 inhibitors, and other novel targeted agents (e.g. FOR46 targeting CD46 expressed on surface of prostate cancer metastases).

Based on the acquisition of metastatic biopsies, Felix Feng and colleagues have recently published a comprehensive methylation profile of metastatic castration resistant prostate cancer biopsies in Nature Genetics (see Publications list). They have identified a newly described hypermethylated subset of mCRPC that is associated with favorable prognostic profile and may be targetable with epigenetic therapies. Biomarker development is underway to detect hypermethylated mCRPC for patient selection for targeted therapeutic trials.

UCSF Hematology/Oncology faculty member Dr. Jonathan Chou has analyzed metastatic tumor tissue and cfDNA for presence of inactivating biallelic loss of CDK12, and has conducted pre-clinical research analyzing the functional impact of this genomic finding. These data were published as part of a whole genome sequencing landscape article in Cell (Quigley et al – see publication list below), as well as clinical outcomes in patients with tumors harboring CDK12 mutations (see publication list). These data form the scientific underpinning for a planned DOD PCCTC trial of ipilimumab + nivolumab in mCRPC patients harboring CDK12 mutations (IMPACT study, lead site: U of Michigan).

In conjunction with metastatic tumor biopsies, peripheral blood for analysis of circulating cell free DNA is collected for all patients enrolled on every therapeutic trial at UCSF, including the four PCCTC trials currently open at our site. We have activated a blood collection protocol (PI: Rahul Aggarwal and Felix Feng) to analyze presence of reversion mutations among patients receiving PARP inhibitor or platinum-based chemotherapy.

4) To establish a clinical trials and correlative infrastructure for the evaluation of survivorship and cognitive effects of ADT and Androgen receptor targeting therapies.

We have completed enrollment on our "STAND" randomized pilot study (PI: Rahul Aggarwal) investigating multi-disciplinary supportive care among men with prostate cancer within 6 months of initiating androgen deprivation therapy. The pilot feasibility data were presented at ASCO GU Symposium in February 2019 (Pollock et al). The overall study results indicate a high degree of feasibility with > 90% patient visit completion rate. Preliminary data suggests a trend towards improved quality of life and lessened metabolic toxicity (e.g. insulin resistance, increased body fat) compared with usual care treatment arm. The manuscript summarizing these results has been submitted for publication.

We have collaborated with Drs. Alicia Morgans (Northwestern University) and Charles Ryan (U of Minnesota) in the development of a randomized phase 2 study to evaluate the cognitive impact of AR targeting therapy in men with castration-resistant prostate cancer ("ARACOG"). The study will be run through the Alliance Foundation, but will rely in part on correlative science developed at UCSF including fMRI brain imaging as a potential biomarker of early cognitive changes observed on androgen receptor targeting therapy. UCSF GU Oncology junior faculty member Dr. Hala Borno has integrated analysis of financial toxicity experienced by patients as a correlative biomarker in the ARACOG study.

We continue to enroll patients at UCSF on CHAMP (PI: Stacey Kenfield, UCSF), a randomized phase 2 study of supervised exercise training among men with minimally symptomatic metastatic castration resistant prostate cancer. Study accrual is anticipated to be completed within the next 3 months, at which point analysis of data will commence.

With the successful completion of STAND pilot study, and nearing completion of STAND, UCSF investigators (Aggarwal, Kenfield, June Chan, Hala Borno) are planning on leveraging community collaboration for a follow-on multi-institutional study of resistance exercise training, involving community oncology sites in the Greater Bay Area. The planned multi-institutional study will utilize web-based exercise instruction and activity monitoring to facilitate patient accrual and access to the study for men initiating treatment with androgen deprivation.

5) To develop novel therapeutic strategies for men with aggressive variant and/or small cell neuroendocrine prostate cancer.

