

The West Virginia Clinical and Translational Science Institute contracts the WVU Program Evaluation and Research Center to staff the WVCTSI Tracking and Evaluation Core and provide external formative and summative evaluation services pursuant to National Institutes of Health Award No. U54GM104942.

West Virginia Clinical and Translational Science Institute (WVCTSI) Tracking and Evaluation Quarterly Report

2nd Quarter of Fiscal Year 2021-2022 (Y10)

Reporting Period: October 1, 2021 – December 31, 2021

Statewide Distribution of WVCTSI Partner Organizations and Practice-Based Research Network Sites



CAMC / WVU Charleston



Marshall University



West Virginia School of
Osteopathic Medicine



WV Veterans Affairs



National Institute for
Occupational Safety and
Health



West Virginia
University



WVU Medicine



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West Virginia Clinical Translational Science Institute

Tracking and Evaluation Quarterly Report

(October 1, 2021 – December 31, 2021)

Table of Contents

WVCTSI Year 10 Dashboard	3
Executive Summary and Key Recommendations.....	4
Quarterly Reporting Annual Timeline Targets	6
Administrative Core	7
<i>Figure 1. External funding proposals dollar amount requested and category per core</i>	7
<i>Figure 2. External funding awards dollar amount per core.</i>	8
<i>Figure 3. Contributions per core to Y9Q1 WVCTSI linked publications.</i>	9
Clinical Research Design, Epidemiology & Biostatistics Core	10
<i>Figure 4. CRDEB iLab Core Management System services logged by month and service type.</i>	11
Clinical Research Resources & Facilities Core	12
<i>Figure 5. CRRF services by month and service type.....</i>	12
<i>Figure 6. CRRF OnCore studies by month.</i>	13
Community Engagement & Outreach Core	14
<i>Figure 7. CEO core services logged by service type with drill down into services for products.....</i>	15
Pilot Projects Core.....	16
Professional Development Core	16
<i>Figure 8. Investigator development services per service category as logged in iLab.....</i>	18
Technology and Resources for Core Laboratories Core.....	19
Tracking and Evaluation Core	20
Marshall University (MU).....	21
West Virginia School of Osteopathic Medicine (WVSOM)	21
Charleston Area Medical Center (CAMC).....	22
National Institute for Occupational Safety and Health (NIOSH)	22
Veteran Affairs Medical Centers (VAMC)	22

WVCTSI Year 10 Dashboard

Category	Y10 Q1	Y10 Q2	Y10 Q3	Y10 Q4	Total	TARGET
CTR-Linked Publications	31	23			31	
Proposals Submitted (#)	40	41			40	
Subcategory: Proposals Submitted by ESIs	6	1			6	
Subcategory: Proposals Submitted by Clinicians		22			22	
Proposals Funded (#)	55	40			95	
Subcategory: ESIs-Proposals Funded Totals		0			0	
Subcategory: ESIs-Proposals Funded Active		0			0	
Subcategory: ESIs-Proposals Funded New		0			0	
Subcategory: Clinician-Proposals Funded		9			9	
Subcategory: Clinician-Proposals Active		8			8	
Subcategory: Clinician-Proposals New		1			1	
Total External Funding Received (\$)	\$16,207,224.84	\$ 3,292,753.69			\$ 19,499,978.53	
Subcategory: Federal	\$11,996,367.00	\$ 1,954,518.00			\$ 13,950,885.00	
Subcategory: State	\$2,804,027.35	\$ 800,000.00			\$ 3,604,027.35	
Subcategory: Industry	\$919,351.80	\$ 215,401.44			\$ 1,134,753.24	
Subcategory: Other*	\$487,478.69	\$ 84,834.25			\$ 572,312.94	
Disclosures Submitted:	1				1	
Patent Applications	1				1	
Patents Awarded	0				0	
WVCTSI Membership	3,729	3920			3,729	
Non-Morgantown	1,319	1430			1,319	
Community Membership	515	534			515	
Investigators accessing CTSI services or resources (unique # per quarter)	238	237			475	

Executive Summary and Key Recommendations

This is the quarterly tracking and evaluation report of the WV Clinical and Translational Science Institute (WVCTSI) for the 2nd quarter (Q2) of fiscal year 2021/2022 (Y10), which covers a reporting period from October 1, 2021 through December 31, 2021. The WVCTSI received Y10 renewal notice of award dated June 30, 2021 with an annual award of \$4,000,000 for the budget period from July 1, 2021 through June 30, 2022 and a total project period from August 15, 2012 through June 30, 2022.

This report prepared by WVCTSI Tracking and Evaluation Core personnel is organized by specific aim within each key component area/core plus information from partner institutions as available. This report does not describe every tracking and evaluation metric in each core, rather key elements and recommendations are summarized and readers are referred to the Quarterly Data Sheet (Excel) distributed with this report for information on all metrics as reported by all cores and partners. At the close of the reporting period, there were 23 peer-reviewed publications including 5 in press that were officially linked¹ to WVCTSI funding, 13 presentations, 41 external funding proposals totaling over \$42.4 million, and 40 funded awards totaling over \$3.3 million for quarter 2 of year 10.

Overall recommendations from Tracking and Evaluation Core

- Prepare to close out cycle 2 (years 6-10) funding period by June 30, 2022. Develop contingency plans for institutionalization of activities as feasible should renewal funding not be awarded. Simultaneously, develop planning activities to “hit the ground running” in the event that the renewal funding application is successful.

Key Recommendations to Administrative Core

- Develop process to set annual dashboard targets prior to the start of each fiscal year utilizing patterns of change in overall dashboard metrics across previous funding years.
- Set core-specific annual targets for year 10.
- Host partner-focused WVCTSI leadership discussions to generate additional ideas and action items to engage each partner and meet their needs better over time. Include at least the following considerations: supporting ORCID iD usage, linking publications, supporting competitive pilot award applications, iLabs utilization, targeted advertising and training related to WVCTSI service utilization by personnel at each partner organization, and regular communications channels through which partners and associated investigators make their needs and preferences known.
- Revisit effort to date and consider next steps to get all WVCTSI members who generate scholarly publications to have an ORCID ID as part of their WVCTSI membership profile.

Key Recommendations to Clinical Research Design, Epidemiology & Biostatistics Core

- Plan and conduct professional development trainings targeted at increasing service utilization generally by investigators at each partner site. Additionally, consider why no GIS consultations

¹ Publications are officially linked if they appear in NCBI as published or Epub ahead of print(in press) and are associated with quarterly reporting periods based on their official NCBI publication date. We report all linked publications including any embargoed that do not yet appear on the public facing NCBI list. The number of linked publications for each quarter continues to rise following the end of the reporting period.

were engaged this quarter and specifically target removing any barriers to that service being delivered / utilized in the future.

Key Recommendations to Clinical Research Resources & Facilities Core

- Consider whether effort should be directed at supporting activation of TriNetX studies, and if so develop detail plans to help accepted studies become activated.

Key Recommendations to Community Engagement & Outreach Core

- Review all metrics with low or zero activity this quarter, which are mostly in new project/collaboration areas, and determine whether that is appropriate given the approaching end of the funding period or what efforts may be needed to increase activity in the future.

Key Recommendations to Pilot Projects Core

- Review activity to date and consider whether additional effort should be targeted at supporting funded pilot awardees completing their scope of work by June 30, 2022.

