

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 2020-2021 (Y9)

Reporting Period: October 1, 2020 – December 31, 2020

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, 2020 – December 31, 2020)

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WVCTSI Year 9 Dashboard

| Metric | Year 9 | | |
|---|-------------------------|-------------------------|--------|
| Period of Performance | 7/01/2020 to 6/30/2021 | | |
| | ACTUAL (YTD through Q1) | ACTUAL (YTD through Q2) | TARGET |
| CTR-Linked Publications (in press) | 46 (8) | 66 (14) | 375 |
| Proposals Submitted (#) | 48 | 117 | 250 |
| Subcategory: Proposals Submitted by ESIs | 6 | 14 | |
| Subcategory: Proposals Submitted by Clinicians | 16 | 48 | |
| | | | |
| Proposals Funded (#) | 64 | 109 | 175 |
| Subcategory: ESIs-Proposals Funded | 5 | 16 | |
| Active | 5 | | |
| New | 1 | | |
| Subcategory: Clinician-Proposals Funded | 44 | 78 | |
| Active | 44 | | |
| New | 6 | | |
| | | | |
| Total External Funding Received (\$) | \$17,034,441.54 | \$23,636,249.79 | \$50M |
| Subcategory: Federal | \$ 14,781,669 | \$ 18,736,167 | |
| Subcategory: State | \$ 497,394 | \$ 2,483,189 | |
| Subcategory: Industry | \$ 860,136 | \$ 1,185,386 | |
| Subcategory: Other* | \$ 895,242 | \$ 1,232,508 | |
| *nonprofits includes: foundations, professional societies, etc. | | | |
| | | | |
| Disclosures Submitted: | 6 | 14 | 15 |
| Patent Applications | 2 | 7 | 10 |
| Patents Awarded | 1 | 1 | 2 |
| | | | |
| WVCTSI Membership | 2837 | 3,437 | 3400 |
| Non-Morgantown | 819 | 972 | 850 |
| Community Membership | 196 | 206 | 230 |
| | | | |
| Investigators accessing CTSI services or resources (unique # per quarter) | 244 | 189 | 750 |
| Subcategory: ESIs accessing CTSI services or resources (#) | | | |

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 2020/2021 (Y9), which covers a reporting period from October 1st, 2020 through December 31st, 2020. The WVCTSI received Y9 renewal notice of award dated July 9, 2020 with an annual award of \$4,000,000 for the budget period from July 1, 2020 through June 30, 2021 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. During quarter 2 of year 9 there were 24 peer-reviewed publications officially linked¹ to WVCTSI funding, 69 external funding proposals totaling over \$28 million, and 45 funded awards (\$6.6 million).

Overall recommendations from Tracking and Evaluation Core

- Prepare for conclusion of this 5-year funding period including analysis of all specific aims to ensure appropriate activities will be completed and preparation of a competitive application for renewal.
- While good progress has been made, continue efforts to ensure all WVCTSI members who generate scholarly publications have an ORCID ID as part of their WVCTSI membership profile and that those ORCID ID's are utilized for efficient identification and linking of all WVCTSI related publications and funding awards.
- Ensure transparent and consistent utilization of iLab across cores and partners including core and partner assessment of alignment with action items agreed upon at May 29, 2019 WVCTSI Steering Committee meeting.
- Continue to increase partner engagement, particularly with CAMC, NIOSH, and the VA.
- Develop evidence of alignment between resource/effort allocations and priority health areas.

Key Recommendations to Administrative Core

- Begin shifting focus toward closing out this 5-year funding period, such as supporting efficient wrapping up of pilot award funding opportunities and preparing to submit a competitive renewal application.
- Continue to facilitate core and partner discussions and collaborative efforts to innovatively facilitate additional publications supported by and linked to WVCTSI NIH funding award, including continued effort to get all WVCTSI members who generate scholarly publications to have an ORCID ID as part of their WVCTSI membership profile.

¹ Publications are officially linked if they appear in NCBI as published (excluding Epub ahead of print) and are associated with quarterly reporting periods based on their official NCBI publication date (not ahead of print date). Note that we report all linked publications including 4 that were embargoed and therefore do not yet appear on the public facing NCBI list.

- Identify barriers to partner participation and engagement; work to increase membership and service utilization across partner sites.

Key Recommendations to Clinical Research Design, Epidemiology & Biostatistics Core

- Consider whether the frequency of professional development events is appropriate in the context of no such events occurring during this or the previous reporting period.
- Identify barriers and work to increase service utilization across partner sites.
- Implement and report activity related to the Appalachian Research Consortium (ARC).

Key Recommendations to Clinical Research Resources & Facilities Core

- Consider ways to support researchers in activating TriNetX studies.
- Identify appropriate metrics for Specific Aim 2 and report data on those metrics in upcoming quarterly report cycles.

Key Recommendations to Community Engagement & Outreach Core

- Consider capacity and opportunities to mentor additional investigators.
- Continue and expand efforts to disseminate research results through publication in high-quality journals and other outlets.

Key Recommendations to Pilot Projects Core

- Specific Aim 1 includes mentored support to bring projects to completion. Consider how this mentored support and project completion should be distinguished from that done in the Professional Development core, as well as how it should be tracked and evaluated.
- Prepare appropriate schedule of pilot award opportunities tapering down in preparation for end of budget period June 30, 2022, as well as how best to support funded pilots completing their scope of work by that date.

Key Recommendations to Professional Development Core

- Identify barriers and work to increase engagement with partner institutions outside of WVU Morgantown.
- Continue working to roll out and evaluate new editorial services supportive of publication and grant proposal preparation.

Key Recommendations to Technology and Resources for Core Laboratories Core

- Consider whether additional efforts should be directed toward genomics studies in the context of 1 total such study reported year-to-date with an annual target of 5.
- Continue to consider opportunities to facilitate additional patentable projects.
- Continue to facilitate excellent collaborative relationships between CAMC, Marshall, and WVU.