Leveraging our SU2C/PCF/AACR West Coast Dream Team biopsy acquisition study, Drs. Aggarwal and Small published a prospective study analyzing the clinical and genomic features of treatment-emergent small cell neuroendocrine prostate cancer (Aggarwal et al. J Clin Oncol 2018 – see publication list). The results indicate an overall incidence of t-SCNC of 17% among all patients with mCRPC and a lesion amenable to percutanoues metastatic biopsy. This stands in stark contrast to the less than 1% incidence of *de novo* small cell prostate cancer detected at the time of diagnosis.

Leveraging these findings, Drs. Aggarwal and Small have helped develop a number of clinical trials to investigate novel therapies and treatment strategies for t-SCNC. These include:

- Led the basket study Phase 1b study of rovalpituzumab tesirine in patients with DLL3-expressing solid tumor malignancies. Study has been completed and manuscript has been submitted for publication.
- Analysis of the subset of patients with clinical and/or genomic features of t-SCNC treated on the PCCTC trial of oral BET inhibitor ZEN-3696 in combination with enzalutamide. This analysis has led to the successful grant application for a soon-to-open investigator-initiated trial of ZEN-3694 +

enzautamide + pembrolizumab in patients with neuroendocrine prostate cancer. This trial is expected to activate by Q4 2020 and will be circulated within the PCCTC with University of Michigan as participating site.

- Development of anti-CD46 targeting drug FOR46 as a novel therapeutic strategy in t-SCNC. The therapeutic target and ADC (FOR46) were discovered in the Liu laboratory at UCSF, and the pre-clinical and translational results were published in JCI Insight (see publication list). The ongoing PCCTC phase 1 first-in-human study of FOR46 includes a Dose Expansion cohort for patients with histologic evidence of t-SCNC. Participating PCCTC institutions for this study include: Northwestern University, Oregon Health & Science University, University of California Los Angeles, and Karmanos Cancer Institute
- Analysis of t-SCNC tumors by whole genome sequencing, revealing distinct patterns of intra- and inter-tumoral heterogeneity with respect to t-SCNC differentiation. These results were published in March 2019 (Aggarwal et al. Molecular Cancer Research – see publication list)
- Ongoing collaboration with industry partner to develop a novel DLL3-targeting immunotherapy including investigation of DLL3 expression and treatment effect with patient-derived xenograft models of NEPC. The pre-clinical work is being performed by UCSF Hem/Onc fellow Dr. Jonathan Chou who is mentored by Dr. Felix Feng and Eric Small. This pre-clinical collaboration has fostesred UCSF leadership in the development of an upcoming Phase 1b/2 study of AMG 757, a CD3xDLL3 bi-specific Ab, in patients with *de novo* or treatment-emergent small cell neuroendocrine prostate cancer.
- UCSF serves as the lead site for an ongoing phase 1b/2 study of pembrolizumab in combination with talabostat (Bioexcel Therapeutics, Inc.) focused on men with treatment-emergent or *de novo* small cell neuroendocrine prostate cancer. The study is currently accruing to safety lead-in cohort.

6) To develop novel diagnostic and theranostic strategies utilized for the detection and treatment of men with recurrent or metastatic prostate cancer.

Dr. Thomas Hope at UCSF has led a registrational study in collaboration with investigators at UCLA, investigating the use of 68Ga-PSMA PET as a diagnostic imaging tool for patients with biochemically recurrent prostate cancer. The study results were published in JAMA Oncology, indicating overall positive predictive value of PET lesion detection of > 90% (see publication citation below). Drs. Hope and Small have undertaken a retrospective analysis of lesion detection rates among men with CRPC and no evidence of metastases by conventional imaging. The results indicate that over 90% of patients have PET-avid lesions. Dr. Hope has collaborated with investigators at UCLA to demonstrate improved sensitivity for lesion detection by PSMA vs. fluciclovine PET (see Publication List).

Building upon these results, Drs. Aggarwal, Hope, Feng, and Small have designed a randomized phase 2 study of apalutamide with or without stereotactic body radiation therapy to oligometastatic sites of disease on PSMA PET among patients with CRPC. The study has been accepted for distribution within the PCCTC, and participating PCCTC sites include U of Wisconsin (PI: Glenn Liu). Study enrollment at UCSF is ongoing.