Key Recommendations to Professional Development Core

- Set core-specific annual targets for year 10.
- Discontinue the CTS Certificate program because there has been no enrollment since Q3Y9 and enrollment headcount has varied from 0-3 students throughout this funding cycle.

Key Recommendations to Technology and Resources for Core Laboratories Core

- Set core-specific annual targets for year 10.
- Consider whether additional effort should be directed toward activation of genomics studies or WVU collecting and utilizing biospecimen samples.

Key Recommendations to Tracking and Evaluation Core

- Review all metrics alignment to specific aims and consider implications for quarterly reporting during the current funding cycle ending 6/30/2022. Conduct similar analysis related to specific aims in renewal application and prepare for evaluation changes beginning 7/1/2022.
- Support continued refinement of the publication reporting process, including identification of publications that should be linked to the grant and supporting roll-out of ORCID ID utilization.
- Continue to refine the progress report and related data portal for use by PD, Pilot, and Admin cores to collect quarterly report information from individuals receiving WVCTSI services, protected time, or other support.
- Begin building web-based membership database as first step toward an integrated member service utilization and productivity database.

Key Recommendations to Marshall University, National Institute for Occupational Safety and Health, Veterans Affairs Medical Centers, and West Virginia School of Osteopathic Medicine

- CAMC should set annual targets for year 10
- Work with Administration Core to help ensure partner organization perspectives related to how best to engage investigators and other personnel at each site are made clear.
- Continue efforts to increase WVCTSI membership, awareness, and utilization of WVCTSI core services at each partner institution.

Quarterly Reporting Annual Timeline Targets

1st quarter Reporting Period = July 1 – Sept 30

Sept 18	1 st quarter report task assigned to each KCA/Partner via email to key contacts
Oct 1	TEC begins data acquisition from repositories (e.g., iLab)
Oct 7	Quarterly data submission due from key contacts to TEC
Sept-Oct	Pre/post submission meetings (TEC and key contacts)
Oct 28	1 st quarter formative evaluation report and metric data distributed by TEC
Nov-Dec	Steering Committee discusses 1 st quarter formative evaluation

2nd quarter Reporting Period = Oct 1 – Dec 31

Dec 18	2 nd quarter report task assigned to each KCA/Partner via email to key contacts
Jan 1	TEC begins data acquisition from repositories (e.g., iLab)
Jan 7	Quarterly data submission due from key contacts to TEC
Dec-Jan	Pre/post submission meetings (TEC and key contacts)
Jan 28	2 nd quarter formative evaluation report and metric data distributed by TEC
Feb-Mar	Steering Committee discusses 2 nd quarter formative evaluation

3rd quarter Reporting Period = Jan 1 - Mar 31

Mar 18	3 rd quarter report task assigned to each KCA/Partner via email to key contacts
Apr 1	TEC begins data acquisition from repositories (e.g., iLab)
Apr 7	Quarterly data submission due from key contacts to TEC
Mar-Apr	Pre/post submission meetings (TEC and key contacts)
Apr 28	3 rd quarter formative evaluation report and metric data distributed by TEC
May-June	Steering Committee discusses 3 rd quarter formative evaluation

4th quarter Reporting Period = Apr 1 – June 30

June 18	4 th quarter report task assigned to each KCA/Partner via email to key contacts
July 1	TEC begins data acquisition from repositories (e.g., iLab)
July 8	Quarterly report data due to TEC from each core
June-July	Pre/post submission meetings (TEC and key contacts)
July 29	4 th quarter formative evaluation report and metric data distributed by TEC
Aug-Sept	Steering Committee discusses 4 th quarter formative evaluation

Administrative Core

Specific Aim 1. Implement an effective operational structure that facilitates attainment of all proposed WVCTSI Specific Aims and projects.

WVCTSI had 41 external funding proposals (\$42.4 million) and 40 funded awards (\$3.29 million) during Y10 Q2. Of these Admin was directly linked to 17 external funding proposals (\$25.1 million) and 7 external awards (\$2.2 million) this quarter. Figures 1 and 2 show types of external funding proposed and awarded per cores contributing. WVCTSI Staff numbers in Q2 is 72.



External Funding Proposal Amounts by Core

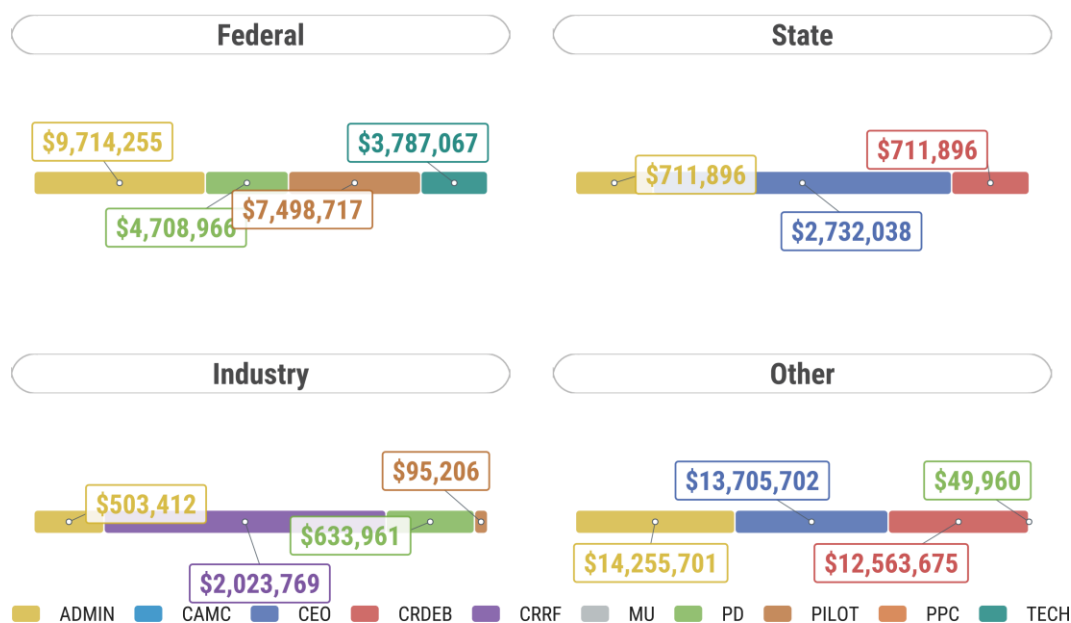


Figure 1. External funding proposals dollar amount requested and category per core