Key Recommendations to Tracking and Evaluation Core

- 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 used by the PD and Admin cores to collect quarterly report information.

- Support continued refinement and more integrative inclusion of partner evaluation data within appropriate core reports.
- Implement next steps for WVPBRN and ECHO evaluations.

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

- Work to implement and/or increase utilization of iLab.
- Continue efforts to increase WVCTSI membership.
- Work toward increasing awareness and utilization of WVCTSI core services.

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.

There were 69 external funding proposals (\$28.2 million) and 45 funded awards (\$6.6 million) during Y9 Q2. Figures 1 and 2 show types of external funding proposed and awarded per cores contributing. WVCTSI Staff numbers are up by three this quarter, to 47. There were 8 disclosures, 4 active patents, and 1 provisional patent filed. It was notable that most of the patent-related activity at WVU was driven by WVCTSI members.



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 (see Table 1). Table 1 displays officially linked publications associated with each quarterly reporting period. Numbers in parentheses are additional publications with a current status of “ahead of print” that are expected to be linked to the grant at some point.

Table 1. CTR-linked Publications by Year and Quarter per Official NCBI Data.

| | Q1 | Q2 | Q3 | Q4 | Totals |
|---------------|---------------|---------------|---------------|--------------|-----------------|
| Years 1 – 5 | 141 | 177 | 184 | 193 | 695 |
| Year 6 | 58 | 68 | 81 (2) | 68 (1) | 275 (3) |
| Year 7 | 56 | 65 (1) | 77 | 92 | 290 (1) |
| Year 8 | 68 (2) | 92 (1) | 73 (1) | 105 (7) | 338 (11) |
| Year 9 | 53 (7) | 57 (8) | 23 (1) | 4 (2) | 124 (17) |

Note: Numbers of linked publications do not include those that were embargoed at the time these data were pulled. Numbers in parentheses are additional linked publications with a status of “ahead of print”.

It should be noted that linking publications requires substantial effort and lags real time. While the total number of linked publications is not 50% of annual target at this time, 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.

External Funding Proposal Amounts by Core

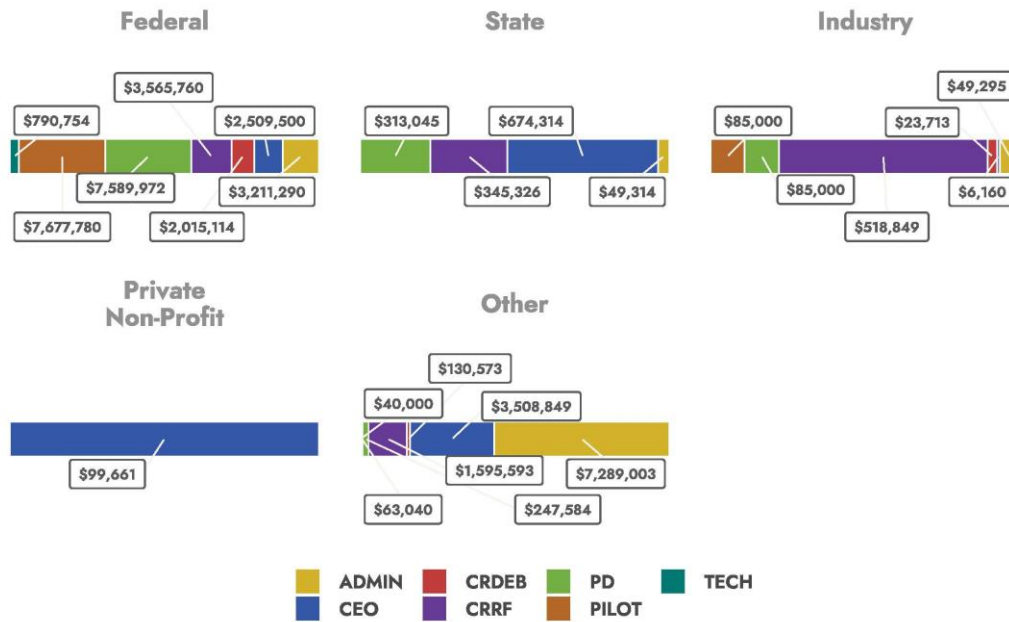


Figure 1. External funding proposals dollar amount requested and category per core

External Funding Award Amounts by Core

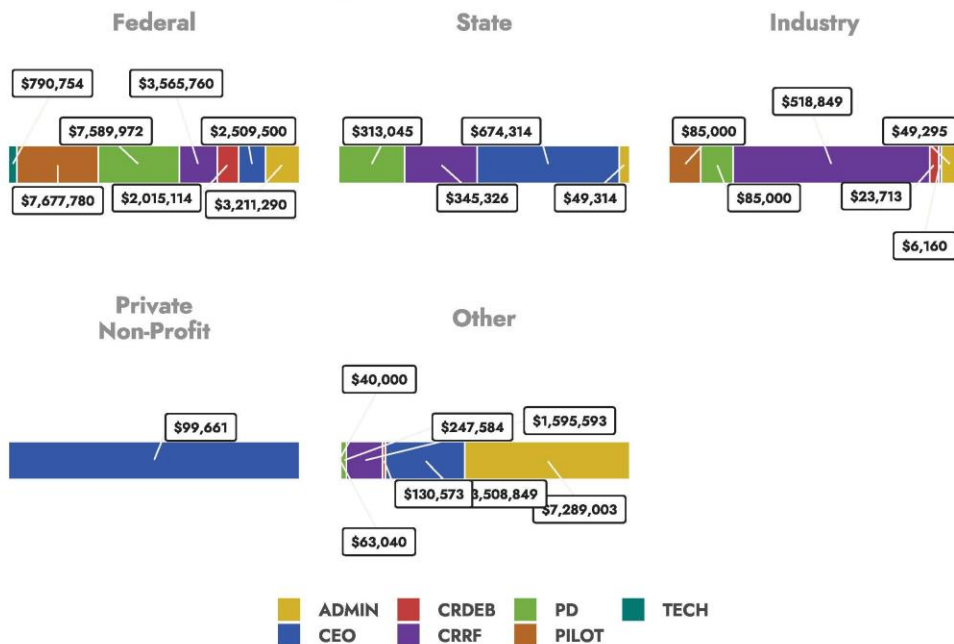


Figure 2. External funding awards dollar amount per core.