Dr. Aggarwal and Hope have extended diagnostic PSMA PET to develop theranostic treatment strategies for patients with metastatic castration resistant prostate cancer. Dr. Aggarwal and Hope lead an active investigator-initiated trial evaluating a priming dose of ^{177}Lu-PSMA-617 followed by checkpoint blockade with pembrolizumab in patients with chemotherapy-naïve metastatic castration resistant prostate cancer. The Phase 1 dose finding portion of the study will be conducted at UCSF alone, however additional PCCTC sites will be considered in Dose Expansion portion of the study. First patient was enrolled on this study in July 2019. Study accrual is ongoing with N = 14 patients enrolled to date.

Dr. Aggarwal and Dr. Michael Evans, a radiochemist within the Nuclear Medicine imaging group, have developed transferrin-based PET using ^{68}Ga-citrate as a potential biomarker of aggressive variant prostate cancer with evidence of neuroendocrine differentiation. We have integrated pre/post Ga-citrate PET imaging in the PCCTC trial of ribociclib in combination with docetaxel, as well as the Phase 1 study of ZEN-3694 in combination with enzalutamide. This work has led to a DOD Idea Development and Idea Expansion Award.

Dr. Aggarwal, in conjunction with colleagues in the Department of Radiology, have translated a first-in-human novel PSMA-targeting radioligand, CTT1403, for the treatment of metastatic castration resistant prostate cancer. The study is currently in dose escalation and plans to expand to additional sites within PCCTC during Dose Expansion, including the University of Washington and UCLA.

Dr. Aggarwal and Dr. Michael Evans have developed a novel PET radiotracer that avidly and specifically binds to the glucocorticoid receptor (GR), and have developed an investigator-initiated trial supported by Oric Pharmaceuticals to investigate enzalutamide + ORIC-101 (a novel potent GR antagonist) in men with metastatic castration resistant prostate cancer and resistance to at least one prior androgen signaling inhibitor (see Publication list). This study will be distributed through the Prostate Cancer Clinical Trials Consortium.

7) To streamline regulatory processes at UCSF for consortium trials, whether initiated by UCSF or other consortium members.

UCSF has implemented a pilot program to expedite the activation of consortium and industry-sponsored trials, by assigning a dedicated budget analyst linked to an individual PI. The target timeline is 120 days from the date of approval by the Scientific Review Committee at UCSF. As of the most recent metrics of trial activation, the average time to activation has averaged 135 days, an improvement compared to prior but still indicating further need for improving efficiency of the trial activation process. In addition, the UCSF IRB has expanded the applicability of use of central IRB for the oversight of phase 2 and 3 studies, which will help expedite study activation as well.

Dr. Hala Borno, a junior faculty member within the UCSF Prostate Cancer program, has recently developed a clinical trial algorithm (www.ucsfgutrials.com) that has been widely utilized to facilitate clinical trial referrals from community oncologists and affiliate sites. Pilot data indicate this web-based tool has significantly increased provider satisfaction and knowledge of currently available prostate cancer trials at UCSF, and will lead to increased referrals for clinical trial accrual.

Describe the Regulatory Protocol and Activity Status (if applicable).

Describe the Protocol and Activity Status for sections a-c, as applicable, using the format described for each section. If there is nothing significant to report during this reporting period, state "Nothing to Report."

(a) ***Human Use Regulatory Protocols***

Nothing to report

(b) Use of Human Cadavers for Research Development Test & Evaluation (RDT&E), Education or Training

TOTAL ACTIVITIES: *No RDT&E, education or training activities involving human cadavers will be performed to complete the Statement of Work (SOW)."*

(c) Animal Use Regulatory Protocols

TOTAL PROTOCOL(S): *No animal use research will be performed to complete the Statement of Work."*

What do you plan to do during the next reporting period to accomplish the goals and objectives?