External Funding Award Amounts by Core

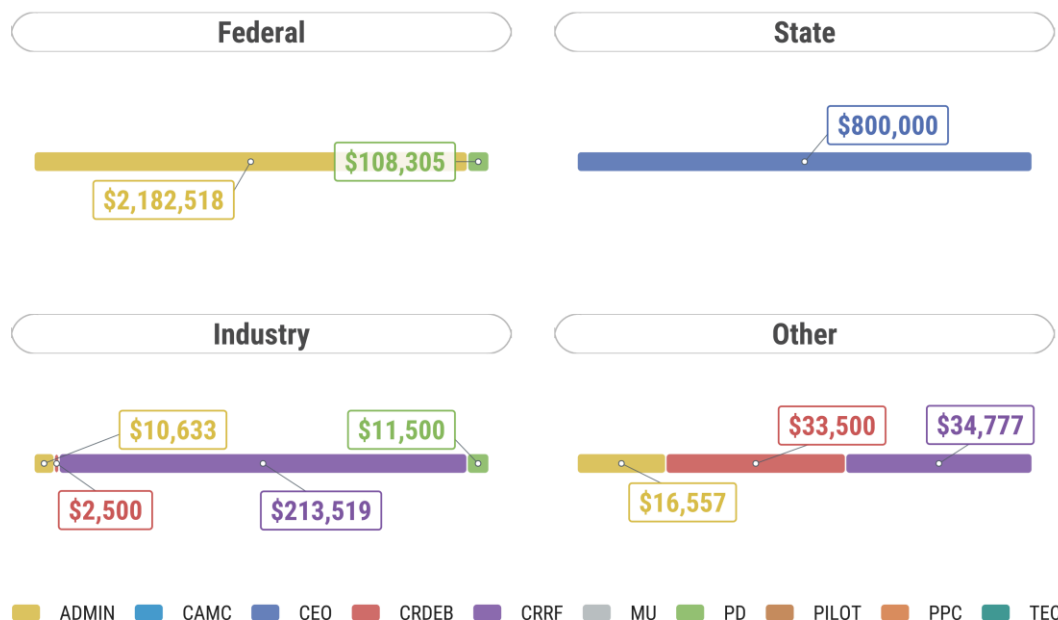


Figure 2. External funding awards dollar amount per core.

Tracking and Evaluation Core pulled linked publications from NCBI utilizing all appropriate grant numbers to accurately identify which publications should be considered linked to the grant in this and all previous quarters. The [WVCTSI Linked Publications Hub](#) displays officially linked publications associated with each quarterly reporting period. “In press” numbers are additional linked publications with a current status of “ahead of print” that are expected to be published at some point and remain linked to the grant.

	Q1	Q2	Q3	Q4	Total
Years 1-5	141	177	184	196	698
Year 6	58	68	82(1)	68(1)	276(2)
Year 7	56	65(1)	77	92	290(1)
Year 8	69(1)	93	73(1)	114(2)	349(4)
Year 9	94(1)	138(7)	64(2)	71(7)	367(17)
Year 10	41(4)	21(4)	1		63(8)
Total					2020(35)

It should be noted that linking publications requires substantial effort and lags real time. While the total number of linked publications typically lags the annual target, it is on-track based on trends observed in past years where the number of publications continues to rise after a reporting period has ended. Accordingly, the number of linked publications at the time the reporting period closed and for which core contributions are reported here will be fewer than those reported in the table above because additional publications continue to be linked daily.

While the current number of linked publications is higher, there were 23 publications, including 5 in press, linked to the grant at the close of Quarter 2. Cores and partners contributed to the following number of those linked publications each: 5 ADMIN, 10 CRDEB, 2 CRRF, 1 Pilot, 8 PD, and 3 TECH. These counts do not add up to 23 due to multiple cores being linked with several publications. Core contributions to linked publications are displayed in Figure 3.

Publication Counts by Core or Institution

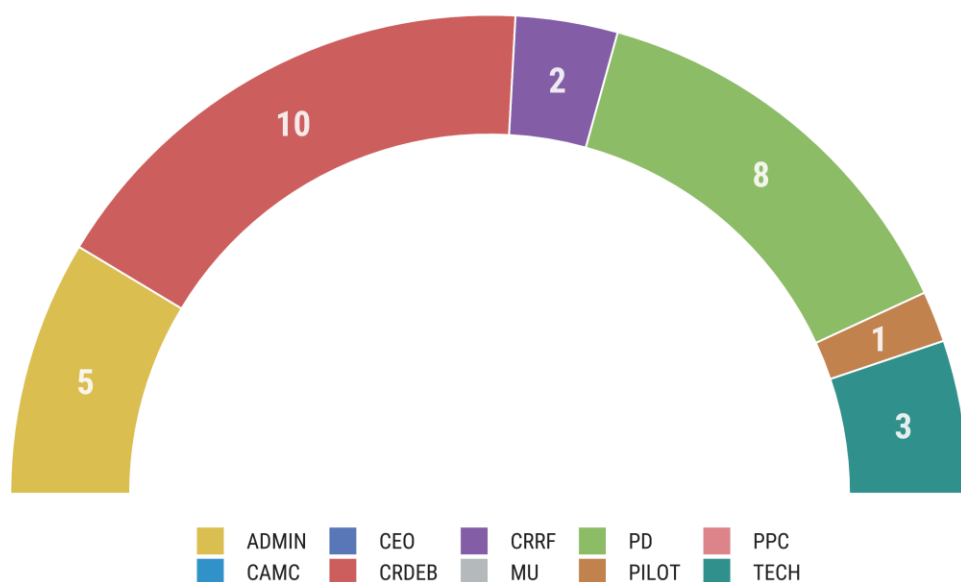


Figure 3. Contributions per core to Y9Q1 WVCTSI linked publications.

In order to address the concern that WVCTSI may be supporting publications that are not being appropriately identified and linked to the grant, TEC pulls publications from appropriate public databases (e.g., PubMed) utilizing ORCID ID's when available and full names on the WVCTSI member list when ORCID ID's are not available then limiting the search to publications during the current funding period. The list from the name-based search is reduced by including only those publications with author institutional affiliations in West Virginia. Core leadership review the list and contact all first authors regarding whether their publication should be linked to the grant. TEC continues to use the quarterly progress report through which publications, among several other types of information, are requested from all individuals who receive WVCTSI services or support.

Specific Aim 2. Create policies and procedures to drive performance, transparency, constructive communication, and collaboration among multiple, diverse stakeholders (i.e., investigators, rural providers, community members).

Administration Core reported having 68,863 website visitor hits, with an average of 323.5 website visitors per day during Q2, however these numbers do not include the month of October due to technical difficulties. WVCTSI's social media engagement reported in Q2 includes: 11 New Facebook Likes (with a total of 475 Likes), 88 New Facebook Followers (555 total followers), 12 new Twitter followers (726 followers total), 8 new Instagram followers (140 total), 1.25K YouTube Subscribers with a total of +156k views and 131 new General Interest Mailing List subscribers (3701 total).

Specific Aim 3. Provide sound fiscal and resource management, ensuring appropriate resourcing of

cores, flexibility to meet changing needs and environments, and sustainability of services.

As noted above, WVCTSI supported 41 external funding proposals and 40 external awards this quarter. Percentage of NIH award expended ranged between 11% and 33% in Q2 with Admin being the lowest and TEC being the highest. There were 5 cost transfers/corrections reported this quarter.

Specific Aim 4. Recruit talented, committed investigators addressing research questions relevant to the WVCTSI priority health areas.

No Clinical Translational investigators were reported as hired this quarter, however 1 new WVCTSI staff was reported as being hired in Q2.