There were 24 publications linked to the grant in Quarter 2. Cores and partners contributed to the following number of linked publications each: 7 ADMIN, 10 CRDEB, 5 PD, 4 TECH, 1 CRRF, 1 CEO, and 1 Pilot. These numbers do not sum to 24 because 5 publications included multiple contributing cores/partners and one newly linked publication was not attributed to a core. Core contributions to linked publications and to presentations are displayed in Figure 3.

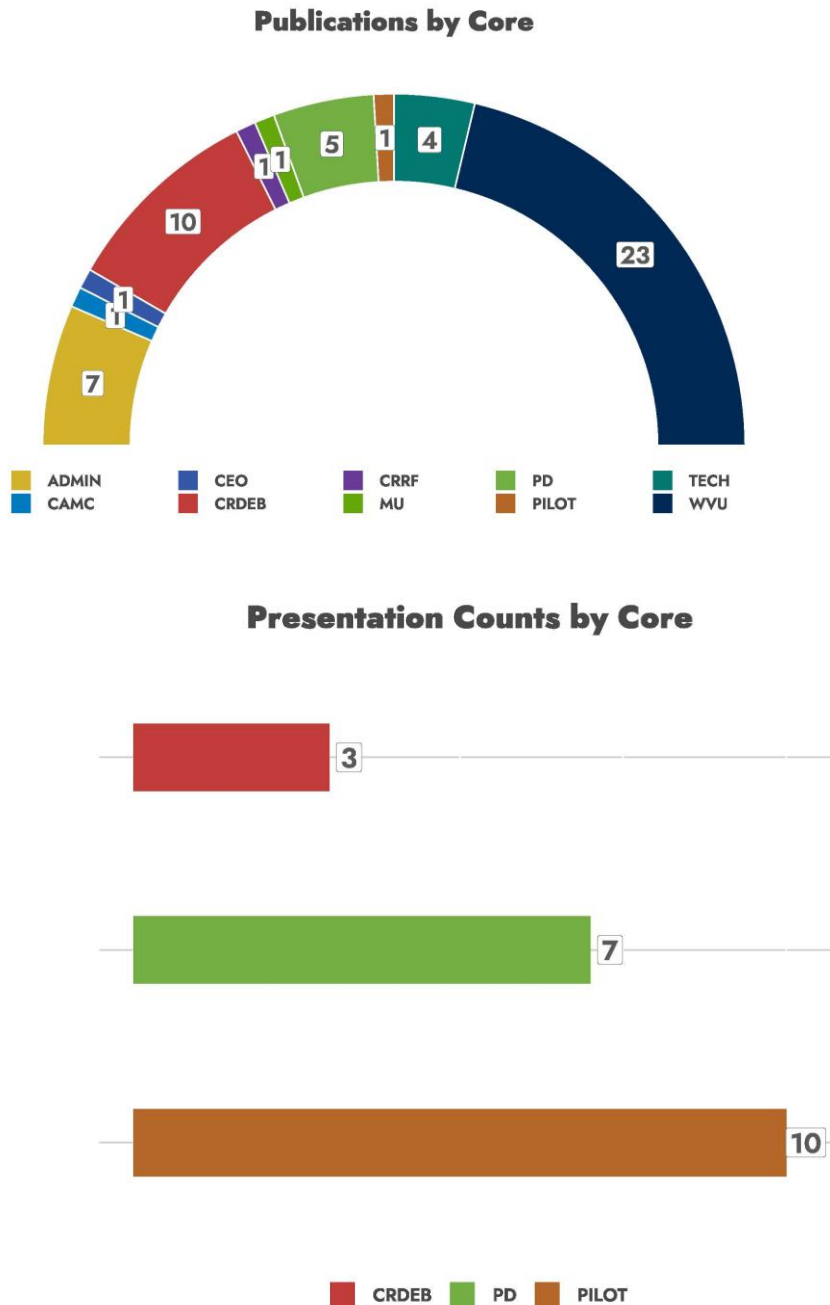


Figure 3. Contributions per core to Y9Q1 WVCTSI linked publications and presentations.

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 library 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 and limiting the search to publications during the Y9 Q2 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 also developed and implemented a new version of a quarterly progress report through which publications information is 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).

Q2 reported having 122,804 website visitor hits (down from 124k last quarter), with an average of 382 website visitors per day. WVCTSI's social media engagement has seen decrees for both Facebook and Listserv: Facebook (from Q1 at +18 Likes and +17 follows to Q2 at +14 Likes and +14 follows), and Listserv (178 to 176). However, Twitter and YouTube both show increases: Twitter shows 39 new followers (up from 22 in Q1) with a total of 663 followers (up from 624 in Q1) and YouTube Subscribers have increased from 655 (Y9Q1) to 806 (Y9Q2) follower with a total of +101k views.

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 69 external funding proposals and 45 external awards this quarter. Percentage of NIH award expended ranged from 7 – 25%, with Admin spending the least (17%), and CRDEB and TEC spending the most (44 and 48%). 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 to be hired this quarter.