We plan to continue accrual to the following DOD PCCTC multi-center trials in which UCSF serves as the lead academic site:

1) A Phase 1, First-in-Human Study of FOR46 in Patients with Metastatic Castration Resistant Prostate Cancer (PI: Rahul Aggarwal). The study is currently accruing to Dose Escalation with subsequent planned enrollment in the Dose Expansion portion of the study.

2) A randomized phase 2 study of apalutamide with or without stereotactic body radiation to PSMA PET-avid sites of disease in oligometastatic CRPC.

UCSF is continuing to accrue to several additional PCCTC clinical trials led by other institutions within the PCCTC, including the following:

1) COMbination of Bipolar Androgen Therapy and Nivolumab in Patients with Metastatic Castration-Resistant Prostate Cancer (COMBAT-CRPC)– Lead Investigational Site: Johns Hopkins University; UCSF PI: Rahul Aggarwal. Expected opening

2) IMPACT: Immunotherapy in Patients with Metastatic Cancers and CDK12 Mutations; Lead Investigational Site: U of Michigan; UCSF PI: Eric Small

We soon plan to submit several new UCSF-led trials through the PCCTC, including:

1) Pembrolizumab in combination with talabostat in neuroendocrine prostate cancer (UCSF lead site; Cornell University participating site).

2) Pembrolizumab in combination with ZEN-3694 plus enzalutamide in patients with mCRPC (Investigator-initiated trial; UCSF lead site; U of Michigan participating site).

UCSF is planning on activating the following investigator-initiated trials led by other PCCTC sites during the next 6 months:

1) BrUOG 360: A Phase 1b/2 Study of Copanlisib Combined with Rucaparib in Patients with Metastatic Castration-Resistant Prostate Cancer; Lead Investigational Site: Brown University; UCSF PI: Rahul Aggarwal

2) A Parallel Arm Phase 1b/2a Study of DKN-01 as Monotherapy or in Combination With Docetaxel for the Treatment of Advanced Prostate Cancer With Elevated DKK1. Lead Investigational Site: New York University; UCSF PI: Rahul Aggarwal

4. Impact

What was the impact on the development of the principal discipline(s) of the project?

The recently presented data from PCCTC phase 2 trial (ARN-509-002) with LHRH agonist + apalutamide demonstrated a trend towards improved PSA progression-free survival without detriment with respect to quality of life or delayed time to testosterone recovery in men with biochemically recurrent prostate cancer has led to the development of an ongoing phase 3 trial testing the combination as compared with standard of care ADT (Alliance Foundation trial-19; national PI: Rahul Aggarwal).

The recently completed Phase 1b/2 study of ZEN-3694 plus enzalutamide has demonstrated encouraging activity in AR-indifferent mCRPC and has fostered the development of a follow-in phase 2 study of ZEN-3694 plus pembrolizumab plus enzalutamide in patients with de-differentiated mCRPC.

Describe how the findings, results, or techniques that were developed or improved, or other products from the project made an impact or are likely to make an impact on other disciplines.

Nothing to Report

What was the impact on technology transfer?

Nothing to Report

What was the impact on society beyond science and technology?

Nothing to Report

5. Changes/Problems. The Project Director/Principal Investigator (PD/PI) is reminded that the recipient organization is required to obtain prior written approval from the awarding agency Grants Officer whenever

there are significant changes in the project or its direction. If not previously reported in writing, provide the following additional information or state, “Nothing to Report,” if applicable:

Changes in approach and reasons for change

Nothing to Report

Actual or anticipated problems or delays and actions or plans to resolve them

Describe problems or delays encountered during the reporting period and actions or plans to resolve them.

COVID-19 has impacted patient accrual at UCSF as it has at virtually every other institution. Overall our patient accrual metrics have improved over the past 3-6 months and currently our accrual is at ~ 80% of 2019 levels, with expectation to return to baseline by Q1 2021. .

Changes that had a significant impact on expenditures

Nothing to Report

Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents

Significant changes in use or care of human subjects

Significant changes in use or care of vertebrate animals.