Key Recommendations to Administrative Core

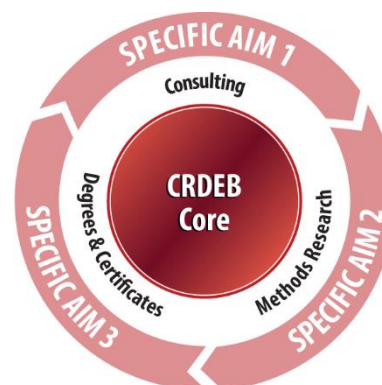
- Develop process to set annual dashboard targets prior to the start of each fiscal year utilizing patterns of change in overall dashboard metrics across previous funding years.
- Set core-specific annual targets for year 10.
- Host partner-focused WVCTSI leadership discussions to generate additional ideas and action items to engage each partner and meet their needs better over time. Include at least the following considerations: supporting ORCID ID usage, linking publications, supporting competitive pilot award applications, iLabs utilization, targeted advertising and training related to WVCTSI service utilization by personnel at each partner organization, and regular communications channels through which partners and associated investigators make their needs and preferences known.
- Revisit effort to date and consider next steps to get all WVCTSI members who generate scholarly publications to have an ORCID ID as part of their WVCTSI membership profile.

Clinical Research Design, Epidemiology & Biostatistics Core

Specific Aim 1. Effectively engage investigators throughout WV by providing traditional services in biostatistics and epidemiology.

Investigators engage through the CRDEB core utilizing available resources including the Integrated Data Repository (IDR), REDCap, and TriNetX. There were 143 new REDCap users in Q2 with a total of 2,745 REDCap users to date (786 of which are active users). Of the 2,745 REDCap users, 2,035 were from WVU (563 active), 20 from CAMC (6 active), 18 from WVSOM (7 active), and 672 not affiliated with the above entities (210 active).

There were 32 hours reported in the category of updating existing REDCap projects and providing project follow-up meetings in Q2. 3 REDCap projects were made for WVCTSI-funded investigators and 5 REDCap projects were made for non-WVCTSI investigators. There was a total of 63 REDCap projects and 128 data instruments, 148 new REDCap service inquiries, and 1 hour of REDCap consultations reported in Q2. The total number of current TriNetX users was 523 in Q2 and there were 4,749 new TriNetX inquiries, with 37 new TriNetX logins and 1 data set requests. CRDEB reported 0 practice/policy changes in Q2 and no professional development events.



By the Numbers:
Clinical Research Design, Epidemiology & Biostatistics Core Services

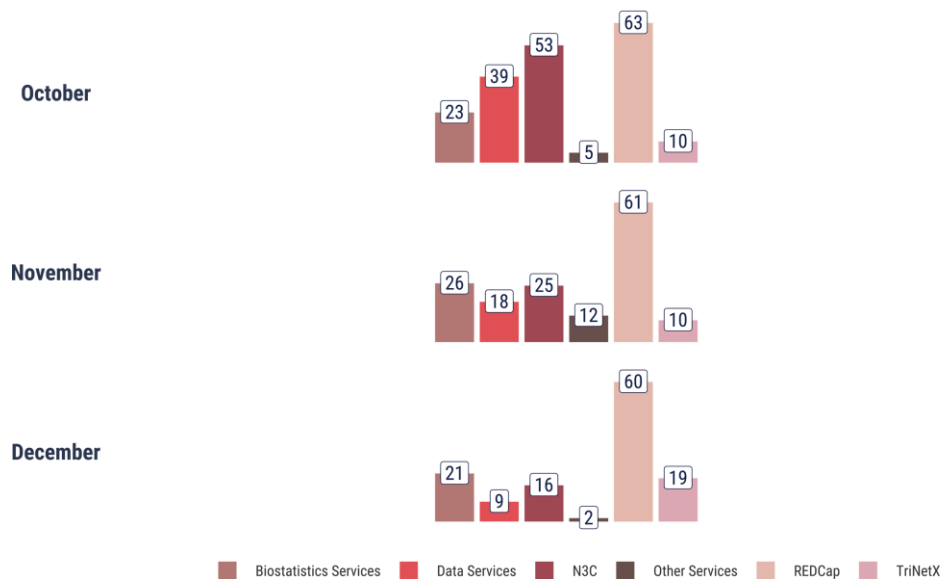


Figure 4. CRDEB iLab Core Management System services logged by month and service type.

Specific Aim 2. Implement cutting-edge tools and methods in biostatistics and epidemiology, with a particular focus on the needs of WV researchers.

CRDEB reported 58 BMIR-related inquiries, 16 new CRDEB consultations, 3 sample size/power consultations, 16 new statistical analysis consultations, and 7 new clinical study design consultations in Q2. Additionally, 327.75 hours were dedicated to biostatistics consultations. Zero GIS analysis consultations were reported for Q2.

Specific Aim 3. Disseminate current and classical information in biostatistics and epidemiology.

There were 10 linked publications supported by CRDEB, where 6 were standalone and 4 were supported in collaboration with other cores; ADMIN, TECH, and PD. CRDEB contributed to 2 external funding proposals collaboratively with other cores for \$13.2 million in Q2. CRDEB supported 2 external funding awards (totaling \$36,000 in Q2), both of which were standalone.

Specific Aim 4². Leverage the newly enhanced Integrated Data Repository (IDR2) and partnership through the Appalachian Research Consortium (ARC) to facilitate outcomes research, predictive modeling, and geospatial analysis.

There were 14 new custom IDR dataset requests, 2 requests for updates to previous IDR datasets, and 6 IDR projects reported as completed in Q2. There were 277.25 hours spent on new data requests, 21.75 hours on updates to previous data sets and 0 hours data request consultation. CRDEB did not report any activity related to the Appalachian Research Consortium (ARC).

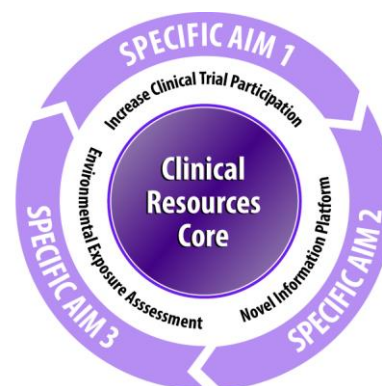
² CRDEB Specific Aim 4 was previously CRRF Specific Aim 2. This revision was specified by letter to NIH dated November 27, 2017 and subsequently approved.

Key Recommendations to Clinical Research Design, Epidemiology & Biostatistics Core

- Plan and conduct professional development trainings targeted at increasing service utilization generally by investigators at each partner site. Additionally, consider why no GIS consultations were engaged this quarter and specifically target removing any barriers to that service being delivered / utilized in the future.

Clinical Research Resources & Facilities Core

CRRF contributed to 2 linked publications in Q2, 1 standalone and 1 with ADMIN. CRRF contributed to 14 external funding proposals (totaling \$16 million) in Q2, of which 9 were standalone and 5 collaborations with other cores (5 Admin, 1 CRDEB, and 3 CEO). CRRF received 31 external funding awards (\$248,296), 29 standalone and 2 collaborations (1 Admin, 1 PD). CRRF services monthly across Q2 by category and the number of OnCore studies by month are displayed below.