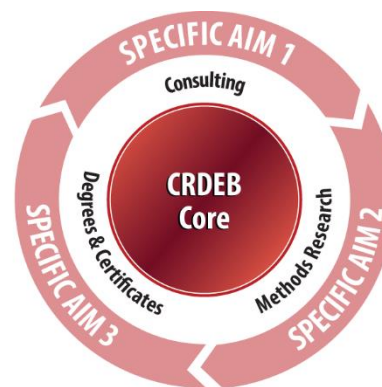
Key Recommendations to Administrative Core

- Begin shifting focus toward closing out this 5-year funding period, such as supporting efficient wrapping up of pilot award funding opportunities and preparing to submit a competitive renewal application.
- Continue to facilitate core and partner discussions and collaborative efforts to innovatively facilitate additional publications supported by and linked to WVCTSI NIH funding award, including continued effort to get all WVCTSI members who generate scholarly publications to have an ORCID ID as part of their WVCTSI membership profile.
- Identify barriers to partner participation and engagement; work to increase membership and service utilization across partner sites.

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 83 new REDCap users in Q2 with a total of 2,225 REDCap users to date (638 of which are active users). Of the 2,225 REDCap users, 1,712 were from WVU (536 active), 17 from CAMC (4 active), 13 from WVSOM (5 active), and 487 not affiliated with the above entities (97 active).



There were 159 new REDCap projects/data instruments (with a total of 2,733 projects/data instruments), 100 new REDCap service inquiries, and 9.75 hours of REDCap consultations were reported in Q2. The total number of current TriNetX users was 411 in Q2 and there were 2,579 new TriNetX inquiries, with 17 new TriNetX logins but there were 3 data set requests. CRDEB reported no practice/policy changes in Q2, nor were there any professional development events reported for Q2.

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

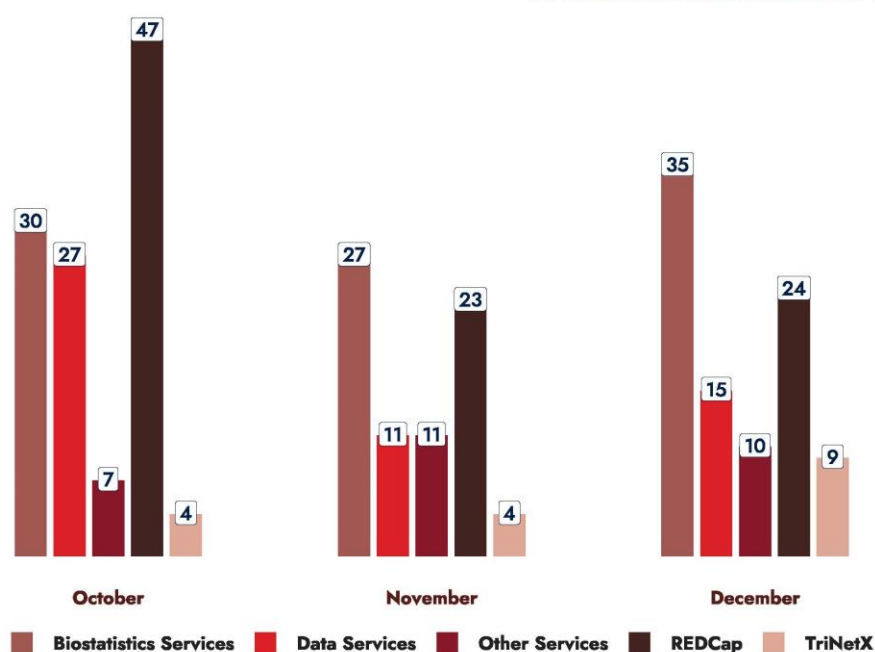


Figure 4. CRDEB iLab Core Management System services logged by month and service type.

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 40 BMIR-related inquiries, 18 new CRDEB consultations, 1 sample size/power consultations, 14 new statistical analysis consultations, and 10 new clinical study design consultations in

Q2. Additionally, 366 hours were dedicated to biostatistics consultations. 0 GIS analysis consultations were reported for Q2.

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

CRDEB contributed to 11 external funding proposals (totaling over \$2.169 M) in Q2. Of these 7 external funding proposals, 2 were stand-alone proposals (\$25K), 9 were in collaboration with other cores (totaling over \$2.144 M); (1) PD, (2) Pilots, and (6) CRRF.

CRDEB had 4 external funding awards supported (totaling over \$3.2 M) in Q2. Of these 4 external funding awards, all were in collaboration with other cores; CRRF (2), Pd (1), PD, and (1) Admin and CRRF (1). There were 3 presentations and 10 linked publications supported by CRDEB, where 2 of those publications were supported in collaboration with other cores (PD and Admin).

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, 3 requests for updates to previous IDR datasets, and 15 IDR projects reported as completed in Q2. There were 221.5 hours spent on new data requests, 62 hours on updates to previous data sets, and no numerical response was given for the hours on data request consultation. CRDEB did not report any activity related to the Appalachian Research Consortium (ARC).

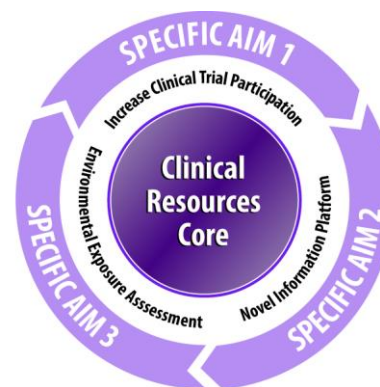
Key Recommendations to Clinical Research Design, Epidemiology & Biostatistics Core

- Consider whether the frequency of professional development events is appropriate in the context of no such events occurring during this or the previous reporting period.
- Identify barriers and work to increase service utilization across partner sites.
- Implement and report 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.

Clinical Research Resources & Facilities Core

CRRF contributed to 28 external funding proposals (totaling over \$6M) in Y9Q2, of which 13 were standalone proposals, and 15 collaborations: CRDEB (6) , Admin (5), CEO (2), PD & Pilot (1) , and CEO & Admin (1) . CRRF received 32 external funding awards (over \$4 M), 27 stand alone and 5 collaborations; Admin (2) , CRDEB (2), and Admin & CRDEB (1). CRRF contributed to 1 linked publication (in collaboration with Pilots). Figure 5 shows the number of CRRF services monthly across the current reporting period by category.