Significant changes in use of biohazards and/or select agents

Nothing to Report

6. Products

Publications include the following:

1. Aggarwal R, Alumkal JJ, Szmulewitz R, et al. A randomized phase II study of apalutamide, androgen deprivation therapy, or apalutamide plus androgen deprivation therapy in patients with biochemically relapsed prostate cancer. J Clin Oncol 38, 2020 (suppl 6; abstr 320)

2. Reimers MA, Yip SM, Zhang L, et al. Clinical outcomes in Cyclin-dependent kinase 12 mutant advanced prostate cancer. European Urology 2020;77:333-41.

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7. Participants and Other Collaborating Organizations

What individuals have worked on the project?

Provide the following information for: (1) PDs/PIs; and (2) each person who has worked at least one person month per year on the project during the reporting period, regardless of the source of compensation (a person month equals approximately 160 hours of effort). If information is unchanged from a previous submission, provide the name only and indicate "no change."

Name:	Rahul Aggarwal, MD, no change
Name:	Eric Small, MD, no change
Name:	Kaleas Johnson, no change
Name:	Patricia Li, no change

Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?

Nothing to Report

What other organizations were involved as partners?

Academic Institutions:

Organization Name: Oregon Health & Science University
Location of Organization: Portland, OR
Partner's contribution to the project:
OHSU is a participating site on the following trials: FOR46, ARN-509-002, ZEN-3694 + enzalutamide

Organization Name: University of Washington
Location of Organization: Seattle, Washington
Partner's contribution to the project:
University of Washington is a participating site on the following projects: ARN-509-002

Organization Name: The University of Chicago
Location of Organization: Chicago, Illinois
Partner's contribution to the project:
The University of Chicago is a participating site on the following projects: Ribociclib + docetaxel, ARN-509-002

Organization Name: Northwestern
Location of Organization: Evanston, IL
Partner's contribution to the project:
Northwestern is a participating site for the following projects: Ribociclib + docetaxel, FOR46

Organization Name: University of Michigan
Location of Organization: Ann Arbor, MI
Partner's contribution to the project:
University of Michigan is a participating site for the following projects: Ribociclib + docetaxel

Organization Name: University of Wisconsin
Location of Organization: Madison, WI
Partner's contribution to the project:
The University of Wisconsin is a participating site for the upcoming randomized phase 2 study of apalutamide +/- SBRT in oligometastatic CRPC.

Academic Institutions (Continued)

Organization Name: Memorial Sloan Kettering Cancer Center
Location of Organization: New York City, NY
Partner's contribution to the project (c15-165)
Memorial Sloan Kettering Cancer Center is a lead site on: CC-115 + enzalutamide

Organization Name: University of California Los Angeles
Location of Organization: Los Angeles
Partner's contribution to the project (c15-165)
The University of California Los Angeles is a participating site on the following projects: FOR46, apalutamide +/- SBRT, ZEN-3694 + enzalutamide

Industry & Other Contributions:

Organization Name: Janssen
Location of Organization: Headquarters – Titusville, New Jersey
Partner's contribution to the project:
Janssen is provides financial support, and manufactures and supplies the study drug for apalutamide +/- SBRT, and ARN-509-002

Organization Name: Novartis
Location of Organization: Headquarters – Basel, Switzerland
Partner's contribution to the project:
Novartis provides financial support and supply of the study drug for project: Ribociclib + docetaxel

Organization Name: Zenith Epigenetics
Location of Organization: US Office – San Francisco, CA
Partner's contribution to the project:
Zenith Epigenetics provides financial support, and the study drug for project ZEN-3694 + enzalutamide.

Organization Name: Celgene Corporation
Location of Organization: San Francisco, CA
Partner's contribution to the project:
Celgene Corporation provides financial support, and the study drug for project: CC-115 + enzalutamide

Organization Name: Fortis Therapeutics, Inc.
Location of Organization: La Jolla, CA
Partner's contribution to the project:
Fortis Therapeutics provides financial support, and the study drug for project FOR46.

8. Special Reporting Requirements

Nothing to Report.