Registration Counts for Clinical Research Resource Facilities

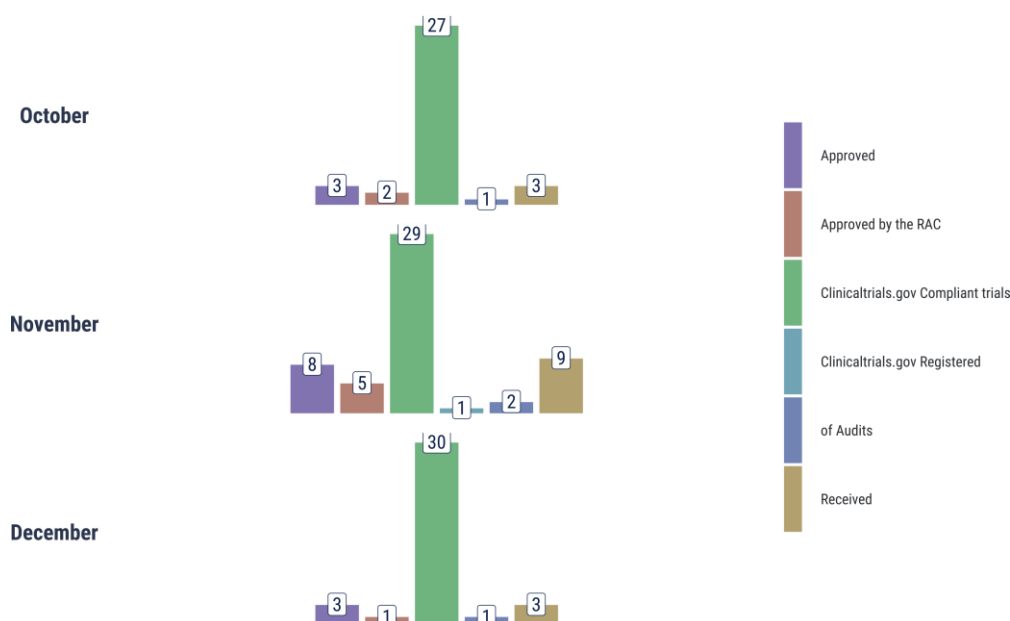


Figure 5. CRRF services by month and service type.

Study Counts for Clinical Research Resource Facilities

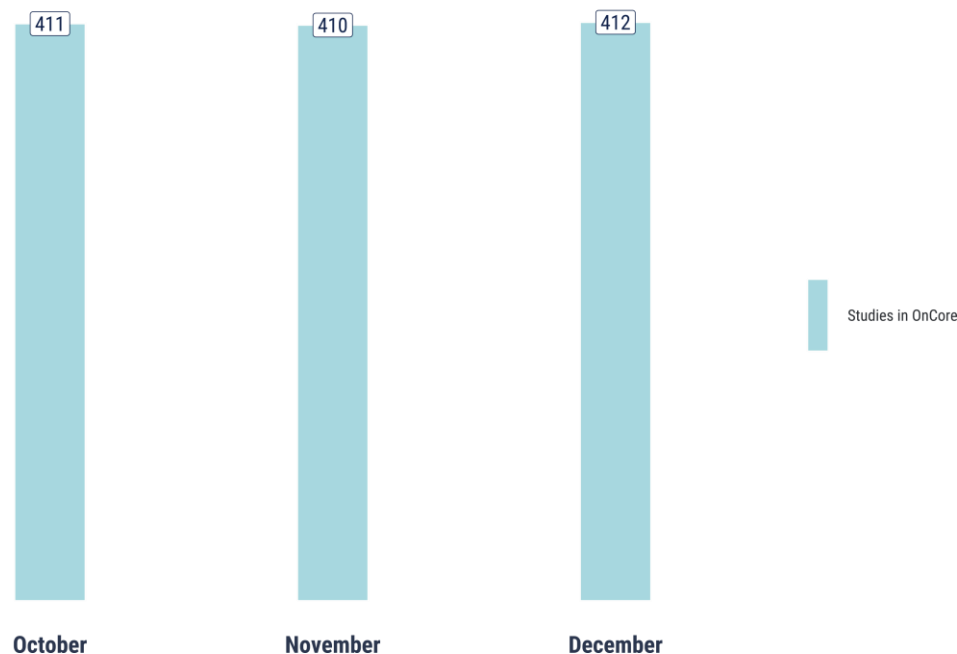


Figure 6. CRRF OnCore studies by month.

Specific Aim 1. Create a Clinical Trials Center of Excellence (CTCOE) with connection to rural communities and practitioners, thereby providing access to cutting-edge trials addressing health disparities affecting West Virginians.

In Q2, CTCOE provided 142 unique instances of support to non-WVCTSI studies in the form of regulatory assistance (44), study coordination (36), accounting (61), and quality assurance audits (1). Within the expanded activities by CTCOE (established Q2Y8) which included Registration, a Risk Assessment Committee, and an Appeals Committee; there were 14 trials approved, 8 trials reviewed, and 8 approved by the risk assessment committee. CRRF supported 2 new Early-Stage PI's. CTCOE supported 2 WVCTSI-initiated trials in new research areas. 35 participants were enrolled, with 26 more completing a study. CRRF had 20 TriNetX study offers and 4 accepted at WVU, with 0 studies activated in Q2. CRRF reported 4 PI Academy events and 3 new PI Academy members.

Specific Aim 2. Establish the Environmental Exposures Unit to stimulate environmental health research in collaboration with the National Institute for Occupational Safety and Health (NIOSH).

While there has been some activity with NIOSH personnel, there have been no data reported on the Environmental Exposures Unit since the beginning of this funding cycle (2016).

Key Recommendations to Clinical Research Resources & Facilities Core

- Consider whether effort should be directed at supporting activation of TriNetX studies, and if so develop detail plans to help accepted studies become activated.

Community Engagement & Outreach Core

Specific Aim 1. Actively engage patients and other community stakeholders as research partners.

There were 112 WVPBRN and 208 ECHO sites reported in Q2. This included new ECHO sites: (1) Holston Medical Group - Duffield, VA, (2) Texas Tech University Health Sciences Center - Lubbock, TX, (3) St. David's Hospital - Austin, TX, (4) Centerville Clinics - Donora, PA, (5) WVU Eastern Division - Martinsburg, WV, (6) North Central WV Black Lung Program - Newburg, WV, (7) JBS International - Rockville, MD, (8) Tennessee Department of Health - Nashville, TN, (9) NEOMED - Rootstown, OH, and (10) Barbour Community Health Association - Belington, WV. There were 0 new partner organizations reported in Q2.

During Q2, there were 0 new CEO (non-ECHO) projects and 0 new ECHO projects reported. CEO reported 0 networking opportunities. There was 1 Community Advisory Board meeting attempted that was delayed due to holidays.

Specific Aim 2. Transform community-identified research questions into externally-funded projects that improve health outcomes in WVCTSI health priority areas.