By the Numbers: Clinical Research Design Resource Facilities

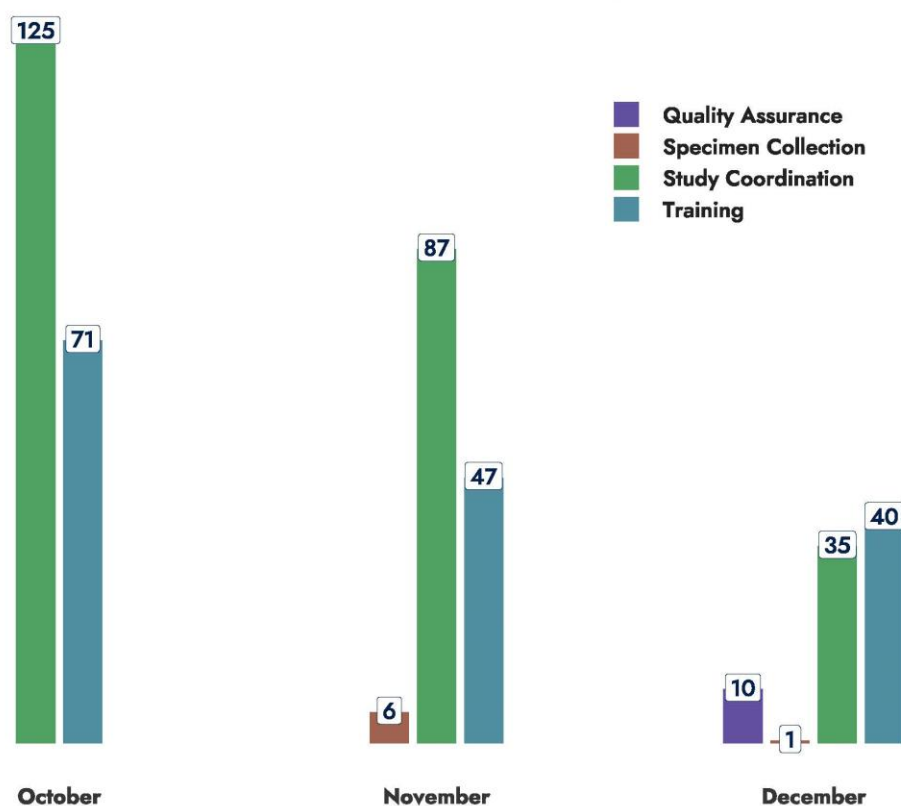


Figure 5. CRRF services by month and service type.

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.

CTCOE provided 128 unique instances of support to non-WVCTSI studies in the form of regulatory assistance (45), study coordination (35), accounting (43), or quality assurance audits (5) in Q2. Within the expanded activities by CTCOE (established Q2Y8) which included Registration, a Risk Assessment Committee, and an Appeals Committee; there were 26 trials registered, 15 trials reviewed, and 12

approved by the risk assessment committee. Additionally, CRRF supported 4 new Early Stage PI's with industry or WVCTSI-initiated funding, and 1 trial in a new research area. A total of 86 participants were recruited, with 15 more completing a study. CRRF had 16 TriNetX study offers and 7 accepted offers, and 0 studies were activated this quarter. CRRF reported 3 PI Academy events and 4 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 ways to support researchers in activating TriNetX studies.
- Identify appropriate metrics for Specific Aim 2 and report data on those metrics in upcoming quarterly report cycles.

Community Engagement & Outreach Core

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

There were 108 WVPBRN and 162 ECHO sites reported in Q2. This included 5 new ECHO sites: Alzheimer's Association, WVU Medicine Rockefeller Neuroscience Institute (RNI), WVU Institute for Community and Rural Health, Camden Family Medicine, and Sharpe Hospital. There was 1 new partner organization reported in Q2 titled WV Health Care Association: Partnering with WV Project ECHO on the national nursing home ECHO project out of the ECHO Institute.

During Q2, there were 2 new CEO (non-ECHO) projects: WV Perceptions on COVID-19 and ATRN: COVID19 Pandemic: The Path Forward in Appalachia. Additionally, CEO reported 1 networking opportunity: WVPBRN Virtual Annual Retreat. There were 0 Community Advisory Board meetings and 0 mentored investigators reported in Q2.

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

There were 5 new, 33 ongoing, 6 completed WVPBRN projects, and of the 4 projects that were reviewed 4 were accepted in Q2. There were 112 Project Development and Success services, 383 Project Implementation services, 0 Community Engagement and Training services, 1 new Ideas on Deck services (although 2 were listed in narrative section), 85 hours of ECHO services, 6 Consultation services, 11 hours of services for WVPBRN Activities, 0 funding opportunities were identified, 4 ongoing CEO projects, 2 new ECHO Projects, and 1 service for products reported during Q2.

CEO had 14 supported external funding proposals (totaling over \$6.1 M) in Q2. Of these 14 supported external funding proposals, 9 were stand-alone proposals (totaling over \$2.3 M) and 5 were in collaboration; CRRF (2) and Admin (3) .

CEO had 4 external funding awards supported proposals (totaling over \$1.8M) in Q2. Of these 4 supported external funding proposals, 4 were stand-alone proposals (totaling over \$1.6M) and 1 was in collaboration with PD. CEO contributed to 1 linked publication (in collaboration with PD).

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

In Q2 there were 37 Research Translation and Dissemination services provided. There were 0 policy or practice changes reported external or internally, now were any policy project briefs reported in Q2.