9. APPENDICES: Attach all appendices that contain information that supplements, clarifies or supports the text. Examples include original copies of journal articles, reprints of manuscripts and abstracts, a curriculum vitae, patent applications, study questionnaires, and surveys, etc.

SUPPORTING DATA:
University of California, San Francisco
Table A. Trials Introduced by UCSF (as of 09/30/2020)
Table B. Patient Accrual by UCSF during current grant award period (09/30/2018 – 03/30/2020)

Table A. Trials Introduced by UCSF (As of 09/30/2020)

Target Accrual	Accrual - UCSF	IRB Approval Date	Open to Accrual Date	Closed to Accrual Date	Participating PCCTC Sites
LOI# c12-102: The Role of Highly Selective Androgen Receptor (AR) Targeted Therapy in Men with Biochemically Relapsed Hormone Sensitive Prostate Cancer <PI:R. Aggarwal>					
90	40	4/18/2012	2/13/2013	08/01/2016	**OHSU, Washington, Chicago**
LOI# c15-149: A Phase 1b/2 Study of the Oral CDK4/6 Inhibitor LEE011 (Ribociclib) in Combination with Docetaxel plus Prednisone in Metastatic Castration Resistant Prostate Cancer <PI:R. Aggarwal>					
47	37	04/28/2015	9/25/2015	3/2019	**Northwestern, Michigan, U of Chicago, Brown University, University of Minnesota**
LOI# c15-157: A Phase 1 Study of ES414 in Patients with Metastatic Castration-Resistant Prostate Cancer <PI:L. Fong>					
125	7	02/23/2015	4/13/2015	6/2019	**Washington, OHSU, Michigan, Wisconsin, Duke, Chicago, Weill Cornell**
LOI# c15-165: A Phase 1 Safety and Tolerability Study of ZEN003694 in Patients with Metastatic Castration-resistant Prostate Cancer <PI:R. Aggarwal>					
44	8	3/6/2016	5/6/2016	10/1/2017	**OHSU, MSKCC, UCLA, WSU**
LOI# c15-166: A Phase 1 Safety and Tolerability Study of ZEN003694 in Combination with Enzalutamide in Patients with Metastatic Castration-Resistant Prostate Cancer <PI:R. Aggarwal>					
58	15	5/5/2016	11/15/2016	11/2019	**OHSU, MSKCC, UCLA, WSU**
c18-221: A Phase 1b Dose Escalation/Expansion Study of FOR46 in Patients with Metastatic Castration Resistant Prostate Cancer <PI: R. Aggarwal>					
42	13	12/13/2018	2/4/2019	Accrual ongoing	**OHSU, UCLA, Northwestern, Karmanos**

C19-242: A randomized phase 2 study of apalutamide with or without stereotactic body radiation to PSMA PET-avid sites of disease in oligometastatic CRPC <PI: R. Aggarwal>					
60	7	6/15/2019	12/15/2019	Accrual ongoing	**Wisconsin**

Table B. Accrual in Grant Award Period (09/30/2018 – 09/30/2020)

PCCTC #	Lead Institution	Study Title	Patient Accrual 9/30/2018 - 03/31/2019	Patient Accrual 4/1/2019 – 9/30/2019	Patient Accrual 10/1/2019 – 3/31/2020	Patient Accrual 4/1/2020 – 9/30/2020	Patient Accrual Total Grant Award Period 9/30/18 – 9/30/20
c15-149	UCSF	Tax/LEE	6	5	0	0	11
c15-166	UCSF	Zen/Enza	9	1	0	0	10
c18-221	UCSF	FOR46	3	5	2	3	13
c19-242	UCSF	PILLAR	0	0	2	5	7
c15-160	MSKCC	CC-115 + Enzalutamide	1	3	0	0	4
c18-219	JHU	COMBAT	0	0	0	5	5
c18-225	UMich	IMPACT	0	0	0	5	5
c20-259	UWash	Janssen CD3xPSMA BiTE	0	0	0	2	2
c20-257	Columbia	HPN424	0	0	0	4	4
Total Accrual			**19**	**14**	**4**	**24**	**61**