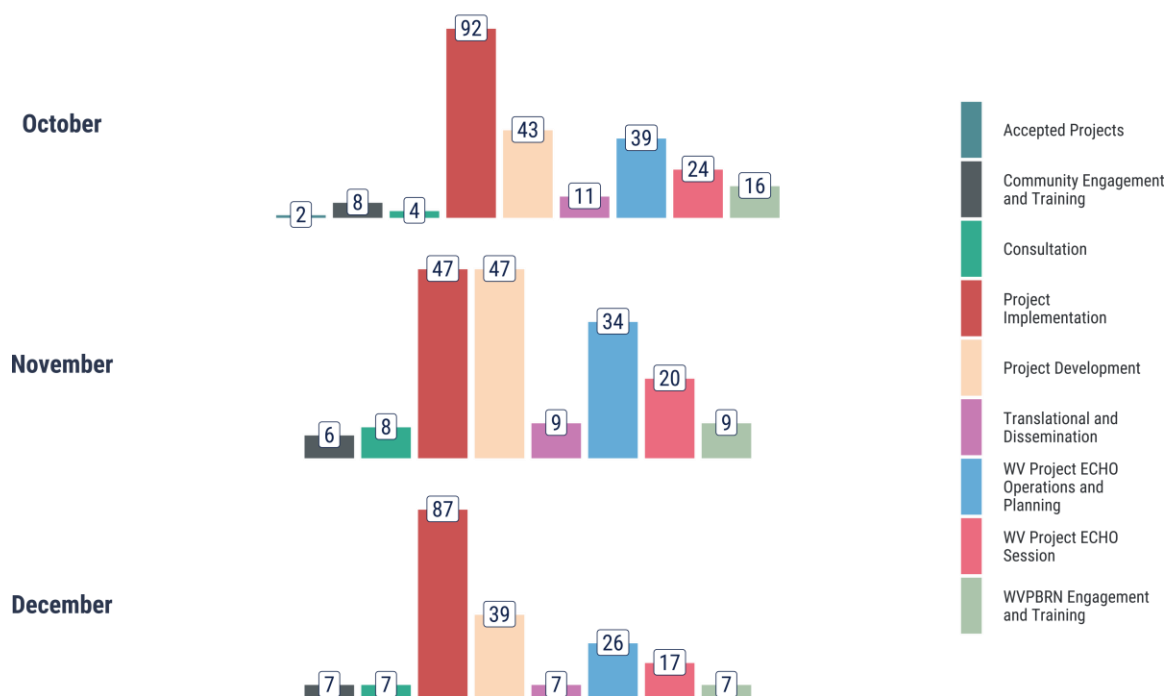
There were 3 new, 36 ongoing, and 2 completed WVPBRN projects as well as 0 new, 2 ongoing, and 0 completed CEO projects. 0 WVPBRN projects were reviewed and 2 accepted in Q2. There were, 12 Community Engagement and Training services, 224 Project Implementation services, 99 Project Development and Success services, 1 new Ideas on Deck service, 9 Consultation services, 32 WVPBRN Activities, 0 funding opportunity identified, 162 hours of ECHO services, and 8 services for products reported during Q2. CEO didn't contribute to any publications in Q2. CEO contributed to 5 external funding proposals (totaling over \$16.4 million) in Q2, 2 stand alone and 3 in collaboration (3 ADMIN, 3 CRRF, and 1 CRDEB), and contributed to 1 standalone funding award for \$800,000.

Specific Aim 3. Translate and disseminate research results to inform West Virginia health policy and practice.

In Q2, there were 11 Research Translation and Dissemination services, 0 practice changes, and 0 policy changes or policy project briefs reported.



By the Numbers: Community Engagement & Outreach Services



By the Numbers: Community Engagement & Outreach Products

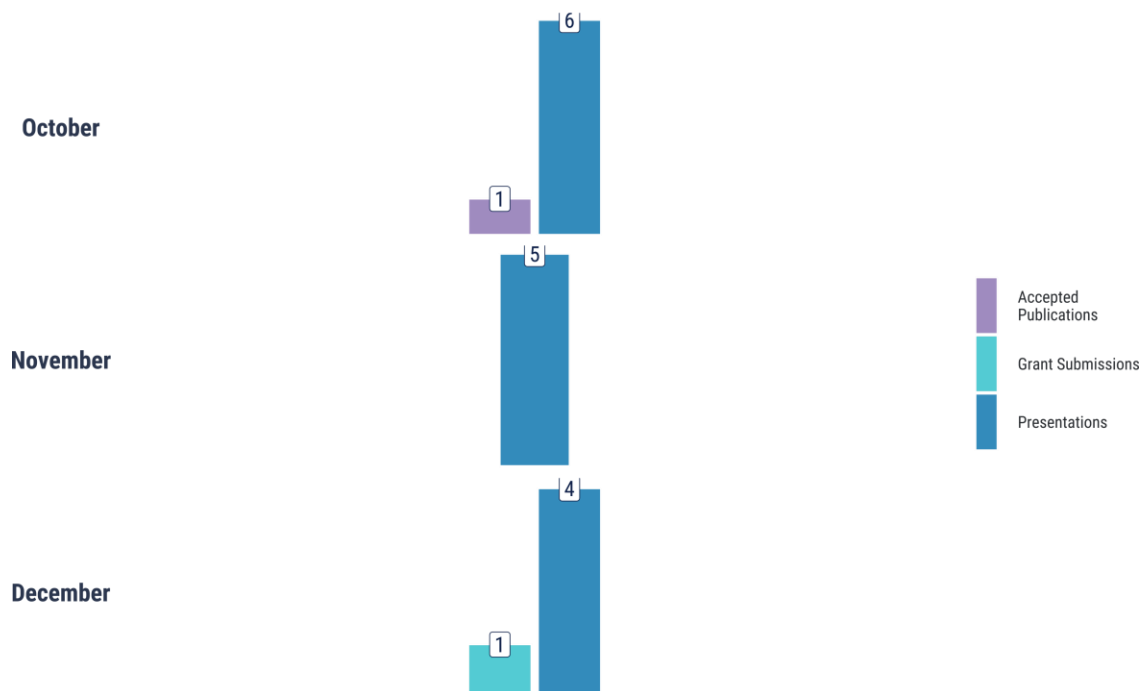


Figure 7. CEO core services logged by service type with drill down into services for products.

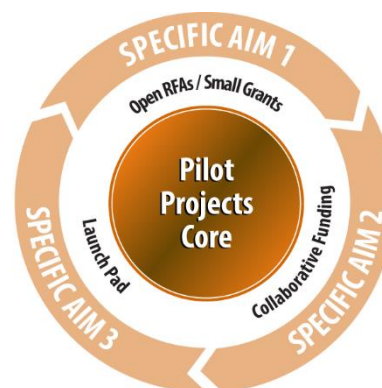
Key Recommendations to Community Engagement & Outreach Core

- Review all metrics with low or zero activity this quarter, which are mostly in new project/collaboration areas, and determine whether that is appropriate given the approaching end of the funding period or what efforts may be needed to increase activity in the future.

Pilot Projects Core

Specific Aim 1. Provide infrastructure supporting competitive pilot funding opportunities for early stage (ESI) and new investigators (NI) with subsequent mentored progression to project completion, publication, and external funding application.

Pilot core did not receive any letters of intent or grant applications in Q2, and there were 0 awarded pilot projects in Q2. Pilot core provided 0 workshops, had 10 requested services. They contributed to 1 linked publication.



Specific Aim 2. Advance collaborative research endeavors to address WVCTSI priority health areas within WV as well as throughout the Appalachian region.

There are 24 active Pilot projects in Q2. Additionally, the Pilot Core contributed to 6 external grant proposals (totaling over \$7.6 M): standalone (3), PD (2), and ADMIN (1). Pilot did not contribute to external funding awards this quarter.

Specific Aim 3. Implement the Launch Pad Pilot Program to maximize opportunities for commercialization of novel science.

There was no activity related to Launch Pad Pilot projects this quarter.

Key Recommendations to Pilot Projects Core

- Review activity to date and consider whether additional effort should be targeted at supporting funded pilot awardees completing their scope of work by June 30, 2022.

Professional Development Core

The Professional Development Core is piloting Editorial Services. During Q2, 1 publication consultation was requested, 1 one-on-one manuscript coaching was requested, and 3 publications were accepted.

Specific Aim 1. Create the Scientific and Career Success (SACS) program to provide access to formal mentoring for C/T researchers of all career stages.