By the Numbers: Community Engagement & Outreach

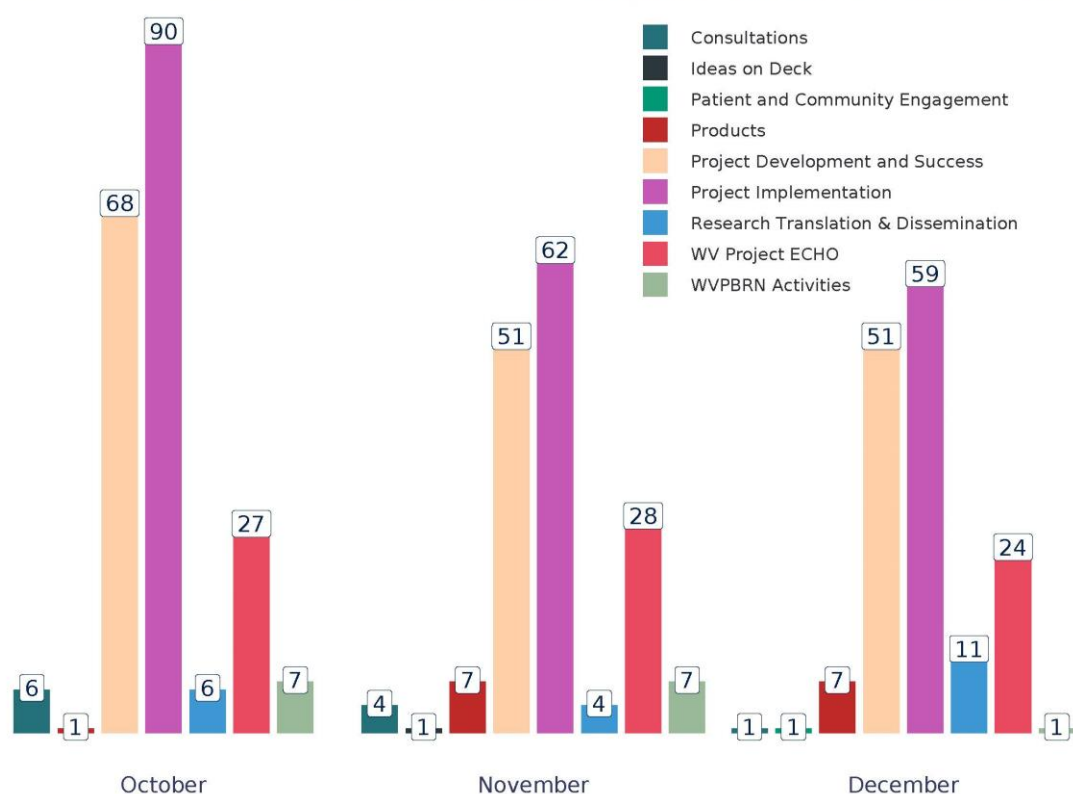


Figure 6. CEO core services logged by service type with drill down into services for products.

By the Numbers: **Products** of Community Engagement & Outreach

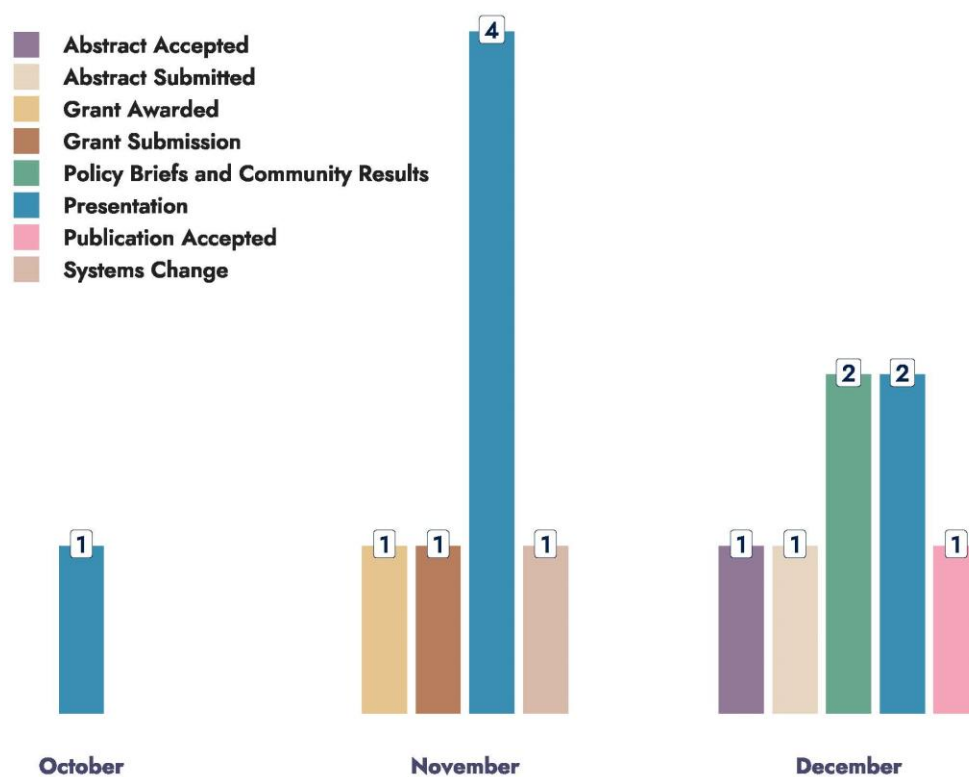


Figure 7. CEO core services logged by service type with drill down into services for products.

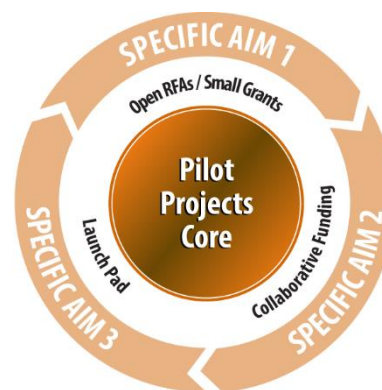
Key Recommendations to Community Engagement & Outreach Core

- Consider capacity and opportunities to mentor additional investigators.
- Continue and expand efforts to disseminate research results through publication in high-quality journals and other outlets.