There were 237 individuals who requested 406 services in Q2. There were 12 new investigator development service requests logged through iLab. There were 12 reported orientation or consultation provided to investigators new to WVCTSI. Additionally, there were 38 active mentors in the SACS



program, as well as 3 female clinician scientists being mentored in Q2. There were 4 special events/programs for women in science: (1) Don't Sweat the Small Stuff (2) Applying Smart Goals to Your Career and Life, (3) Women at Work Podcast Listening Event: Making Yourself Heard, and (4) Women at Work Podcast Listening Event: What it Takes to Make a Major Change.

Specific Aim 2. Develop formal programs that serve as “on-ramps” to introduce C/T research to early or new investigators and trainees at different career stages.

The PD core reported 6 scholars each partaking in the WVCTSI RS WIPS professional development activity. There were 0 CTS Certificate students enrolled, 0 new students, and 0 applications received. WVU MS in CTS had a total enrollment of 23, with 4 applications received, 3 accepted or offers extended and 3 students completed the program in Q2. MU did not submit information for their MS in CTS. CTS PhD program had 7 current enrollments, 3 applications received or reviewed, 0 accepted, and 1 degree conferred during Q2. Education programming reported no new academic courses, 0 research workshops/short courses, 9 C/T research seminars, 180 unique participants in educational programming from WVU (160), MU (10), CAMC (4), SOM (3), and Eastern Campus (3).

Specific Aim 3. Develop educational opportunities to support and retain externally funded C/T researchers statewide.

Professional Development reported contributing to 8 linked publications: 5 standalone publications and 3 collaborations (1 Admin and 2 CRDEB). The Professional Development core contributed to 8 external funding proposals (totaling over \$5 million): 5 of which were standalone (totaling over \$2.8 M) and 3 of which were collaborative (totaling over \$2.5 M) with other cores. The Professional Development core supported 2 external funding awards (totaling \$119,805) in collaboration with ADMIN (1), and CRRF (1).

By the Numbers: Investigator Development Services

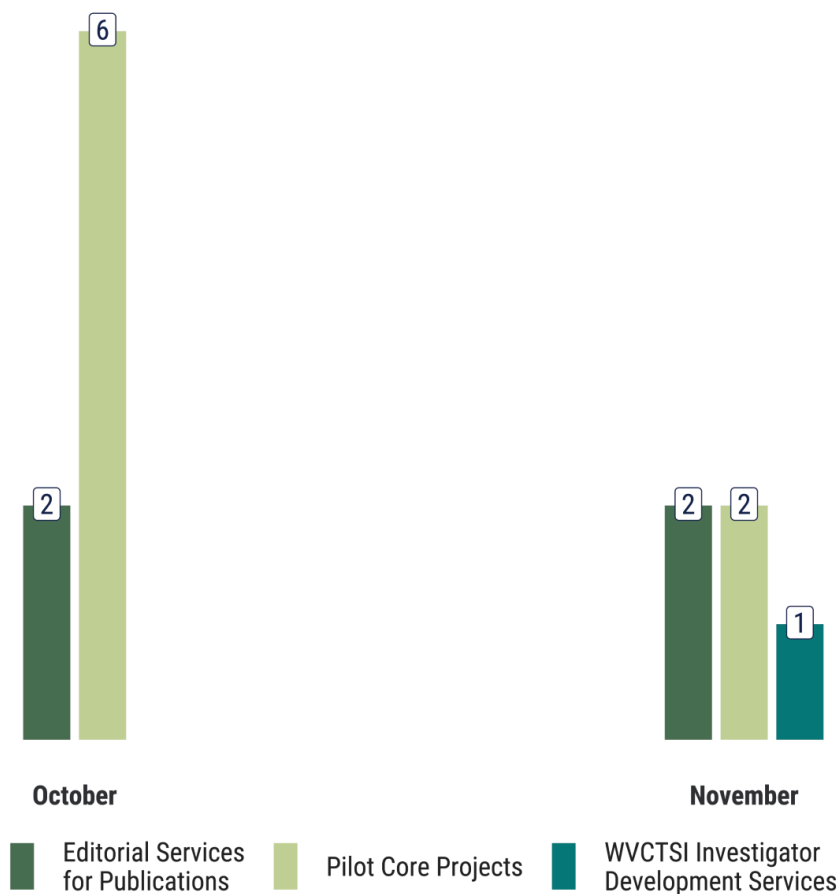


Figure 8. Investigator development services per service category as logged in iLab.

Key Recommendations to Professional Development Core

- Set core-specific annual targets for year 10.
- Discontinue the CTS Certificate program because there has been no enrollment since Q3Y9 and enrollment headcount has varied from 0-3 students throughout this funding cycle.

Technology and Resources for Core Laboratories Core

The Technology and Resources for Core Laboratories (TRCL) core contributed to 3 publications: 2 standalone and 1 in collaboration with CRDEB during Q2. TRCL core contributed to 4 external funding proposals totaling \$3.7M: 3 standalone and 1 in collaboration with ADMIN. TRCL did not contribute to external funding awards in Q2.

Specific Aim 1. To establish a statewide biospecimen repository that collects patient and study participant samples in WVCTSI priority health areas (addiction and resultant emerging epidemics, cancer, cardiovascular disease, and chronic lung disease).

TRCL reported 2 WVCTSI-supported projects, 2 open projects, and no new projects in Q2. Biospecimen data shows WVU collecting and utilizing 0 samples, MU collecting 133 samples and utilizing 3 samples, and CAMC collecting and utilizing 20 samples.

Specific Aim 2. To establish a statewide West Virginia University (WVU) - Marshall University (MU) genomics shared research facility for the efficient generation of genomic and related data for C/T studies that address WVCTSI priority health areas.

There were 0 genomics studies, 21 Illumina projects (5 WVU, 16 MU), and 24 Illumina runs (2 WVU, 22 MU) reported in Q2. There were 14 educational sessions provided to WVU and MU including Bioinformatics, with 23 total attendees for educational sessions including Bioinformatics at WVU and MU.

Specific Aim 3. To establish a statewide WVU-MU shared Bioinformatics and Data Management (BDM) Facility for C/T studies that address WVCTSI priority health areas.

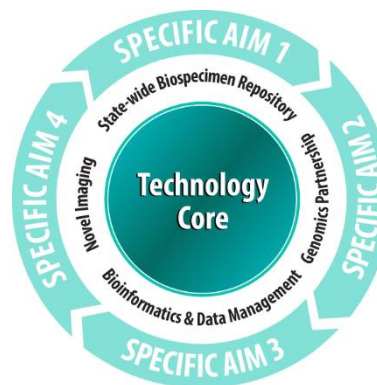
TRCL provided 10 training sessions to 6 unique individuals.

Specific Aim 4. To establish state-of-the-art imaging in support of biologically relevant modeling of disease.

15 investigators were served with 46 hours for MicroCT across 2 projects, and 60 hours of MRI across 3 projects. No disclosures or patents were reported.

Key Recommendations to Technology and Resources for Core Laboratories Core

- Set core-specific annual targets for year 10.
- Consider whether additional effort should be directed toward activation of genomics studies or WVU collecting and utilizing biospecimen samples.



Tracking and Evaluation Core

Specific Aim 1. Develop Investigator Tracking and Support System (ITSS) utilizing quantitative and qualitative approaches to identify factors contributing to success or providing barriers to productivity.

The Tracking and Evaluation Core (TEC) identified all publications linked to WVCTSI grant numbers directly from NCBI. The [web-based table](#) displaying publication information publicly is automatically updated daily. [Social Network Analysis visualizations](#) have been updated to show collaboration among authors on linked publications. TEC also substantially revised the formatting of [web-based quarterly evaluation reports](#) to aid usability and utilization.



TEC continues to refine the quarterly progress report through which all individuals who receive support/ services from WVCTSI are requested to report information on activity and products generated. TEC updates the [user-friendly data portal](#) quarterly through which stakeholders can utilize progress report data.

TEC utilizes an ORCID ID survey to gather WVCTSI member ORCID ID's to be added to membership list, which currently includes ORCID ID for 561 members (14% of 3,921) following a recent quality control cleaning of duplicates and inaccurate entries. TEC developed a method of identifying member publications and pulling their ORCID ID's in reverse order. This allows more accurate searches for publications by members that should be linked to the grant. TEC developed a survey for the Fellows Research Academy pilot project and is awaiting feedback.

TEC continues work on the new membership database. Once completed this database will house member information, services received, and outputs (i.e., publications, grant proposals, funded awards). This database will be made available to all WVCTSI staff to allow verification of membership and a record of services/outputs.

Specific Aim 2. Create and implement systematic set of tools and measurements to drive continuous quality improvement and demonstrate impact of community stakeholder participation and engagement.

In collecting information through the quarterly progress report mentioned above, we were able to identify additional publications that should be linked to the WVCTSI grant numbers. TEC will continue to work with PD and Admin to make improvements and increase efficiency in analyzing such data. TEC continues to make updates to the [website](#) that houses a) all tracking and evaluation reports years 6 through current (password protected), b) an automated [linked publications hub](#) with counts, full references, and abstracts (publicly available), c) social network [visualizations](#) of linked publication author networks (publicly available), and d) the quarterly progress report data portal (password protected).

Specific Aim 3. Build focused research and evaluation demonstrating WVCTSI impacts on health outcomes in West Virginia.

The Tracking and Evaluation Report for the 1st Quarter of Y10 was disseminated in Q2.

Key Recommendations to Tracking and Evaluation Core

- Review all metrics alignment to specific aims and consider implications for quarterly reporting during the current funding cycle ending 6/30/2022. Conduct similar analysis related to specific aims in renewal application and prepare for evaluation changes beginning 7/1/2022.
- Support continued refinement of the publication reporting process, including identification of publications that should be linked to the grant and supporting roll-out of ORCID ID utilization.
- Continue to refine the progress report and related data portal for use by PD, Pilot, and Admin cores to collect quarterly report information from individuals receiving WVCTSI services, protected time, or other support.
- Begin building web-based membership database as first step toward an integrated member service utilization and productivity database.

Marshall University (MU)

MU, located in Huntington, WV in Cabell County, partners with the WVCTSI and is engaged in activities primarily related to research and investigator development. The Joan C. Edwards School of Medicine at MU is a community-based, Veterans Affairs-affiliated medical school dedicated to providing high quality medical education and postgraduate training programs to foster a skilled physician workforce to meet the unique healthcare needs of West Virginia and Central Appalachia. The Joan C. Edwards School of Medicine focuses on developing centers of excellence in clinical care, including primary care in rural underserved areas, focused and responsive programs of biomedical science graduate study, biomedical and clinical science research, academic scholarship, and public service outreach. MU houses WVCTSI Associate Director, Dr. Gary Rankin.



For Q2, MU reported 3 publications, 26 external funding proposals (4 submitted by ESI's and 2 by clinicians), and 5 externally funded awards (2 by clinicians). MU had 2 ESIs accessing WVCTSI services or resources in Q2 and 79 WVCTSI members.

West Virginia School of Osteopathic Medicine (WVSOM)

WVSOM, located in Lewisburg, WV in Greenbrier County, partners with the WVCTSI in activities related to research and community engagement. WVSOM focuses on educating students as lifelong learners in osteopathic medicine and complementary health related programs, supporting graduate medical education training, advancing scientific knowledge through academic, clinical, and basic science research, and promoting patient-centered, evidence-based medicine.



In Q2, WVSOM reported 2 publication, 10 presentations supported by CTR Award, 0 proposals submitted, and 3 funded awards. They held 4 workshop/course/seminar/retreat, and 1 poster/exhibits/promotional events. WVSOM had 7 community participatory research projects, 8 open collaborative CTS projects outside the WVPBRN, 1 trainee in community-engaged research curriculum, and 0 current alliance CTS collaboration. WVSOM had 106 WVCTSI members in Q2.

Charleston Area Medical Center (CAMC)

CAMC is a nonprofit 908-bed regional referral and academic medical center of four hospitals and home to one of the largest cardiac programs in the US, the only kidney transplant center in WV, and a level I trauma center. CAMC Health Education and Research Institute (CHERI) provides continuing medical education and research support to physicians and allied medical professionals. CHERI operates a nurse anesthesia school with MU and 13 graduate medical education residency/fellowship programs. CAMC sponsors pharmacy residency programs and psychology internships.



In Q2, CAMC supported 5 publications, 6 presentations, and 0 funding proposals or awards connected to WVCTSI. CAMC personnel attended 2 journal clubs, 5 biostatistics consults and 5 ilab users. 20 clinicians and staff participated in the WVCTSI sponsored research training program and they held 3 workshops/courses/seminars/retreats. CAMC had 6 open collaborative CTS projects outside WVPBRN. CAMC has 63 WVCTSI members at CAMC in Q2.

National Institute for Occupational Safety and Health (NIOSH)

NIOSH reported 14 WVCTSI members, 1 of which was accessing services in Q2.



Veteran Affairs Medical Centers (VAMC)

Veteran Affairs Medical Center (VAMC) reported 2 significant accomplishments relative to specific aims and goals of the project in Q2: (1) Collaboration meetings held with personnel from Martinsburg VAMC and WVU-East in October and December, and (2) L. Hunter (partner coordinator) completed VAMC Voluntary Service orientation. Additionally, VAMC has made efforts throughout Q2 to foster opportunities for training and professional development by (1) partaking in a VA Suicide Prevention Team Community-Collaboration Coordinator met with WVCTSI personnel, and (2) VA training from the Office of Mental Health and Suicide Prevention (OMHSP) on identifying local catchment area veteran demographics related to developing local suicide prevention programs. The VA has been disseminating to communities through WVCTSI newsletters shared internally with key facility personnel (e.g., researchers, clinical service chiefs, facility leadership team), throughout Q2. VA has intentions of continuing to disseminate WVCTSI training/education opportunities available to VA personnel. Inform clinical training staff of WVCTSI (psychology interns & pharmacy residents). Refine internal communications processes to inform VA personnel of WVCTSI activities/services in the future. The VA reported that the continued high-rates of Covid-19 limiting physical access to the medical center for community partners as barrier in Q2.

Key Recommendations to Marshall University, National Institute for Occupational Safety and Health, Veterans Affairs Medical Centers, and West Virginia School of Osteopathic Medicine

- CAMC should set annual targets for year 10
- Work with Administration Core to help ensure partner organization perspectives related to how best to engage investigators and other personnel at each site are made clear.

- Continue efforts to increase WVCTSI membership, awareness, and utilization of WVCTSI core services at each partner institution.