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 received 14 applications (13 from WVU, 1 from Marshall), including 9 from ESIs. 5 grant awards were reported (all to WVU PI's). Pilot provided no workshops, but 5 consultations. The Pilot core contributed to 1 publication and 10 presentations this quarter.



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

There were 42 active Pilot projects addressing critical health issues in Y9Q2. Additionally, the Pilot Core contributed to 11 external grant proposals (totaling over \$7.8 M), which consisted of 5 stand alone proposals and 6 collaborations; CRDEB (2), Admin (1), PD (2), and PD & CRRF (1). Additionally, Pilot Core contributed to 5 external grants awarded (totaling over \$315), which consisted of 2 collaborations with PD and 3 stand-alone projects.

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

There was 1 launch award letter of intent reported during quarter 2.

Key Recommendations to Pilot Projects Core

- Specific Aim 1 includes mentored support to bring projects to completion. Consider how this mentored support and project completion should be distinguished from that done in the Professional Development core, as well as how it should be tracked and evaluated.
- Prepare appropriate schedule of pilot award opportunities tapering down in preparation for end of budget period June 30, 2022, as well as how best to support funded pilots completing their scope of work by that date.

Professional Development Core

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 189 individuals who requested 540 services in Q2. There were 9 new investigator development service requests logged through iLab. There were 6 reported orientations or consultations provided to investigators new to WVCTSI. Additionally, there were 16 trained mentors in the SACS program in Q2, as well as 2 female clinician scientist being mentored. There was 4 special event/program for women in science in Q2 titled WVCTSI FACTS: (1) Managing Up - What You Can Do to Effectively With Your Boss, (2) Faculty Career Advancement: Perspectives from the Chair, (3) Negotiating What You Want, and (4) Negotiating What You Want - Follow Up Discussion. PD launched new editorial services supportive of publication and external funding proposal development.



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 with combined total of 11 full team meetings, as well as 2 professional development activities: (1) The Individual Development Plan: A Tool to Guide Your Professional Success, and (2) Cultivating a Work in Progress.

There was 3 CTS Certificate enrolled, with 0 new students or applications received. WVU MS in CTS had a total enrollment of 29, with 4 applications received (2 accepted/offer extended) and had 4 students complete the program in Q2. MU MS in CTS did not report data this quarter. CTS PhD program had 8 current enrollments, 1 application received, with 0 degree conferred during Q2. Education programming reported no new academic courses, 0 workshops, 4 C/T research seminars, 25 unique participants in educational programming, and 23 unique participants in educational programming originating.

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

The Professional Development core contributed to 9 external funding proposals (over \$8.2 M); 4 of which were stand-alone proposals (totaling over \$4M) and 5 of which were collaborative with cores (totaling over \$4.2M): ADMIN (1), Pilot (2), CRDEB (1) and CRRF & Pilot (1).

The Professional Development core had 4 external funding awards supported (totaling over \$333k) in Q2. Of these 4 external funding awards, 1 was stand-alone funded awards (almost \$100k) and 3 were supported awards in collaboration with other cores (totaling over \$2.3k); CRDEB (1), and CRDEB (1), and CEO (1). The Professional Development core reported 7 presentations supported and 5 linked publications (3 of which were collaborations; 1 CEO, 1 CRRF, & 1 CRDEB).

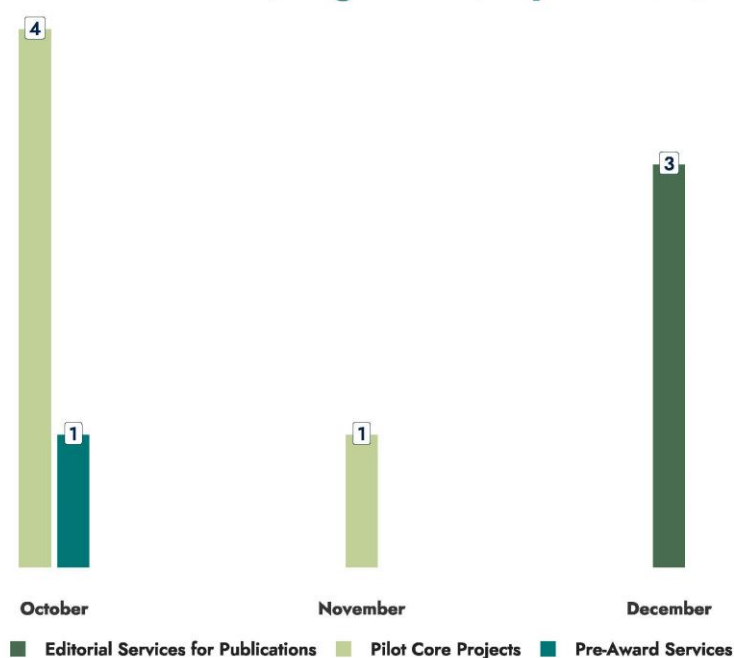
By the Numbers: Investigator Development Services

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

Figure 8 displays Investigator Development Services as logged in iLab by month and service type.

Key Recommendations to Professional Development Core

- Identify barriers and work to increase engagement with partner institutions outside of WVU Morgantown.
- Continue working to roll out and evaluate new editorial services supportive of publication and grant proposal preparation.

Technology and Resources for Core Laboratories Core

The Technology and Resources for Core Laboratories (TRCL) core contributed to 3 (stand-alone) external funding proposals totaling over \$8.3k, and 0 external awards. TRCL contributed 4 publications during Y9Q2 (1 in collaboration with Admin).

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 1 WVCTSI-supported project, and 82 open projects this quarter, with 5 new projects. Biospecimen sample collection and utilization was collaborative with WVU and MU, with no samples utilized or collected by CAMC.

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 was 1 genomics study at WVU, 25 Illumina projects (13 WVU, 12 MU), and 19 Illumina runs (8 WVU, 11 MU) reported this quarter.

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.

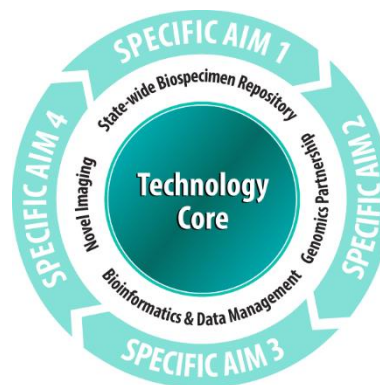
Two educational session with 72 total attendees was provided.

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

Thirteen labs were supported by WVCTSI, with 180 hours for MicroCT across 3 projects, and 12 hours of MRI across 2 projects. TRCL provided 15 educational sessions attended by a total of 10 participants. No disclosures or patents were reported.

Key Recommendations to Technology and Resources for Core Laboratories Core

- Consider whether additional efforts should be directed toward genomics studies in the context of 1 total such study reported year-to-date with an annual target of 5.
- Continue to consider opportunities to facilitate additional patentable projects.
- Continue to facilitate excellent collaborative relationships between CAMC, Marshall, and WVU.



Tracking and Evaluation Core

TEC had one presentation accepted and selected for the presidential strand at the American Evaluation Association annual conference: *“No one here could do this if it wasn’t me, and I couldn’t do this without ECHO’: Using Rural Health TeleEducation to Meet Health Priorities in the Communities Where They Live”*. Additionally, TEC created a list of accomplishments to be utilized for external evaluation of the core. We also reorganized personnel to provide more time resources to programming for data utilization and visualization, as well as to function effectively in the short term while the TEC/Partnerships coordinator is out on leave.



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.

TEC identified all publications linked to WVCTSI grant numbers directly from NCBI and created a web-based table displaying this information that can be accessed by stakeholders. TEC continues to refine Social Network Analysis visualizations to show collaboration among authors on linked publications as well as geographic location. TEC continues to analyze Awareness Survey data with a full report of findings to follow. TEC developed and implemented a new quarterly progress report through which all individuals who receive support or services from WVCTSI report relevant information on activity and products generated. TEC is developing a user-friendly data portal through which stakeholders can utilize progress report data. TEC developed and implemented an ORCID iD survey to gather WVCTSI member ORCID iD's to be added to membership list. This allows more accurate searches for publications by members that should be linked to the grant. Working with the Professional Development core, TEC developed an initial evaluation plan and measure to evaluate their new Editorial Services initiative.

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.

TEC continued to work with CEO and ECHO on the ECHO “SuperHub” evaluation plan, including collection of data by TEC through focus group interviews. Potential publications for the ECHO project are currently being conceptualized. 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 the PD and Admin Cores to make improvements and increase efficiency in analyzing the data. TEC began building a password protected website to house all WVCTSI TEC reports over time. This website will also offer automatically updated publication information and the progress report data portal. TEC continued to work with CEO related to WVPBRN network evaluation, presenting this information to the WVPBRN steering committee for input.

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 Y9 was disseminated in Q2 of Y9. The ECHO and WVPBRN research evaluation plans when completed will demonstrate impact on health outcomes. Additionally, TEC core member Malayna Bernstein will serve as a qualitative methodology consultant by designing the qualitative instrumentation and mentoring research associates who will conduct interviews and qualitative data analysis for the following recently awarded supplement: “Developing Novel Strategies to Increase COVID-19 Testing among Underserved and Vulnerable Populations in West Virginia through Community and State Partnerships.” National Institutes of Health Award No. 3U54GM104942-05S3 (Total Awarded: \$4,999,989).

Key Recommendations to Tracking and Evaluation Core

- 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 used by the PD and Admin cores to collect quarterly report information.
- Support continued refinement and more integrative inclusion of partner evaluation data within appropriate core reports.
- Implement next steps for WVPBRN and ECHO evaluations.

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 1 peer-reviewed publications. MU submitted 7 external funding proposals and had 0 funded awards. MU collaborated with many WVCTSI cores in Q2: Marshall submitted 7 external grant proposals: 5 federal and 1 industry grant. MU has 2 ESIs accessing CTSI services or resources in Q2 MU currently has 55 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 2, WVSOM reported 1 peer-reviewed publication and 10 presentations, 4 at West Virginia Osteopathic Medical Association, 2 at 2020 Symposium on Substance Use Research, 2 at the WVRHA 2020 virtual annual conference, 1 at Rural Addiction Conference, and 1 at OMED 2020. They submitted 3 funding proposal and received 2 funded awards. WVSOM had 11 student opportunities for C/T Research. WVSOM had 2 community participatory research projects and 2 open collaborative CTS projects outside the WVPBRN. WVSOM housed 13 REDCap users (5 active). SOM has 93 members. 1 honor/award was granted to Sally Hurst for 2020 Excellence in Rural Health awardee by WVRHA. SOM has 93 members

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 did not have publications or presentations funded by WVCTSI and did not submit any funding proposals. Also, CAMC did not report any quarterly evaluation data this cycle. CAMC had 17 REDCap users (4 active users) in Q2. CAMC has 54 members.

National Institute for Occupational Safety and Health (NIOSH)

National Institute for Occupational Safety and Health (NIOSH) reported one specific accomplishment made during Q2; A collaborative face cover source control studies/workgroup has been formed between NIOSH-Health Effects Laboratory Division (HELD) and WVU Center for Inhalation Toxicology (iTOX). NIOSH has 12 members.

Veteran Affairs Medical Centers (VAMC)

Veteran Affairs Medical Center (VAMC) did not report any quarterly evaluation data this cycle. VA has 6 members.

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

- Work to implement and/or increase utilization of iLab.
- Continue efforts to increase WVCTSI membership.
- Work toward increasing awareness and utilization of WVCTSI core services.